PRODUCT DIVERSIFICATION AND FIRM DEVELOPMENT: AN EMPIRICAL EXAMINATION OF CONTINGENCY RELATIONSHIPS

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Product diversification is an important issue in marketing management. It has been the topic of business researchers for over three decades. Extending previous marketing research on product diversification by Varadarajan (1986), the product diversification strategies of 300 firms were analyzed. Nine hypotheses were tested concerning the association of product diversification direction, method, and stage of firm development. The findings indicate the relationship between product diversification and firm profitability is contingent upon the method used to add new products and the stage of a firm's life when product diversification is attempted. It is concluded that the focus of marketing management should change as a firm develops from a small, entrepreneurial start-up to a large, mature corporation.

INTRODUCTION

Product diversification has been the topic of business researchers for over three decades. This extensive research stream has been fed by scholars in marketing (e.g. Levitt 1974; Varadarajan 1986), management (e.g. Rumelt 1974; Christensen and Montgomery 1981), and industrial organization economics (e.g., Gort 1962; Arnould 1969). Diversification is one of the few topics to be investigated across disciplines.

Product diversification has become increasingly important to marketing managers in the past decade. As many firms moved from a financial orientation in the 1970s to a marketing orientation in the 1980s, marketing managers have become more involved in product diversification and other strategic decisions that affect business units and corporate entities (Aaker 1984). Product diversification decisions interface with marketing management in two basic ways:

1. Marketing managers apply various analytical tools and techniques to help assess product diversification alternatives.
2. The product diversification strategy employed by a firm affects marketing practice within the firm. For example, the more diversified a firm, the more that marketing managers must develop, implement, and coordinate marketing strategies for diverse products.

Despite its increasing importance, empirical studies of product diversification by marketing scholars have been limited in recent years. One of the important contributions to the product diversification area in marketing was the study by Varadarajan (1986). He examined relationships between different product diversification strategies and firm performance for a sample of the largest firms in 24 industries. Although the study made an important contribution to the product diversification literature, two limitations of the study provide an opportunity to build on this important work.

First, the Varadarajan (1986) study only investigated the extent and relatedness of product diversification. Not examined was the method used to achieve the product diversification extent and relatedness. The relationships between product diversification and firm performance are likely to differ depending upon whether product diversification was achieved through internal development or through acquisitions. Incorporating the diversification method with the extent and relatedness of product diversification would represent an important sequel to the Varadarajan (1986) study.

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Second, by only focusing on extremely large firms, the Varadarajan (1986) study failed to address diversification strategy relationships for smaller firms in various stages of development. Relationships between the extent and relatedness of product diversification, the diversification method used, and firm performance are likely to be different for firms in different stages of development.

The study reported here extends the Varadarajan (1986) study by incorporating diversification method with the extent and relatedness of product diversification in examining product diversification relationships for a large sample of manufacturing firms in various stages of development. First, the relevant literature is reviewed and the research hypotheses are developed. Then, the study methodology is described and the research results presented. Finally, a discussion of important implications for marketing managers and future research directions for marketing scholars are presented.

Research Foundations and Formulation of Hypotheses

The conceptual framework underlying this research posits that the relationship between diversification direction and performance is moderated by the diversification method employed and the stage of firm development. Product diversification strategy is conceptualized as taking one of three directions (intensive, related diversification, or unrelated diversification) via one of two diversification methods (internal or external). Therefore, a firm can be described as pursuing one of six product diversification strategies defined by the three directions and two methods. In addition, each diversification strategy must be examined within the context of the firm's stage of development.

The research literature for each of the three variables in this conceptualization is reviewed to provide a foundation for hypothesizing the specific relationships tested.

Diversification Direction

A core dimension of all diversification strategies is the diversification direction. Should a firm limit operations to current products or should it expand into new product areas in search of growth? If a firm decides to enter new product areas, how related should they be to current products? Three alternative directions are possible. An intensive strategy describes a firm that focuses on increased marketing efforts for existing products. A related diversification strategy is one in which a firm expands into product areas that are new in some ways, but have similarities with existing products. An unrelated diversification strategy is the addition of new products very different than the firm's current product mix.

