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ABSTRACT

Purpose: This paper addresses the following question: *What causes firms to choose brand creation vs. brand acquisition for brand portfolio expansion?*

Methodology: A multilevel interdisciplinary conceptual model is developed with nine factors at three levels of influence: the market, firm, and brand portfolio. Using 125 brand acquisitions and creations for twenty-two firms between 2001 and 2007, the model is tested using logistic regression to determine which factors significantly influence brand portfolio expansion strategy and whether they encourage acquisition or creation.

Findings: Significant factors were found at the market and firm levels, with *Competitive Intensity* of the market having the strongest effect, followed by firm's *Financial Leverage*, *Market Concentration*, and *Market Growth*.

Implications: Contrary to prior expectations, external factors at the market and firm levels have an impact on choice of acquisition vs. creation. However, internal firm factors may serve as moderators of strategy effectiveness.

Originality/Value: This is the first study to empirically examine factors affecting the brand portfolio expansion strategy via brand creation versus brand acquisition across a variety of industries. From a methodological standpoint, one of the more serious and persistent problems facing prior brand research is the lack of brand-level data, but our approach overcomes this limitation by using media expenditures in the AdSpender database to represent brands within a category/market.

Keywords: Brand Acquisition, Brand Creation, Brand Portfolio Management, Brand Strategy

Classification: Research Paper

INTRODUCTION

Brand portfolio expansion via the *extension* of existing brands has motivated considerable research (e.g., Aaker and Keller, 1990; Bottomley and Doyle, 1996; Bottomley and Holden, 2001; Czellar, 2003). The use of internal brand *creation* or external brand *acquisition* as an option in brand portfolio expansion, however, has received far less research attention, even though they are common in practice and their use varies within industries. For example, within the soft drink industry, acquisitions were chosen by some firms (e.g., Pepsi acquired the Gatorade brand and Cadbury Schweppes acquired Accelerade), but other firms employed brand creations (e.g., Coca Cola developed Powerade internally). While the choice of brand expansion mode is a critical element in brand portfolio management, few conceptual papers address the choice of brand portfolio expansion mode (see Doyle, 1990 for one exception) and very limited empirical research has been completed using representative samples of firms choosing between brand creation or acquisition.

This paper addresses this gap by investigating the factors that influence companies in the choice between *brand acquisition* and *brand creation* as their expansion mode. Due to the limited theoretical work on brand portfolio expansion via modes other than brand extension, this study draws from prior work in the strategic management literature on make-or-buy decisions, with particular emphasis on foreign-market entry (e.g., Brouthers and Brouthers, 2000; Hennart and Park, 1993; Chatterjee, 1990) to develop a conceptual framework addressing the following research question: *What causes firms to choose brand creation vs. brand acquisition for brand portfolio expansion?*

The proposed conceptual framework provides a set of theoretically-grounded propositions, which through empirical testing determine (1) the factors that significantly influence the brand portfolio expansion decision, and (2) the strength and direction of influence; that is, whether each significant factor influences the choice of brand creation vs. acquisition. No other study of which we are aware has developed or tested such a framework. We first describe the brand portfolio expansion decision, and then develop a conceptual framework of eight factors proposed to influence the choice of brand portfolio expansion strategy. The final section empirically tests the framework with a large-scale sample of brand portfolio expansions.

BRAND PORTFOLIO EXPANSION VIA CREATION OR ACQUISITION

Brand Creation

As defined in this research, brand creation involves the introduction of a brand that is new to a firm and the market. As a brand portfolio expansion strategy, brand creation offers several benefits. First, firms can choose the brand position that best complements an existing brand portfolio, while avoiding cannibalization, and precisely addresses the needs of potential customers. Second, firms can manage the pace of brand expansion (Kahn and Isen 1993). But this strategy is not without risks. Jones (2004) asserts that brand creation is "a risky venture with a greater chance of failure than success" (as cited in Sarkar and Singh, 2005, p. 86). In the same vein, Aaker (1994) argues that it is difficult to build new brands because of advertising and distribution costs, as well as the intensified competition resulting from brand proliferation. Further, Tybout and Calkins (2005) argue that new brands require larger marketing budgets and potentially increase the complexity of the organization. Yet, as evidenced by the successful launch of brands like Victoria's Secrets's Pink, Toyota's Scion, Coca-Cola's Enviga, and Dannon's Actimel, companies continue to create brands in the face of these challenges.

Brand Acquisition

Brand acquisition involves a firm's acquisition of an existing brand offered in the market by another firm. The most tangible evidence of a brand acquisition is the legal transfer of brand elements from one firm to another, resulting in a legal change in ownership that is recorded by the United States Patent and Trademark Office (USPTO) as an assignment. One complicating factor in using USPTO assignments to identify brand acquisitions is that a brand may have separate trademarks representing the name, logo, shape, color combination, etc. When a brand is sold, all associated trademarks are transferred and an assignment is recorded for each. Also, the USPTO database does not capture relationships among trademarks, making it impossible to identify unique brands. Nevertheless, an examination of the number of assignments recorded by the USPTO indicates the increasing use of this practice. Figure 1 portrays the number of trademark assignments since 1955. Although the absolute number of assignments overstates the actual number of brands being assigned, it does demonstrate an increasing trend of trademark assignments, which implies increased frequency of brand acquisitions.

