

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/34021220>

An analysis of the relationships between international diversification, product diversification, firm...

Article *in* Academy of Management Annual Meeting Proceedings · August 2009

DOI: 10.5465/AMBPP.2009.44265142 · Source: OAI

CITATIONS

6

READS

52

1 author:



[Nejat Capar](#)

Bilkent University

8 PUBLICATIONS 359 CITATIONS

SEE PROFILE

AN ANALYSIS OF THE RELATIONSHIPS BETWEEN INTERNATIONAL DIVERSIFICATION, PRODUCT DIVERSIFICATION, FIRM RESOURCES AND PERFORMANCE

NEJAT CAPAR
Faculty of Business Administration
Bilkent University, Ankara, Turkey

ABSTRACT

There have been numerous studies that have examined the relationships between international diversification, product diversification, firm resources, and performance. However, these studies have largely ignored the interrelationships and the causal linkages among the variables in consideration. It was the purpose of this study, to overcome these limitations and to provide a better understanding.

INTRODUCTION

While numerous researchers in strategic management and international business have studied the performance effects of both product and international diversification in an effort to better understand the performance differences across firms (Lu & Beamish, 2001; Pantzalis, 2001; Tallman & Li, 1996), there are several important limitations at hand.

First is that although internalization theory claims that international diversification only increases performance when it allows the exploitation of firm resources, studies that examined this relationship have mostly excluded marketing and innovation assets from their research models (Geringer, Tallman, & Olsen, 2000; Gomes & Ramaswamy, 1999; Grant, 1987; Kotabe et al., 2002; Tallman & Li, 1996). A further limitation of internalization theory is that it only focuses on how and why firm resources lead to international diversification. Some researchers have suggested that higher levels of international diversification also may lead to higher levels of investment in innovation assets (Hitt, Hoskisson, & Kim, 1997; Peng, 2001; Peng & Wang, 2000). Another important shortcoming of the diversification studies to date has been the exclusion of firm resources and product diversification when studying the effects of international diversification on performance (Delios & Beamish, 1999; Dess et al., 1995).

Looking at all of the earlier work briefly highlighted above, this study extends earlier work by examining the causal linkages among firm resources, international diversification, product diversification, and firm performance.

LITERATURE REVIEW AND HYPOTHESES

Firm resources and International Diversification

Both internalization theory and resource-based theory have focused on the relationship between firm resources and international diversification (Caves, 1996; Hymer, 1976; Hennart, 1982; Hitt et al., 1997; Tallman and Li, 1996). Possession of one

or more proprietary assets provides a firm with a unique advantage. Firms that invest in these resources can gain significant competitive advantages. Without having such intangible resources, it is difficult for firms to expand abroad. Consequently, it can be expected that the possession of innovative assets and marketing assets will be reflected in more extensive international operations.

H1a: *Innovation assets have a positive effect on the level of international diversification.*

H1b: *Marketing assets have a positive effect on the level of international diversification.*

An important limitation of internalization theory is its one-way focus. That is, firms expand abroad in order to exploit their intangible assets. This is, however, not the only reason why firms diversify internationally. That is, international diversification may have a positive effect on firm innovation. As a result, the generation of innovation may require significant investment in resources. International diversification may generate the resources necessary to sustain a large-scale R&D operation (Hitt et al., 1994). Therefore,

H1c: *International diversification has a positive effect on firm innovation assets.*

Together, Hypothesis 1a and 1c point to a reciprocal relationship between innovation and international diversification, an issue that has been implied recently by several studies (Caves, 1996; Hitt et al., 1994; Hitt et al., 1997).

Firm resources and performance

According to the resource-based view of the firm, firms that possess unique resources achieve competitive advantage and superior performance (Barney, 1991; Wernerfelt, 1984). Based on the theoretical arguments provided by the resource-based view of the firm, it can be expected that investing in resources such as innovation and marketing assets should have a positive effect on performance (Barney, 1991; Delios & Beamish, 1999; Hitt et al., 1997). Thus, the following hypotheses are proposed:

H2a: *Innovation assets have a positive effect on firm performance.*

H2b: *Marketing assets have a positive effect on firm performance.*

International Diversification and Performance and Moderating Effect of Product Diversification

Existing literature has pointed out three general explanations as to why international diversification should lead to higher performance. These are achieving efficiency through internalization, exploiting market differences, and obtaining resources and learning. As noted by Hitt, Hoskisson, and Ireland (1994), many internationally diversified firms are also product diversified. Thus, focusing separately on the international diversification-performance relationship and on the product diversification-performance relationship may not capture the possible interaction among the two diversification strategies.

The benefit of international diversification is likely to be higher for firms with low levels of product-diversity. Similarly, a firm that is internationally diversified can try to increase its performance by also increasing its product diversity. However, as the level of product diversity increases, the potential benefits of scope economies are reduced. Tallman and Li (1996) noted that the complexities associated with high levels of product and international diversity will have negative consequences on firm performance. Therefore the following hypothesis is proposed,

Hypothesis 3: The relationship between international diversification and firm performance is moderated by product diversification, such that the slope will be higher for firms with low levels of product diversification than for firms with high levels of product diversification.