Diversification direction decisions encompass both the extent and relatedness of product diversification. Early studies (e.g., Gort 1962; Arnould 1969) used continuous product counts to measure diversification. These studies only examined the extent or degree to which a firm had diversified by counting the number of Standard Industrial Classification (SIC) industries in which the firm operated. Firms operating in only one SIC industry were employing an intensive strategy, while firms operating in more SIC industries were pursuing more diversified strategies. These studies found no relationship between the extent of diversification and performance.

Beginning with Rumelt (1974), diversification direction studies have addressed both the extent and relatedness of diversification. These studies have generally found that related diversifiers outperformed intensive and unrelated diversification firms. For example, as reported earlier, Varadarajan (1986) examined relationships between the extent and relatedness of diversification and performance for 223 large firms. He reported that less diversified, more intensive firms grew more quickly than unrelated diversifiers and that related diversifiers were more profitable than unrelated diversifiers.

The results from the diversification direction literature have been sufficiently consistent to support the following hypothesis. Both Rumelt (1974) and Varadarajan (1986) found firms pursuing a related diversification direction achieved a greater return-on-capital than firms with unrelated product diversification.

H1: Firms employing a related diversification strategy will achieve better profitability performance than firms pursuing an unrelated diversification strategy.

This hypothesis is based on research results produced from studies of large, mature firms. Testing the hypothesis on a sample of firms in different stages of development will both replicate and extend the growth direction literature.

Diversification Method

A second important dimension of a diversification strategy is the method used to implement the diversification direction strategy. Each diversification direction strategy requires different resources and competencies. A firm must choose where it will get the necessary resources and competencies to be successful in the product arenas in which it will compete. Diversification method options

lie along a continuum with an internal strategy at one end and an external strategy at the other. An internal strategy means that the firm has decided to generate the necessary resources and required competencies by creating them internally. An external method means the firm has decided to purchase the required skills and resources. In between these methods are a number of options such as joint ventures, strategic partnerships, and collaborative ventures (for a thoughtful discussion consult Varadarajan and Rajaratnam 1986). Research examining diversification methods is discussed separately for the internal and acquisition methods.

Internal Development. Internal development research has been dominated by a focus on the different steps in the new product development process. However, some studies have examined relationships between internal development and firm performance (Cooper 1984; Gupta, Raj, and Wilemon 1985).

The major thrust of these studies has been toward identifying the factors related to successful new product development strategies. The findings from this research suggest that internal methods are more likely to be successful when the firm possesses the skills and knowledge related to the new product being introduced and when the new products being developed "fit" with the firm's existing product focus (e.g., Cooper 1979; Cooper 1984). These results imply that firms will be more successful using internal development methods when employing intensive or related diversification strategies. Thus, the following hypothesis is formulated:

H2: Firms employing an intensive or related diversification strategy using internal development will perform better than firms pursuing an intensive or related diversification strategy using acquisitions.

Acquisitions. Although the number of acquisitions has increased substantially in recent years, the success rate of acquisitions has not been impressive (Hogarty 1970; Mueller 1977; Kerin and Varaiya 1985; Porter 1987). The rationale for many acquisitions is to capitalize on the synergistic effects from joining the skills and resources of the acquired firm with those of the acquiring firm (Lubatkin 1983; Chatterjee 1986). The benefits from an acquisition may be derived from the exploitation of synergies in financing or from operating synergies such as in marketing or technology. Research results, however, indicate a poor track record in achieving desired operating synergies (Kitching 1957; Chatterjee 1986; Lubatkin 1987). These studies suggest that acquisitions are more likely to be successful when attempting to achieve financial synergies such as in conglomerate acquisitions. Based on these results, the following hypothesis is formulated:

H3: Firms employing an unrelated diversification strategy using acquisitions will perform better than firms employing an unrelated diversification strategy using internal development.

Stage of Firm Development

The development of a firm over time has been likened to a biological life cycle process similar to the product life cycle (Day 1981; Gardner 1987). Firms typically begin as entrepreneurial ventures offering a single product or small product line to a specific segment of the market. Over time, firms pass through various developmental stages with the most successful firms becoming extremely large. Despite the value of such a conceptualization, marketing management research has typically included only large firms in the mature stages of the life cycle (Davis, Hills, and LaForge 1985). However, there has been recent research on differences in marketing relationships for firms in different stages of development (e.g. Hills, LaForge and Parker 1989).