[Insert Figure 1 About Here]

One benefit of a brand acquisition is that the costs to acquire a brand can be evaluated against actual outcomes attributable to the brand. While this potentially should lead to better decisions about brand acquisition, research indicates that firms do not experience any abnormal returns for such acquisitions (Wiles, Morgan, and Rego 2009). Second, there is the potential for synergy with existing brands leading to reduced costs or an increase in marketing competence or both: the redeployment of marketing expertise after an acquisition can outweigh the cost of a brand acquisition (Capron and Hulland, 1999). Finally, acquired brands have existing market presence, established manufacturing skills, and extant customer and distribution networks. Yet these benefits can be offset by the difficulty of integration into the brand portfolio, making the pursuit of a coherent brand strategy more challenging (Doyle, 1990). Thus, while it is clear that firms must choose carefully between brand acquisition and brand creation, there are no existing frameworks indicating how managers make the decision in practice. The next section proposes such a framework.

A DECISION FRAMEWORK FOR BRAND CREATION AND BRAND ACQUISITION

A subset of the strategic management literature focusing on make-or-buy decisions associated with foreign market entry (e.g. Hennart and Park, 1993) is conceptually similar to the brand acquisition decision in three important dimensions. First, both are strategic choices typically associated with the pursuit of growth opportunities in new market environments. Second, in both cases internal factors (e.g. available management expertise) and external factors (e.g. existence of acquisition targets) directly or indirectly influence the attractiveness and ultimately the choice of one of the options. Finally, make-or-buy decisions must consider the influence of factors at multiple levels of analysis such as market/industry effects, firm effects, and business segment effects (e.g., Hennart and Park, 1993; Hough, 2006; Kogut and Singh, 1988; Misangyi, Elms, Greckhamer, and Lepine, 2006; Yip, 1982; see Bowman and Helfat, 2001 for a comprehensive review). Accordingly, we develop our conceptual framework with factors at three levels: (a) target market characteristics, (b) firm characteristics, and (c) brand portfolio characteristics.

Market-Level Factors

Market Concentration. The **market concentration** among firms may influence a firm's choice between internal and external expansion (e.g., Yip, 1982; Oster, 1990; Hennart and Park,

1993). Internal expansion (i.e. brand creation) increases supply in the market, especially when significant entry barriers exist (Yip, 1982). The greater the scale required to enter, the more a new brand will increase supply, forcing prices to fall. Therefore, internal creation is inherently more risky due to the uncertainty of whether demand at profitable price levels exists to absorb the additional supply (Jones 2004). External acquisition, on the other hand, will not increase supply and will not force prices down. Therefore, we hypothesize:

H1: The degree of market concentration is positively related to the probability of a brand acquisition.

Competitive Intensity. Prior research on make-or-buy decisions suggests that acquisition is preferred if a decrease in the number of firms is desirable (Hennart and Park, 1993). In these markets brand acquisitions may provide a means of market consolidation, or in some cases the only option for market entry (Kapferer 2004, p.355). Studies in consumer behavior identify **competitive intensity** as a determinant of consumer preference of new versus existing brands. When a market has many well-established brands, there is little room in consumers' minds for a new brand (e.g. see Smith and Park, 1992). Additionally, the investments required to establish a new brand and position it in consumers' minds are significantly higher in a market with well-established brands. Conversely, in markets comprised of relatively few well-known competitors, the investment needed to establish a new brand is greatly reduced, making brand creation a viable strategy. As a result, we posit the following:

H2: The level of competitive intensity in the market is positively related to the probability of a brand acquisition.

Market concentration and competitive intensity would be equivalent if firms had only one brand in a product category, but differ whenever multi-brand strategies are present.

Market Growth. Aside from the structure of the market at any point in time, the dynamic properties of the market such as **market growth** have been found to influence the choice of expansion strategy. Empirical research on make-or-buy decisions has found evidence suggesting a positive relationship between market growth rate and the likelihood of expansion via

acquisition (Hennart and Park, 1993). Other research also suggests that late entrants seek to speed up their entry into new markets through acquisitions when leading competitors have already established themselves (Caves and Mehra, 1986; Wilson, 1980; Yu and Ito, 1988). However, the empirical evidence regarding the propensity of followers to choose acquisition over internal development is not unequivocal. Contrary to their hypothesis, Hennart and Park (1993) found that followers were more prone to enter a new market via internal development. We suggest this may be even more likely in a growing market because brands may not yet be established and followers have learning advantages from the mistakes or limitations of pioneers. Thus, we posit:

H3: The rate of growth in the target market is negatively related to the probability of brand acquisition.

Firm-Level Factors

Prior Experience. Prior research on international expansions has found that **prior expansion experience** influences the choice of expansion strategy (Brouthers and Brouthers, 2000). Behavioral research supports this finding: March and colleagues propose that accumulated experience can lead to competency traps (March, 1991; Levitt and March, 1988). Behavior becomes path-dependent – repeated choices in the past lead to the accumulation of experience with a specific type of activity, which increases the likelihood that a similar path is chosen in the future. We suggest that experience with a particular expansion option (either brand acquisition or creation) increases the propensity of choosing that brand expansion strategy, which leads to the following hypothesis:

H4: The level of a company's experience with brand acquisitions (creation) is positively related to the probability of a brand acquisition (creation)

R&D Productivity. **Productivity in research and development** increases the probability that a company develops innovative products that are not only new to the company but also new to the marketplace (Anderson and Svensson, 1994; Hennart and Park, 1993). Research on product launches shows that innovative products are more likely to be introduced under a new brand name (i.e. through brand creation) rather than through brand acquisition or

through brand extension (Hultink, Griffin, Rubben, and Hart, 1998). The marketing literature also suggests that firms with proficiency in research and development are more likely to expand through in-house efforts than via acquisitions (Anderson and Svensson, 1994; Hennart and Park, 1993). Thus, we suggest:

H5: The level of a firm's research and development productivity is negatively related to the probability of a brand acquisition.

Financial Leverage. Chatterjee (1990) argued that a **company's capital structure** influences its preference for internal development or acquisition. Financing expansion with funds that require public valuation (e.g., bonds and equity capital) is usually more costly in terms of the negative impact on the stock price than financing expansion with funds that do not require public valuation. All else equal, internal development will be cheaper to finance through debt or retained earnings, but is contingent on the makeup of the firm's capital structure. A firm that already has a high debt-to-equity ratio will find it more challenging to finance internal development via additional debt financing. A firm with a high leverage ratio may therefore consider an acquisition to be the more viable option.

H6: The level of financial leverage of a firm is positively related to the probability of a brand acquisition

Portfolio-Level Factors

Portfolio Diversification. Research on make-or-buy decisions in the context of international expansions has established a relationship between the makeup of a firm's portfolio of business activities and its preferred mode of expansion (Brouthers and Brouthers, 2000; Caves and Mehra, 1986; Wilson, 1980; Yip, 1982). Brouthers and Brouthers (2000), for example, found a positive relationship between a firm's overall level of product diversification and its preference for acquisition as a foreign market entry mode.

Applying this logic to the context of brand portfolio expansion, there should be a positive relationship between a firm's level of **brand portfolio diversification** and its preference for brand acquisition as a means for brand portfolio expansion. Diversified brand portfolios are more often associated with sophisticated management systems and expertise embedded in senior

management, resulting in a greater efficiency in brand exploitation and management control systems. However, companies with less diversified brand portfolios may have less developed management control systems, and hence have less efficiencies to be gained from brand acquisitions and thus are more likely to use brand creation. All else equal, managers in charge of more diversified brand portfolios will favor brand acquisition as the expansion strategy:

H7: The level of diversification of a firm's brand portfolio is positively related to the probability of a brand acquisition

Product Category Depth. Aside from the general level of brand portfolio diversification, brand portfolios also differ with regard to **product category depth** (i.e. the number of brands in specific product categories). Having a large number of brands in a single product category within the same portfolio would only be strategically viable if each brand is linked to a specific target segment and has a unique market position. The more brands a firm has in a specific product category the higher the risk of brand cannibalization due to overlapping target segments and/or market positions. Kumar (2004) posits that this trade-off will alleviate consumer brand switching behavior and decrease efficiency and management simplicity.

In this context the depth of a firm's brands in a specific product category has implications for subsequent expansions in the same product category because of the trade-offs that must be considered when adding another brand. Brand creation offers the opportunity to identify unique positioning to complement an existing brand lineup and minimize cannibalization. Finding an equally suitable acquisition target may be more difficult and time consuming, potentially resulting in a compromise of the firm's segmentation strategy. This will lead a company with many existing brands within the same product category to be more likely to create a brand that appeals to uniquely defined customer segments.

H8: A firm's depth in a product category is negatively related to the probability of a brand acquisition

METHODOLOGY

Firm Selection

After examining several alternatives, the American Customer Satisfaction Index (ACSI) was selected as the sampling frame. The ACSI has been extensively utilized in past research (e.g., Fornell, Johnson, Anderson, Cha, and Bryant, 1996; Luo and Bhattacharya, 2006) and is generally deemed representative of the U.S. economy. The more than 200 public and private firms and federal agencies are categorized in 10 economic sectors and 43 industries that collectively represent over 40 percent of the U.S. GDP (www.theacsi.org). Further, the ACSI has been used as the sampling frame for similar brand management research (e.g., Wiles, Morgan, and Rego 2009) and since these firms are generally larger consumer companies, they are also likely to be actively involved in managing brand portfolios.

Firms were eliminated from consideration if they had any of the following characteristics: a) non-US based companies (e.g. Nestle), to ensure comparability of financial information; b) private companies, to ensure availability of financial information; c) companies with predominant family branding strategies (e.g., Apple) and those in industries where family branding is common (e.g., retail), because they typically pursue brand portfolio expansion via brand extensions, and d) firms in industries where branding is infrequently used or has little importance (e.g., the utilities industry), along with firms in industries where the cost and time of brand development are disproportionate to that of other industries (e.g. automobiles). Although to some extent these restrictions limit the generalizability of our findings, a more narrow focus was deemed necessary to avoid potential confounding effects.

Final Firm Sample

Twenty-nine US public companies in five industries were retained (see Table 1). The final set of firms represents approximately 15 percent of the companies in the full ACSI sample and about 12 percent of the industries. The final sample has an average of six firms per industry, comparable to the ACSI overall (5 firms per industry). Seven firms had no brand portfolio expansion activity, leaving 22 firms with 125 total observations in the following industries: apparel (e.g. Jones Apparel), food and beverage (e.g. Kellogg), chemical and personal care (e.g. Procter & Gamble), tobacco products (e.g. Reynolds American), and pet supplies (e.g. Del Monte Foods). The companies in the sample operate in 57 product categories. Tables 2 and 3 provide descriptive statistics for the firms in the final sample.

[Insert Tables 1, 2 and 3 About Here]

Operationalizing the Dependent Variable

Brand portfolio histories for each firm from 2001 to 2007 were compiled utilizing two data sources: "Brands and their Companies," developed by the Thompson Gale Group, and Mergent. A unique advantage of the "Brands and their Companies" database is its focus mainly on consumer goods brands in over 20 product categories, a match to the characteristics of the companies selected for analysis.