A number of firm development models have been proposed. Each model defines firms at different stages of development based on specific characteristics such as organizational structure (Chandler 1962), management style (Steinmetz 1969; Churchill and Lewis 1983), marketing practices (Tyebjee, Bruno, and McIntyre 1983), or growth strategies (McNichols 1983). These characteristics are proposed to change as firms grow and develop over time.

The firm development models are generally consistent in proposing patterns in how firms grow and develop, although empirical support for these patterns is limited. In general, as firms develop, diversification direction strategies change from intensive to related and then unrelated diversification. Diversification method strategies typically change from an emphasis on internal development to a reliance on external methods such as acquisitions.

Firms in early stages of development are young, small, and typically dominated by the management control of the founder. The models suggest that intensive growth within a narrow product area is the best direction strategy due to the limited resources and capabilities of these firms. Competing on a broad scale against larger firms is extremely difficult. In addition, the knowledge and expertise of the founder can be exploited more fully by restricting operations to a narrow product area. Centralized control by the founder facilitates the implementation

of internal development strategies.

Mature firms in later stages of development are older, larger, and have typically decentralized many management functions. The age and size of these firms indicates that they have been successful, but diversification away from original products may be necessary to maintain growth. The decentralization of management functions allows for new business divisions and facilitates the acquisition of firms and their incorporation into the overall corporate organization.

The stage of firm development models suggest that firms in different stages of development are more likely to be successful using different product diversification strategies. The relationships indicated by the models are translated into the following hypotheses:

H4: Firms in early stages of development will perform better using intensive and internal development strategies than when employing other diversification strategies.

H5: Firms in early stages of development using intensive and internal development strategies will perform better than firms in later stages of development employing similar diversification strategies.

H6: Firms in middle stages of development will perform better using related diversification and internal development strategies than when employing other diversification strategies.

H7: Firms in middle stages of development using related diversification and internal development strategies will perform better than firms in earlier or later stages of development employing similar diversification strategies.

H8: Firms in later stages of development will perform better using unrelated diversification and acquisition strategies than when employing other diversification strategies.

H9: Firms in later stages of development using unrelated diversification and acquisition strategies will perform better than firms in earlier stages of development employing similar diversification strategies.

RESEARCH METHODOLOGY

The research methodology to test the hypotheses is presented in four sections. First, the measurement of all constructs is discussed. This is followed by a description of the sampling plan and the procedures for data collection. Finally, the analytical approach for testing the hypotheses is presented.

Construct Measurement

Hypothesis testing required the measurement of four constructs: diversification direction, diversification method, stage of firm development, and firm performance. As is true in most marketing research, construct measurement poses difficult problems requiring complex tradeoffs. In order to identify those measures with the most empirical support, measures of each construct previously reported in the literature were reviewed. The measures were employed exactly as reported in previous research or adjusted slightly due to limitations in the study database. The measures for each construct are presented in Table 1.

TABLE 1

CONSTRUCT MEASURES

Construct/Dimensions	Measure
Diversification Direction	
Broad Spectrum Diversification	BSD=number of different two-digit SIC categories in which the firm simultaneously operates.
Narrow Spectrum Diversification	MNSD=number of different four-digit SIC categories in which the firm simultaneously operates divided by the number of two-digit categories.
Diversification Method	
Number of Acquisitions	NACQ=number of acquisitions of a majority interest in firms completed during 1982-1986.
Firm Stage of Development	
Firm Age	AGE=number of years since the founding of the firm.
Firm Performance	
Growth	ANSGROW=three-year (1985-87) average annual change in net sales.
Profitability	ROIC=three-year (1985-87) average annual return-on-invested-capital

The Varadarajan (1986) approach was used to measure diversification direction. This approach addresses both the extent and relatedness of diversification. Broad spectrum diversification (BSD) evaluates the extent to which a firm has diversified into different two-digit SIC industries, while mean narrow spectrum diversification (MNSD) assesses the degree of related diversification by associating diversification into four-digit SIC industries with diversification into two-digit SIC industries. Measures of intensive, related diversification, and unrelated diversification are obtained by combining the BSD and MNSD measures.

Measurement of diversification method required assessing a firm's reliance on internal or external resources for growth. One approach in previous research has been to a priori place firms into diversification method categories (e.g., Cooper 1979; 1984). Another approach involves determining the number of acquisitions a firm used over some period of time and inferring method from this (e.g., Lamont and Anderson 1985; Porter 1987). The approach taken here was to review the most recent five-year history of each firm and count the number of acquisitions during this period. The absence of acquisitions indicates a reliance upon internal development. The number of acquisitions provides a quantitative assessment of the use of external methods.