Reviews of company histories from 2001 to 2007 provided a record of all events related to brand ownership changes (assignments) or brand creations (registrations). Coding of the dependent variable **brand portfolio expansion mode** for all events was performed by two individuals trained to identify brand portfolio additions and then cross validated to ensure that no events were missing and all events were coded accurately. When any discrepancy was noted between the databases, further research was conducted using companies' websites and other sources. Finally, press releases were collected for every firm included in the sample during the specified timeframe from company websites and the LexisNexis database. This search confirmed the date and nature of events included in the analysis.

Independent Variables: Market-Level

The **degree of market concentration** is traditionally measured as a function of the number of firms and their respective shares of total industry sales. In this research, market concentration is calculated for a product category to reflect the active competition facing the firm in the form of advertising expenditures found in the AdSpender database, instead of the *outcomes* of such competition in the form of market shares. AdSpender is a commercial database product of TNS Media Intelligence that provides a summary of the advertising expenditures across a variety of media for the entire U.S. marketplace. AdSpender monitors local, regional and national media buying information for millions of brands across 18-media sources. The database provides annual media expenditures for these brands over the seven year period of this study. The use of media expenditures leads to a measure of "share of voice" (Chaudhuri and Holbrook, 2001). Share of voice (SOV) has been shown to be closely correlated with market share (Jones, 1990; Hansen and Christensen, 2005) and represents an appropriate substitute in this context since the role of advertising is a key component in Business-to-Consumer branding strategies.

For each product category in which a brand acquisition or creation occurred, all the brands in the category are grouped by their respective firms and the total media expenditures of each firm in that product category are then calculated along with total expenditures across all firms:

$$(1)\ \text{Market Concentration} = \frac{\text{Total Media Expenditures of Top Four Firms}}{\text{Total Media Expenditures in Product Category}}$$

The four-firm ratio was used instead of the Herfindahl-Hirschman Index (HHI) because the HHI requires market share calculations for all firms, and market share estimates for smaller firms in the market were deemed unreliable.

Competitive intensity is operationalized as the market presence of the four largest brands in a product category based on media expenditures from the AdSpender database. The four-brand ratio was used in this context rather than the HHI for the same reasons as noted in calculating market concentration:

$$(2)\ \text{Competitive Intensity} = \frac{\text{Total Media Expenditures of Top Four Brands}}{\text{Total Media Expenditures in Product Category}}$$

Market Growth Rate is the final product category characteristic representing the direction and rate of growth in the product category. Just as was done for the concentration measures discussed above, the level of advertising expenditures from the AdSpender database was used as a substitute for product sales. This provides a comparable measure to the earlier measures of market structure that were also based on advertising expenditures of firms and brands:

$$(3)\ \text{Market Growth Rate} = \frac{\text{Total Media Expenditures}_{t} - \text{Total Media Expenditures}_{t-1}}{\text{Total Media Expenditures}_{t-1}}$$

All three variables at the market level are calculated as an average of the three prior years to mitigate any unusual circumstances in a given year. For events occurring between 2001 and 2004, data was not available to calculate a three-year average. For transactions occurring in 2001 the growth rate between 2001 and 2002 was used. For the transactions occurring in 2002 and 2003, we used one year and two year growth rates, respectively.

Firm Level Variables

Prior experience with brand acquisitions was calculated as the ratio of the number of brand acquisitions to a total number of brand acquisitions (assignments) and brand creations (registrations) in the USPTO database for three years prior to a focal year:

$$(4)\ \text{Firm Experience with Brand Acquisition} = \frac{\text{Number of Trademark Assignments}}{\text{Number of Trademark Assignments} + \text{Number of Trademark Registions}}$$

Research and development productivity is a measure of company's ability to innovate. To overcome issues associated with missing R&D data, we calculate the average number of patents registered by a company in the three years prior to the brand portfolio expansion. To make this number relative to a firm's size, the ratio of the average number of patents registered by a firm to its average sales was calculated (c.f., Hit, Hoskisson, Ireland, and Harrison 1991). LexisNexis Patent announcement records are used for patent counts and the COMPUSTAT database to obtain information on firms' sales. The firm's research and development productivity is calculated as:

$$(5)\ \text{R\&}D\ Productivity = \frac{\text{Number of Patents Registered}}{\text{Annual Revenue of Firm}}$$

Financial leverage is the final firm-level variable**,** measured as debt as a percentage of shareholder's equity. Data from the COMPUSTAT database is used to calculate financial leverage as:

$$(6)\ \text{Financial Leverage} = \frac{\text{Total Assets}}{\text{Long Term Debt}}$$

Brand Portfolio Level Variables

The degree of **brand portfolio diversification** is operationalized as a count of the number of product categories in which a firm operates. The larger the number of product categories in which a firm operates, the more diversified its brand portfolio. Brand portfolio diversification was calculated as the categories provided by the AdSpender database:

$$(7)\ \text{Brand Portfolio Diversification} = \text{Number of Product Categories for a Firm}$$

Product category depth is a measure of a firm's presence in the specific product category where the event occurs. While it is not possible to reliably calculate the number of years in which a firm has had a brand in the category, it is possible to estimate its current position in the product category through the number of brands it owns in the expansion category. We operationalize product category depth as a count of the number of brands held by a firm in the expansion product category as provided in the AdSpender database.

(8) Product Category Depth = Number of Firm Brands in Product Category

These hypotheses are summarized in Figure 2. For consistency, all hypotheses are formulated in relation to brand acquisition.

[Insert Figure 2 About Here]

Control Variables

Two control variables were included in the study. First was **industry type** to represent any idiosyncratic effects of specific industries on brand portfolio expansion strategies. Initially, the sample of firms included brands from five manufacturing industries: apparel, chemicals and personal care, tobacco, pet supplies, and food and beverage manufacturing. Two industries, tobacco and pet supplies, were later combined due to the small number of brands in each industry.

The second control variable represented the **size of a firm's overall brand portfolio** (i.e., the total number of brands for a firm across all categories). This measure was used to account for any effect the absolute size of a firm's brand portfolio may have on portfolio expansion choice. Table 4 provides descriptive statistics for the eight independent and two control variables.

[Insert Table 4 About Here]

RESULTS

Model Specification and Interpretation

Because the dependent variable is binary, with a value of one representing a brand acquisition and a zero a brand creation, a binominal logistic regression model is specified to test the probability of brand acquisition as explained by the independent and control variables described above. The model can be expressed as:

$$(9)\quad P_{(y_i=1)} = 1/(1 + exp^{-(a+X_iB)})$$

where y_i is the dependent variable, X_i is the vector of independent variables for the i^{th} observation, *a* is the intercept parameter, and *B* is the vector of regression parameters (Hastings 1986).

Estimation of a logistic regression model requires that the dependent variable be transformed to an odds ratio due to its binary nature. The odds ratio is the ratio of the odds that event X will occur versus that it will not occur given a unit change in the independent variable. As specified in our model, the odds express the likelihood of the brand portfolio expansion occurring via brand acquisition. An odds ratio of greater (less) than 1 indicates an increase (decrease) in the odds of a company using brand acquisition as a brand portfolio expansion strategy. An odds ratio of 1 indicates that acquisition or creation are equally likely.

The regression coefficients estimate the impact of the independent variables on the probability that the expansion strategy of a firm will be a brand acquisition. A positive sign for a coefficient indicates that the variable increases the probability of brand acquisition. The magnitude of the effect of each independent variable is best expressed by the antilog of the coefficient, commonly termed the exponentiated coefficient. The percentage change in the odds ratio is equal to the exponentiated coefficient minus 1.0. So an exponentiated coefficient of 1.0 denotes no change (e.g., 1.0 – 1.0 = 0). Exponentiated coefficients above (below) 1.0 indicate increases (decreases) in the odds ratio and correspond to regression coefficients with a positive (negative) sign.

Assessing Multicollinearity. The correlations between most of the independent and

control variables are either small or moderate, with two exceptions. First, market concentration and competitive intensity are highly correlated (r = 0.759, p <0.01), indicating that product categories dominated by few firms tend to be dominated by few brands as well. For example, the product category "Shaving Equipment – Mens & Unisex" is dominated by Procter & Gamble (Gillette: 60% market share), Energizer Holding Inc. (Schick: 23%), Spectrum Brands Inc. (Remington: 12%), and Philips (Norelco: 4%). Together these companies represent market share of 99%. Secondly, the correlation between the number of product categories a firm operates in and the control variable for number of brands a firm owns is highly correlated (r = 0.849, p <0.01). Fortunately, evaluation of VIF and tolerance values demonstrate inconsequential collinearity. All VIF values are below 10.0. Although no variables exceed the tolerance value threshold of 0.10, the same variables that had high bivariate correlations had values close to 0.10, but all condition indexes were below the threshold value of 30. Even when applying the more stringent threshold value of 15 (three condition indices exceeded this value), the variance proportions for all were below 90%. Thus, no problematic multicollinearity was found, and no remedies are needed to proceed with the analysis.

Model Estimation

The proportional chance criterion (i.e. the "average" probability of classification considering all group sizes) is calculated as the sum of the squared proportions for each group. For our sample of events, 34.4% (43/125) are brand creations and 65.6% (82/125) are brand acquisitions. Thus, the proportional chance value for the sample is 0.55 ($0.55 = (0.344)^2 + (0.656)^2$). The second commonly used goodness-of-fit criterion is the maximum chance criterion. For this study the value would be 0.656 – i.e., if all events were classified as brand acquisitions, 65.6% would be correct. The proportional chance criterion (0.55) represents the "lower bound" of the percentage correctly classified, while the maximum chance criterion (0.656) is a stricter threshold. It is suggested that the goodness-of-fit criteria be increased by 25% for a more conservative test (Hair, et. al, 2010), resulting in a revised threshold for the proportional chance criterion of 68.7% (0.55 * 1.25) and for the maximum chance criterion of 81.9% (65.6 * 1.25). The model was estimated in two steps summarized in Table 5. First, all of the independent variables were entered into the model and significance of each variable assessed.

Then a "trimmed" model was estimated, retaining only those variables with statistical significance in the first model, plus control variables.

[Insert Table 5 About Here]

The 125 observations are split into analysis and holdout samples. The analysis sample (65% of the original sample) is used to estimate the model, and the holdout sample (35%) is used to validate the predictive accuracy of the model. As seen in Table 5, Model 1 achieves a correctly classified percentage of 81.6% for the analysis sample and 71.4% for the holdout sample. The Hosmer and Lemeshow statistic is non-significant (0.626) and is greater than 0.5, indicating acceptable model fit. A significant Omnibus test ($\chi^2_{\text{Model 1}}$= 35.648, df = 14, p = 0.001) also indicates that there is adequate fit and that at least one of the predictors is significantly related to the dependent variable. The Wald statistic indicates that 'Acquisition Experience', 'R&D productivity', 'Brand Portfolio Diversification', and 'Product Category Depth' were not significant at the 0.1 level.

A "trimmed" model (Model 2) was estimated with the remaining variables, achieving a correctly classified percentage of 82.9% for the analysis sample and 75.5% for the holdout sample. The classification accuracy for the analysis sample exceeded the revised maximum chance criterion level of 81.9%. Although the classification accuracy for the holdout sample was lower than the revised maximum chance threshold level, it exceeded the revised proportional chance criterion by nearly 7% and the original maximum chance criterion of 65.6% by nearly 10%.