Stage of firm development is a multidimensional construct most often measured using either number of employees or firm age as indicators (e.g., Grinyer and Yasai-Ardekani 1981; Churchill and Lewis 1983). Because number of employees is industry specific, firm age was chosen due to this study's examination of firms across several industries. Recent research supports firm age as an indicator of firm life cycle stage (Miller and Friesen 1984; Kazanjian 1988).

Two dimensions of firm performance were measured: sales growth and profitability. Sales growth rate and return on invested capital were chosen as indicators due to their similarity with those used by Varadarajan (1986) and others (e.g. Rumelt 1974; Rumelt 1982). Three-year averages were calculated for each to capture a long term strategic perspective and to minimize the influence of short term aberrations.

Sampling Plan

The sampling frame for this research was the 3500 firms listed in the Compact Disclosure database whose primary business activity is manufacturing. Disclosure Inc. compiles 10-K and annual report data on a quarterly basis for over 12,000 firms. Firms included in this database must be publicly traded with at least 500 shareholders and have filed a 10-K report with the Securities and Exchange Commission in the last 18 months. Therefore, firms in the sampling frame possess characteristics of growth-oriented firms (Cooper 1979).

There are several reasons for limiting the study to manufacturing firms. First, investigating only manufacturers will help to control for differences in diversification strategy relationships due to differences in major business activity (e.g., services, retailers, wholesalers, etc.) Second, past studies of diversification have typically focused on manufacturing firms. The results from this study will be more directly comparable to previous research. Finally, the structure of the SIC system is such that coding is more elaborate and detailed for manufacturers than other types of firms. Limitations in the SIC system present difficulties when trying to measure the extent and relatedness of diversification for service firms.

A stratified random sampling plan was used to ensure that firms of different stages of development composed the sample. Because firm age was not included in the computerized database used as a sampling frame, number of employees was used to stratify the 3500 manufacturing firms into ten categories. A systematic random sampling procedure was used to select 40 firms from each of the 10 strata to produce the sample of 400 manufacturing firms. Analysis of the age of sampled firms confirmed that use of number of employees had been successful in creation of a sample of firms in different stages of development.

Data Collection

Data collection involved the assembling of information from three secondary data sources. As has been demonstrated in studies within industrial organization economics (Berry 1975), management (Palepu 1985), and marketing (Varadarajan 1986), secondary data sources are useful for the measurement of constructs in this area. The use of secondary data sources eliminates many of the problems with primary data collection in marketing strategy research such as low response rates to mail surveys and difficulties in identifying the proper informants within firms.

The main data source was each firm's 10-K document as reported in Compact Disclosure. The data for the BSD, MNSD, number of employees, and corporate performance measures were taken from this source. *Mergers and Acquisitions* was used to identify the number of acquisitions for each firm during the five-year study period. Finally, Ward's Directory provided the year each firm was founded so that firm age could be calculated.

Data Analysis

Analysis of the data was conducted in four steps. First, hierarchical regression was employed to determine the impact of incorporating method and stage of firm development on firm performance. This produced a general test of the conceptual framework that proposed method and stage of firm development as moderators of the diversification direction/firm performance relationship. Subsequent steps in the data analysis tested the exact nature of method and firm life cycle influences on performance as described in the hypotheses.

For the testing of hypotheses one and two, firms were placed into three diversification strategy categories and tests were conducted for the differences in mean performance across strategy groups. Step three in the analysis consisted of categorizing each firm by its diversification direction and growth strategy. The final analyses required the firms to be further categorized by the number of years since founding so that differences in performance across stages of firm development could be tested.

RESEARCH RESULTS

After eliminating firms with missing data, 300 manufacturers remained. The sample consisted of firms at various stages of firm development representing 19 two-digit SIC manufacturing industries. Nearly 20% of the firms had been in operation 10 years or less at the start of the five-year study period. Another 20% were more than 70 years old. Machinery manufacturers (SIC 35) were the largest single industry group representing 21% of the sample. Manufacturers of electronics (13%) and measurement, analysis equipment (12%) were the next largest industry groups. The remaining firms in the sample were well distributed over 16 industries.