The Hosmer and Lemeshow test again was non-significant for Model 2 (0.536), demonstrating adequate model fit as did the Omnibus test ($\chi^2_{\text{Model 2}}$ = 33.843, df = 9, $p < 0.001$). The Wald statistics indicate that three of the independent variables retained in the model (i.e. 'Market Concentration', 'Competitive Intensity, and 'Financial Leverage') are significant at the 0.05 level, while 'Market Growth' is significant at the 0.10 level. The interpretation of each variable as it relates to the proposed hypotheses is discussed below.

Hypothesis Testing

Market Level variables – Market Concentration. H1 hypothesized that a company will prefer brand acquisition as the ratio of the total presence of the four largest firms in the market increases. The 'Market Concentration' variable is significant but negative (b = -6.569, p =

0.041), indicating, contrary to our hypothesis, that companies are more likely to acquire a brand if the target market is less oligopolistic.

Yip (1982) and Hennart and Park (1993) suggest that a company would prefer brand acquisition when faced with more oligopolistic markets. The companies included in our sample, however, preferred to enter more concentrated markets via brand creation. The difference in the empirical settings between these studies may have contributed to the opposite direction of the relationships. Yip's study focused mainly on industrial products and not consumer goods as we do. Karakaya and Stahl (1989) found significant differences between importance of barriers to entry for industrial and consumer goods markets. Industrial brands often benefit from higher customer switching costs (Parry and Bass, 1990), which may create further incentive for an acquisition in highly concentrated industrial markets. Thus, B2B and B2C strategies may differ substantially, producing opposite effects in the two types of market.

Further, support for H1 was also drawn from the work of Hennart and Park (1993) whose sample consisted of Japanese firms, while the sample in this study was exclusively U.S. companies. It is plausible to assume that cultural or other differences in the business environment could lead to results being in the opposite direction. Prior work and the present study confirm the importance of target market concentration on the choice of brand portfolio expansion strategy; however, the direction of this influence requires further study.

Competitive Intensity. H2 hypothesized that a company will prefer brand acquisition if the market has many well established brands. The 'Competitive Intensity' variable, representing brand concentration, is significant and positive (b = 4.514, p = 0.012), indicating that the companies in the sample had a higher propensity for expansion via brand acquisition when the competitive intensity was high in the target market. As will be seen below, this variable had the strongest influence on the choice between brand creation and brand acquisition.

Market Growth Rate. H3 hypothesized that a firm will prefer brand creation in a faster growing market. The 'Market Growth' variable is significant and negative (b = -2.222, p = 0.095), indicating that the predicted relationship is significant and in the hypothesized direction. Practically, it may be very difficult to find a brand to acquire in a rapidly growing market and the costs of such an acquisition might be prohibitively high.

Firm Level Variables – Prior Firm Experience. H4 theorized that a firm's prior experience with brand acquisitions will influence its selection of expansion strategy. The

'Acquisition Experience' variable, however, is not significant (b = -0.606, p = 0.544), indicating that companies' past experience may not be an influential factor when choosing a brand portfolio expansion strategy.

This study did not take into consideration any contingency factors that may moderate the effect of prior acquisition experience. For example, research on organizational learning (Greve, 2002) has shown that companies repeat strategic choices associated with positive performance outcomes. Prior acquisition experience may only lead to subsequent expansion via acquisition if the initial experience with this expansion strategy is favorable. Unfortunately, the design of this study does not provide the opportunity to probe for the influence of feedback effects on the propensity to repeatedly use brand acquisition as the preferred expansion strategy.

R&D Productivity. H5 theorized that companies with higher research and development productivity will be more likely to develop a brand than to acquire one when they expand their brand portfolios. The 'Research and Development Productivity' variable is not significant (b = -111.367, p = 0.718), indicating that a firm's research and development productivity may not be a significant factor when choosing a brand portfolio expansion strategy.

The lack of support for an effect of research and development productivity on brand portfolio expansion strategy is surprising. In this case, the operationalization of the variable may be problematic. Given the latitude that U.S. firms have with regard to reporting R&D expenses, only 50 percent of the companies in the sample had a nonzero entry for R&D expenses on their income statement. Due to this challenge, the number of patents registered by a company relative to its sales was used as a proxy for R&D productivity. Unfortunately, not all R&D activities result in patents, and thus the measure may be understating the actual R&D productivity of a company. Additionally, it takes time to register a patent and there may be a lag between the registration of a patent in a particular year and sales attributed to the number of patents as they do not match the same period as the revenue they helped to earn. Thus, while theoretically a higher R&D productivity should influence a company's propensity to create a brand, a better measure of R&D productivity must be developed to test this assertion.

Financial Leverage. Finally, H6 stated that a highly leveraged company will prefer brand acquisition. The 'Financial Leverage' variable is significant and positive (b = 6.993, p =

0.028), indicating that highly leveraged companies are more likely to acquire a brand rather than create one.

Portfolio Level Variables – Brand Portfolio Diversification. H7 stated that companies with highly diversified brand portfolios will prefer brand acquisition. The 'Brand Portfolio Diversification' variable, however, is not significant (b = 0.043, p = 0.447), indicating that companies with more diversified brand portfolios do not have a higher tendency to acquire a brand than companies with a less diversified portfolio.

Product Category Depth. H8 stated that companies with more existing brands in a target category will prefer brand creation. However, the 'Product Category Depth' variable is not significant (b = -0.017, p = 0.881), indicating that depth in a target category may not be considered when considering brand portfolio expansion.

Although the portfolio level variables (H7, H8) did not contribute to the explanatory power of the model, there is a strong theoretical reason to believe that these variables may have an effect on brand portfolio expansion, and availability of brand level data from a different source may allow for a different operationalization of the portfolio level variables leading to identification of significant relationships. For example, Brand Portfolio Diversification was measured as the total number of product categories in which a company competed. Given the need to aggregate advertising expenditures across variants of the brand name and even promotional campaigns, the reliability of this value may be questioned, although it was the most detailed measure available. A more reliable measure might have been the number of brands constituting a specific percentage of the firm's activity (e.g., 90 percent). In this way very small brands could be identified and not allow them to potentially inflate the firm's value. Likewise, for the second brand portfolio variable, Brand Portfolio Depth, it would be beneficial to know the total number of brands in a category, allowing a measure of relative depth for the category among companies. To refine these measures in future research, researches may consider using proprietary databases that offer more detailed brand level information.

Magnitude of Effects

The four variables found to be related to the brand portfolio expansion choice can be ranked by exponentiated coefficient (Model 2, Table 5) in the following order (from highest to lowest): *Competitive Intensity*, *Financial Leverage*, *Market Concentration*, and *Market Growth*.

Thus, apart from the direction of the relationships, it can be concluded overwhelmingly that the most impactful variable on brand portfolio expansion strategy is *Competitive Intensity*, or the power of the four largest brands in a market (as measured in advertising spend). *Financial Leverage* and *Market Concentration* are roughly equal in impact, followed by *Market Growth*.

MANAGERIAL IMPLICATIONS AND APPLICATIONS

This is the first study to empirically examine factors affecting the brand portfolio expansion strategy via brand creation versus brand acquisition across a variety of industries. Our results suggest that brand portfolio expansion strategy is influenced by market- and company-level factors, while characteristics of an existing brand portfolio were not found to impact the choice of expansion strategy. However, even if current portfolio characteristics do not affect the expansion decision directly, the existing brand portfolio may moderate the effectiveness of the chosen strategy (e.g., available synergies, knowledge, etc.). From a methodological standpoint, one of the more serious and persistent problems facing prior brand research is the lack of brand-level data, but our approach overcomes this limitation by using media expenditures in the AdSpender database to represent brands within a market.

Limitations

First, research on the make-or-buy decision was used as a theoretical foundation for the hypotheses of this study. This research has been applied predominantly to analyze the choice of entry mode in international markets; our research was in a quite different market context: U.S. firms entering new and sometimes quite familiar market segments. Thus, while the make or buy decision is deemed an appropriate conceptual base, accommodations or modifications for these types of market factors may impact the results. A second type of practical consideration (e.g. antitrust regulations) may also explain any contrary findings. Research has not examined how the make or buy decision is impacted by either of these factors, although research in other associated areas has found that they may result in findings opposite from the hypothesized direction.

Data availability was found to be challenging, especially in gaining access to brand level information. Given these constraints, the best available information (e.g., AdSpender) was used

in constructing the measures. However, a fairly recent development may benefit future research. New financial regulation requiring reporting of brand level information on companies' financial statements was introduced in 2001. Currently, this regulation is not fully enforced. However, as public scrutiny increases and enforcement is increased companies can be expected to become more diligent in reporting brand level results. This change will allow researchers to have better and more reliable access to brand level information of publicly traded U.S. companies. This will enable the construction of better measures for operationalizing brand level variables (e.g. brand sales).

Further Research

As additional efforts address the issue of brand portfolio expansion strategy, researchers may extend or refine these sources to provide more accurate and reliable data given the range of available sources. Moreover, researchers may find the usefulness in establishing a repository with information on these activities with access to researchers interested in this issue.

One possible alternative is to explore how these issues could be overcome, if at all, through the use of primary data sources, where these contextual issues could be quantified in terms of their perceived impact. If these contextual factors could be operationalized, then their moderating effect could be empirically examined.

Future research may also take advantage of alternative measures for the market level variables. In this research media expenditure data was used to measure 'voice of the firm' in the market. An alternative measures for the market level variables can be based on brand sales, rather than on media expenditures. Verifying the results of this study using brand sales data as it becomes available would be an important venue for future research. Second, using information offered by proprietary data sources or/and conducting qualitative research with brand managers and marketing executives will provide a better understanding of the decision regarding brand portfolio expansion choices.

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Table 1
Firms in the Final Sample

Industry	Company	Acquisitions		Creations	
		Number	Example	Number	Example
Apparel Manufacturing	Jones Apparel Group	14	Energie	none	
	Fruit of the Loom	0		0	
	Hanes Brands	0		0	
	Levi Strauss	none		1	Signature
	Liz Claiborne	9	Juicy Couture	none	
	Nike Inc	6	Converse	none	
	VF Corp	8	Nautica	none	
Chemical and personal care manufacturing	Colgate-Palmolive	1	Tom's of Me	none	
	Procter and Gamble	9	Oral-B	2	TAG
	Clorox	1	Burt's Bee	1	Green Works
Tobacco and pet supplies manufacturing (combined)	Philip Morris	0		0	
	Reynolds American	1	Natural American Spirit	1	Advance Lights
	DelMonte Foods	3	9Lives	none	
Food and Beverage manufacturing	Campbell Soups	1	Wolfgang Puck	none	
	ConAgra Foods	2	Lincoln Snacks	4	Life Choice
	General Mills	1	Humm Food	2	Curves
	Heinz	9	Aunt Millie's	8	Smart Ones
	Hershey	7	Ice Breakers	2	Swoops
	Kellogg	2	Live Bright	7	Keebler
	Kraft Foods	2	Nabisco	3	South Beach Diet
	Molson Coors	1	Worthington	1	Aspen-Edge
	PepsiCo	3	Sierra Mist	3	Spiltz
	Anheuser-Bush	none		2	Tilt
	Sara Lee	none		1	Good Origin
	Coca-Cola	2	Odwalla	5	Enviga
	Fortune Brands	0		0	
	Dole Foods	0		0	
	Miller Co	0		0	
	Tyson Foods	0		0	
	Total	82		43	