Regression analysis confirmed the existence of a relationship between diversification direction and firm profitability. Initially, two models with BSD and MNSD as predictor variables indicating diversification direction were examined. A significant relationship between diversification direction and ROIC was found ($F=6.98$, $p<.01$). Regression indicated no significant linear relationship between diversification direction and sales growth. The R^2 of .04 for ROIC is consistent with earlier findings (e.g. Varadarajan 1986; Rumelt 1974).

Four other regression models were formulated to determine the change in predictive power associated with adding diversification method and stage of firm development. Adding number of acquisitions to diversification direction did not significantly improve R^2. However, the interaction terms (acquisitions x BSD, acquisitions x MNSD) did significantly improve R^2 ($R^2=.02$, $p<.10$). More significantly, models adding firm age and age interaction terms both improved upon the explanatory power of product diversification strategy for ROIC ($R^2=.04$ $p<.05$). Overall, addition of the interaction of diversification method and stage of development variables more than doubled the explanatory power of the initial models (from $R^2=.04$ to $R^2=.10$).

Hierarchical regression results support the basic proposition that product diversification is not related to performance in the same way across firms of differing method and stage of development. Adding these firm characteristics significantly improved the explanation of performance variance. The significance of the interaction terms indicates method and life cycle stage are not merely predictors of performance but interact with diversification direction in a more complex relationship.

Diversification Direction and Performance

The next step in the analysis was to produce a description of the relationships indicated in the regression analysis. Using broad (BSD) and mean narrow (MNSD) spectrum diversification measures, firms were placed into one of three product diversification strategy categories (e.g. Jacquemin and Berry 1979; Palepu 1985; Varadarajan 1986; Varadarajan and Ramanujam 1987). Firms with values below the mean BSD and MNSD levels for the sample (1.4 and 2.0 respectively) were categorized as intensive firms. These 147 companies operate in a single business and have yet to diversify. The remaining firms were categorized as either related or unrelated diversifiers based upon the number of different two-digit SIC industries in which they did business (BSD). Sixty-seven firms with a diversified product mix concentrated in just two two-digit industries were categorized as related diversifiers. The remaining 86 firms were categorized as unrelated diversifiers because of the broad nature of their diversification effort into more than two different two-digit industries. The characteristics of firms in each strategy category are shown in Table 2.

Characteristics of firms in each group are consistent with the conceptual definitions of intensive, related, and unrelated diversification firms. As firm life cycle models propose, the oldest and largest firms are most likely to use unrelated diversification. Average age, number of employees, sales level, and number of products were lowest among intensive direction firms, higher for related diversifiers, and still greater for unrelated diversifiers. The use of acquisitions as a diversification method also supports the strategy categorization. Intensive firms were the least

TABLE 2

DIVERSIFICATION DIRECTION GROUPS AND FIRM CHARACTERISTICS

	Diversification Direction Group		
	Intensive	Related Diversification	Unrelated Diversification
Firm Characteristic	(N=147)	(N=67)	(N=86)
Sales Growth Rate	20.8	15.5	28.7
Return on Invested Capital	-9.4	1.9	3.5
Number Products	1.3	3.4	5.1
BSD	1.3	1.6	3.7
MNSD	1.0	2.3	1.4
Age in Years	23	46	62
Net Sales	$73.m	$270.m	$1012.m
Number Employees	1145	2971	13,810
Acquiring Firms	28	27	59

likely to use acquisitions while over two-thirds of those in the unrelated diversification group acquired another firm.

This measurement approach may misrepresent those firms with BSD and MNSD scores close to the sample mean BSD and MNSD and thereby bias the overall results (Varadarajan 1986). To test the measurement's sensitivity to group composition, an alternative approach was also used. Using natural breaks in the distributions (1.0 and 2.0 for MNSD; 1.0 and 4.0 for BSD), firms were placed into low, medium, and high BSD and MNSD groups. Firms in the medium level category were then eliminated from analysis. ANOVA results using the new measurement technique were nearly identical to results from the original measurement. In both, only the ANOVA for ROIC was significant and unrelated diversifiers ranked first in both sales growth and ROIC performance.

To test hypothesis one, mean performance levels were tested for significant differences across related vs. unrelated diversification direction. Hypothesis one proposed related diversifiers would on average report a higher return on invested capital than unrelated diversifiers. This hypothesis was not supported. Unrelated diversifiers averaged a 3.5 ROIC while related diversification firm ROIC was only 1.9 although these differences were not statistically significant.