Table 2
Brand Activity Profiles of Sample Firms

Brand Activity	**Min**	**Max**	**Mean**	**Std. Dev.**
Number of Employees	7,000	157,000	50.31	38.2
Firm Sales (billion dollars)	3	83	16	17
Number of Product Categories	2	62	21.05	14.8
Total Number of Brands	5	90	32.69	23.6
Brands Per Expansion Category	0	23	4.54	4.7
Number of Brand Portfolio Expansions	1	17	5.7	4.5

Table 3
Brand Portfolio Expansion Activity by Industry

	Industry				
	Apparel manufacturing	Chemical and personal care manufacturing	Tobacco and pet supplies manufacturing (combined)	Food and beverage manufacturing	Total
Acquisition	36	10	7	29	82
Creation	1	1	5	36	43
Total	37	11	12	65	125

Table 4
Firm Profiles on Variables in Conceptual Model

	Min	Max	Mean	Std. Dev.
H1- Market Concentration	0.24	1.00	0.781	0.222
H2- Competitive Intensity	0.09	1.00	0.634	0.254
H3- Market Growth	-0.40	1.25	0.089	0.223
H4- Acquisition Experience	0.00	1.00	0.242	0.401
H5- R&D Productivity	0.00	0.01	0.001	0.002
H6- Financial Leverage	0.01	0.76	0.266	0.141
H7- Brand Portfolio Diversification	2	62	21.050	14.834
H8- Product Category Depth	0	23	4.540	4.660
Control1 - Industry	n/a	n/a	n/a	n/a
Control2 - Total Number of Brands	5	90	32.690	23.623

Table 5
Results of Testing the Full Conceptual Model (1) and Trimmed Model (2)

Variable	Model 1: Full Model	Model 2: Trimmed Model[a]
Constant	3.510	2.800
Control Variables		
Industry: Food and beverage	0	0
Industry: Apparel	1.676	1.992
Industry: Chemicals and personal care	1.847	2.412
Industry: Tobacco and pet supplies	0.071	0.263
Total number of brands	-0.023	-0.001
Market-Level Variables		
Market Concentration	-7.603*	-6.569/0.0014*
Competitive Intensity	4.567*	4.514/91.314**
Market growth	-2.875 □	-2.222/0.1083 □
Firm-Level Variables		
Acquisition Experience	-0.606	
R&D Productivity	-111.367	
Financial Leverage	6.993*	7.134/0.0007**
Brand-Portfolio-Level Variables		
Brand Portfolio Diversification	0.043	
Product Category Depth	-0.017	
Percent Correctly Classified		
Analysis sample	81.6%	82.9%
Holdout sample	71.4%	75.5%

[a] The two values are the regression coefficient and the exponentiated coefficient
* Significance level of 0.01
** Significance level of 0.05
□ Significance level of 0.1

Figure 1
Assignments Recorded in the USPTO Database

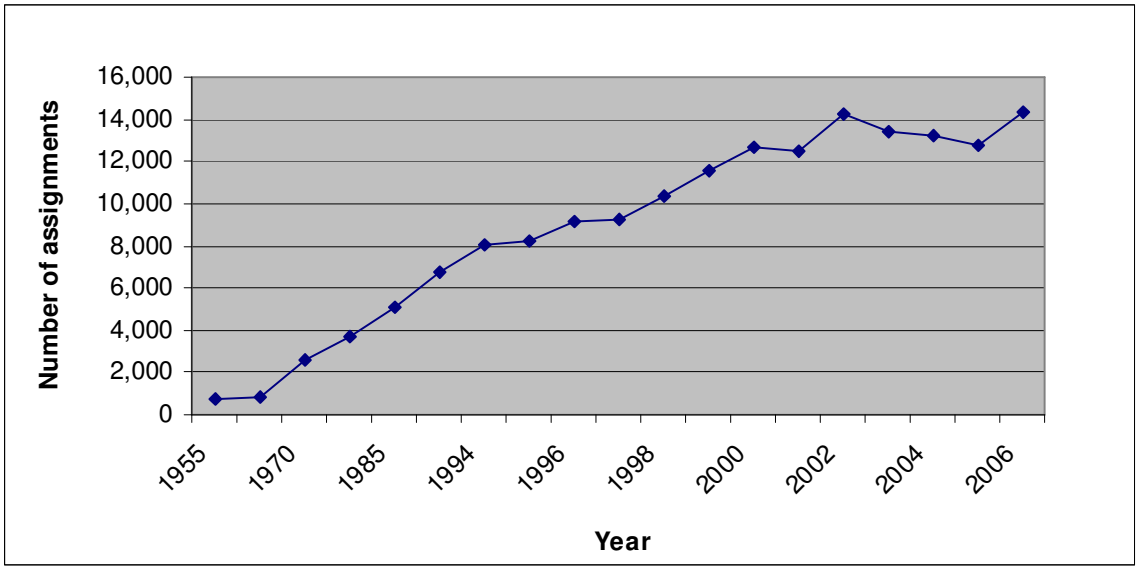

Figure 2
A Conceptual Framework for Brand Portfolio Expansion