This divergence from previous findings may be attributable to the samples used. Rumelt (1974) and Varadarajan (1986) analyzed samples of only very large corporations in the latter stages of firm development in reporting superior performance for related diversification direction firms. To assess the impact of samples, a subset of the current sample including only firms in the late stage of the firm life cycle (those over age 40) was examined. Among mature stage firms, the relationship was reversed. Related diversifiers outperformed unrelated diversifiers 11.3 vs. 4.0 ($t=1.30$, n.s.). Unrelated diversification firms grew significantly faster than those using an intensive direction (27 vs. 9, $t=2.10$, $p<.05$).

Rejection of H1 for the entire sample suggests that existing propositions addressing product diversification performance cannot be generalized across young and mature firms. Differing skills and resources in firms of varying age influence the ability to successfully implement each strategy. Therefore, existing findings on product diversification cannot be expected to necessarily hold true when a greater cross-section of firms is studied. Given this limitation in the past research, the need to consider performance differences across diversification methods and stages of development is emphasized.

Diversification Method

A firm's use of acquisitions indicated the method strategy being used. Firms that had acquired one or more firms in the past five years were classified as external method firms. Sixty-two percent of the sample had not used acquisitions and therefore were placed into the internal development method group.

As suggested by life cycle models, the use of acquisitions varied by growth direction. Table 2 illustrates the proportion of firms using acquisitions ranged from 19% of intensive direction firms to 69% of unrelated diversifiers. The use of external growth methods such as acquisition increase as diversification direction is redirected to business areas increasingly different than the firm's original product-market focus.

H2 proposed intensive and related diversification firms would perform better when they employed an internal growth method. A test for difference in group means listed in Table 3 provides support for H2. Intensive firms using an internal method had a greater sales growth rate than acquirers (22.4 vs. 14.2) and related diversification

firms reported a higher ROIC when employing an internal method (5.7 vs. -3.6). Although the internal growth method was associated with greater profitability for related diversifiers, the use of acquisitions generated higher sales growth (9.7 vs. 24.2). Overall, two of four t-test comparisons support H2.

H3 proposed unrelated firms would perform better when using acquisitions. As hypothesized, ROIC was greater for acquirers (6.9 vs. -3.9). Sales growth was also greater but not significantly (30.4 vs. 25.2).

Results from testing H2 and H3 support viewing acquisition as a method for achieving success when growing into unrelated operating areas. When the "fit" between existing and new product areas is high, as for related diversifiers, internal development exploits operating synergies inherent in the relatedness. On the other hand, acquisition is a better method for exploiting financial synergies between unrelated business operations.

Firm Development, Method, and Diversification

To test for differences in performance between and within firm life cycle stages, each firm was classified as being in the early, middle, or late stages of firm evolution. The stages were defined according to firm age at the beginning of the study period. Firms 10 years of age or less constituted the early stage. Ages 1-10 were used because the early stage is a period of creation in which new ventures seek to survive and recent research indicates firm failure rates become stable after age 10 (King and Wicker 1988). A mean split formed the other two stages, the middle stage aged 11-40 and the late stage consisting of firms more than 40 years of age.

Early Stage of Development Firms. H4 and H5 addressed firms in the earliest stage of development. An intensive direction/internal method strategy was hypothesized to outperform other strategies during this stage. Table 4 describes a comparison of the sales growth rate and ROIC of early stage firms employing this strategy and early stage firms not employing intensive growth direction/internal method. The growth rate of firms using an intensive direction with internal method was significantly greater than the growth rate for all other diversification strategies firms (45.6 vs. 17.6). ROIC was not significantly different. Therefore, in terms of sales growth, hypothesis 5 was supported.

Firms using intensive direction with internal method in the early stage of development were also hypothesized to outperform firms employing the same strategy at different stages in firm evolution. Table 4 lists intensive direction and internal method strategy performance for each of the three lifecycle stages. In support of H5, ANOVA pointed to significant differences in the strategy's growth rate performance across the three stages. Firms employing this strategy in the early stage clearly grew at a faster rate than firms employing the strategy in middle or late stages (45.6 vs. 11.9 vs. 7.2). ROIC did not vary significantly across the stages and the direction of the differences was contrary to that hypothesized. In summary, both H4 and H5 were supported for sales growth performance. The absence of significant differences in terms of ROIC can be explained by the nature of early stage firms. In general, profitability is elusive for young firms due to the newness of the investment. As such, sales growth may be the best indicator of success for new firms.

Middle Stage of Development Firms. H6 and H7 describe related diversification with internal method as the best performing strategy for firms in the middle stages of development. Table 5 summarizes the analysis required to test these hypotheses. In support of H6, related diversification/internal method firms were significantly more profitable than middle stage firms using other diversification strategies (12.4 vs. -5.4). Growth rate did not differ significantly. Table 5 also lists support for H7. Among firms employing the related diversification and internal method approach, those utilizing it in the middle stage reported greater ROIC and sales growth than those in the early and late stages. Middle stage firm ROIC (12.4) was statistically greater than early stage firms (-39.2) and also greater by a less significant degree than late stage related diversifiers (8.3).

Firms in the middle stages of evolution, ages 11-40, differed in terms of ROIC and not sales growth. Unlike early stage firms, firms at this point in development have survived the initial perils of creation and gained foothold in their respective marketplaces. At this point, efficiency of operation as suggested by return on investment is the critical success criterion. Although continued sales growth is essential, it is slower, more controlled, and more often interpreted in terms of effect on ROIC than sales growth in early stage firms.

Late Stage of Development Firms. H8 and H9 focus on the most mature firms in the sample, those over age 40 in the late stage of development. Here an unrelated diversification growth direction via acquisitions was hypothesized to be the best performing growth strategy. Table 6 lists performance data in agreement with H8. Late stage firms using this strategy reported a significantly greater sales growth rate and ROIC than late stage firms not categorized as unrelated diversifiers using acquisitions. H9 was also supported. An unrelated growth direction with acquisitions growth method strategy employed late in firm development was associated with sales growth

TABLE 3

DIVERSIFICATION DIRECTION, METHOD, AND FIRM PERFORMANCE

	Internal Development	Acquisitions	t-value[1]
Firms Employing Intensive Direction With:			
Sales Growth Rate	22.2	14.2	1.96[c]
ROIC	-9.7	-7.9	0.19
Related Diversification Direction With:			
Sales Growth Rate	9.7	24.2	2.50[b]
ROIC	5.7	-3.6	1.17
Unrelated Diversification Direction With:			
Sales Growth Rate	25.2	30.4	.29
ROIC	-3.9	6.9	1.76[c]

[1] Two-tailed difference in means
[a] $p < .01$
[b] $p < .05$
[c] $p < .10$

and ROIC levels greater than firms employing the same strategy earlier in development. Differences in ROIC were significant across stages of development although differences in sales growth were not. Late stage firms using this strategy reported average sales growth and ROIC greater than other stages however the difference in sales growth was not statistically significant.

Tests of H4-H9 suggest firm stage of development is an important contingency when explaining relationships between product diversification and firm performance. Definition of the "best" diversification strategy was dependent upon firm development stage. Performance of the same diversification strategy varied significantly depending upon the stage of development in which it was employed.

IMPLICATIONS FOR MANAGEMENT AND RESEARCH

The findings indicate that the association of product diversification strategy and firm performance is contingent upon (1) the method employed, and (2) the firm's stage of development. The results have important implications for both marketing managers and marketing scholars. The findings concerning relationships between product diversification and firm performance indicate that the focus of marketing management should change as a firm develops from a small, entrepreneurial start-up to a large, mature corporate organization.

Implications for Marketing Managers

In the early stages of a firm's life, marketing efforts should be directed toward generating the sales growth necessary for firm survival. The study results suggest that the appropriate product diversification strategy in this situation is intensive direction through internal methods. Marketing efforts should be limited to one product area with marketing management focusing on ways to increase sales within this product area.

Once successfully created and established in the marketplace, the firm enters the middle stages of the life cycle. The original focus on survival is replaced with an emphasis on profitable growth. The study results suggest that

TABLE 4

DIVERSIFICATION STRATEGY AND EARLY STAGES OF FIRM DEVELOPMENT

Sales Growth Rate

Firm Stage of Development	Intensive Direction/ Internal Development	Other Diversification Strategies	t-value[1]
Early (E)	45.6	17.6	2.63[a]
Middle (M)	11.9		
Late (L)	7.2		
F-Value	22.5[a]		
Significant Differences[2]	E-M, E-L		

ROIC

Firm Stage of Development	Intensive Direction/ Internal Development	Other Diversification Strategies	t-value[1]
Early	-18.6	-18.7	.01
Middle	-6.9		
Late	1.7		
F-Value	1.7		
Significant Differences[2]	------		

[1] Two-tailed difference in means
[2] Duncan's Multiple Range Test
[a] $p < .01$
[b] $p < .05$
[c] $p < .10$

the appropriate product diversification strategy in this situation is related diversification through internal methods. Marketing managers are faced with the important tasks of identifying new product opportunities that are related to the existing products and then developing and marketing these products.

Firms in late stages of the life cycle are typically large, mature, and complex. Often these firms are faced with a period of stagnation after successes in the early and middle stages of development. The study results suggest that the appropriate product diversification strategy in this situation is unrelated diversification through acquisitions. Continued growth and profitability requires that mature firms broaden their product portfolios into areas unrelated to existing products. Marketing managers play an important role in identifying and evaluating different product diversification areas and in assessing the marketing operations of potential acquisition candidates. Once acquisitions are made, coordinating marketing programs across different product areas and different firms becomes a critical challenge for marketing management.

In summary, the findings indicate effective marketing management is contingent upon the firm's stage of development. The most effective marketing manage-

TABLE 5

DIVERSIFICATION STRATEGY AND MIDDLE STAGES OF FIRM DEVELOPMENT

Sales Growth Rate

Firm Stage of Development	Related Diversification Internal Development	Other Diversification Strategies	t-value[1]
Early	10.5		
Middle	12.1	16.3	1.11
Late	5.9		
F-Value	1.06		
Significant Differences[2]	--------		

ROIC

Firm Stage of Development	Related Diversification Internal Development	Other Diversification Strategies	t-value[1]
Early (E)	-39.2		
Middle (M)	12.4	-5.4	2.25[b]
Late (L)	8.3		
F-Value	8.8[a]		
Significant Differences[2]	E-M, E-L		

[1] Two-tailed difference in means
[2] Duncan's Multiple Range Test
[a] $p < .01$
[b] $p < .05$
[c] $p < .10$

ment in new ventures is very different than what is required for success in mature corporations. Because product diversification is a such a fundamental issue in the firm's operation, the findings have implications for such marketing management issues as new product development, marketing organization and control, and resource allocation.

Implications for Marketing Scholars

Perhaps the most important implication from this study is that marketing scholars need to expand their research efforts beyond an almost exclusive examination of large, mature firms to include firms in the early and middle stages of firm development. Since firms in different stages of development have different objectives, skills, and resources, different product diversification and other marketing strategies are typically required for success. Thus, research results from studies that only include large, mature firms may not be transferable to firms in earlier stages of development.

The limitations of this study indicate areas where future research can make improvements. One such area is construct measurement. For example, number of acquisitions and firm age are broad indicators of their respec-

TABLE 6

DIVERSIFICATION STRATEGY AND LATE STAGES OF FIRM DEVELOPMENT

Sales Growth Rate

Firm Stage of Development	Unrelated Diversification/ Acquisitions	Other Diversification Strategies	t-value[1]
Early	-1.2		
Middle	25.7		
Late	33.9	7.5	2.72[a]
F-Value	.4		
Significant Differences[2]	------		

ROIC

Firm Stage of Development	Unrelated Diversification/ Acquisitions	Other Diversification Strategies	t-value[1]
Early	-11.7		
Middle	5.1		
Late	8.6	2.3	1.79[c]
F-Value	4.6[b]		
Significant Differences[2]	E-M, E-L		

[1] Two-tailed difference in means
[2] Duncan's Multiple Range Test
[a] $p < .01$
[b] $p < .05$
[c] $p < .10$

tive constructs. This may explain why in several empirical tests the hypothesized direction was found, but differences were not statistically significant. The development of more precise, multi-dimensional measures for diversification method and firm stage of development would represent an important contribution for future research.

Also, the cross-sectional nature of this research limits the interpretation of the data. Causality is unclear and whether product diversification leads to improved performance or improved performance induces a firm to diversify cannot be ascertained. This limitation plagues much of marketing research. Therefore, the development of longitudinal studies is an important direction for future research on product diversification as well as other marketing issues.

Despite these limitations, the empirical results do establish the importance of diversification method and stage of firm development when examining product diversification strategies. Incorporation of these variables into future marketing research will result in contextually-rich findings for marketing managers.

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