Product Diversification and Innovation Assets

Several researchers have argued that product diversification would lead to lower levels of investments in innovation assets (Baysinger & Hoskisson, 1989; Delios & Beamish, 1999; Hill & Snell, 1989; Hoskisson & Hitt, 1988; Stimpert & Duhaime, 1997). The justification for this view has been that diversified firms often employ financial controls to monitor the performance of different businesses or divisions (Baysinger & Hoskisson, 1989; Delios & Beamish, 1999; Hill & Snell, 1989; Hoskisson & Hitt, 1988; Stimpert & Duhaime, 1997). As a result, managers become less likely to emphasize investing in innovation assets, which have a deteriorating effect on short-term performance. Therefore, the following hypothesis is proposed:

H4: Product diversification has a negative effect on innovation assets.

The hypothesized relationships among firm resources, international diversification, product diversification, and firm performance are shown in Figure 1.

Figure 1 about here

RESEARCH METHOD

Sample

The data of the study were collected from Standard & Poor's COMPUSTAT database for a 6-year period between 1995-2000. The decision to use a 6-year time period was based on the rationale of having a long enough time frame required for this study, but at the same keeping the time period limited to avoid excessive missing data. To be included in the sample, a firm has to meet the following criteria: (1) be a manufacturing firm, (2) have minimum average annual sales of \$100 million, (3) exist for 6 years, and (4) have complete data available. Consistent with Hitt et al. (1997), the decision to use a \$100 million cut-off point is to ensure that a firm in the sample has a certain scale, and to overcome the missing data problem that is frequently associated with smaller firms.

Based on the sampling criteria defined above, an initial sample size of 211 was

obtained and the analyses were based on a sample size ranging between 114-196 depending on the degree of missing data.

Variables and Measures

Performance. Return on sales (ROS), return on assets (ROA), and market-to-book value were used to measure firm performance. Accounting-based measures of performance have been commonly used in strategic management and international business (Grant, 1987; Harr, 1989; Hitt et al., 1997; Vernon, 1971). These measures are easily available and they are very informative (Barney, 1997).

International Diversification. Consistent with the majority of previous studies (Grant, 1987; Stopford & Wells, 1972; Tallman & Li, 1996), international diversification was operationalized as the ratio of foreign sales to total sales (FSTS) in this study.

Product Diversification. To measure product diversity, the entropy measure of product diversification (Jacquemin & Berry, 1979; Palepu, 1985) was employed. This measure of product diversity has been widely used in strategic management research (Baysinger & Hoskisson, 1989; Hill, Hitt, & Hoskisson, 1992; Hitt et al., 1997; Stimpert and Duhaime, 1997).

Firm resources

Innovation assets. R&D intensity was used as a proxy for technological assets. Several studies have shown that this measure is closely related to innovative outputs such as patents and new product introductions (Hitt, Hoskisson, Ireland, & Harrison, 1991; Hitt, Hoskisson, Johnson, & Moesel, 1996).

Marketing assets. Following Delios and Beamish (1999) and Kotabe et al. (2002), advertising intensity was used as a proxy for marketing assets. It is measured as the ratio of advertising expenditures to total sales. The marketing efforts of firms are commonly assessed through advertising intensity since firms often avoid disclosing their total marketing expenditures (Capon, Farley, and Hoenig, 1990; Kotabe et al., 2002).

Control variables. Several control variables were used in the study following Grant et al. (1988) and Hitt et al. (1997) among others. These are firm size, industry effects, and financial leverage.

Data Analysis

The hypotheses 1 through 4 were tested by using a causal modeling approach, which includes all the interrelationships among the various variables under consideration in this study. Theoretically, an IV used in these studies may not only affect the DV, but also another IV, and when this is taken into consideration methodologically, it is possible that the effects may actually be smaller because a given IV will not be regressed on only one DV. In addition, it is also possible that indirect effects may exist, which studies so far have not examined. Therefore, a multi-equation statistical method is suggested (e.g., causal modeling or structural equation modeling) which takes into consideration the interrelationships among the variables in consideration.

To see whether the hypothesized relationships will hold over time, the model shown in Figure 1 was tested over multiple years. As noted earlier, one of the shortcomings of prior research has been the use of cross-sectional research designs, which may produce findings due to temporal effects (e.g., boom or bust in the economy).

Based on the data range, 5 models with 1-year lags and 4 models with 2-year lags were tested. The only difference of the various models is that they used the same variables measured in different years.

RESULTS AND DISCUSSION

The correlations among the independent variables suggest no problem of multicollinearity. There is a high correlation between two of the performance measures ROS and ROA, as can be expected.

Hypothesis 1a stated that innovation assets would have a positive effect on international diversification. No support was found for this hypothesis among the 9 models with the three performance measures.

Hypothesis 1b stated that marketing assets would have a positive effect on international diversification. Some support was found for this hypothesis. Among the 5 one-year lag models, two of them have a significant relationship between marketing assets and international diversification. For the two-year lag models, three models have a significant relationship for the effect of marketing assets on international diversification.

Hypothesis 1c stated that international diversification has a positive effect on innovation assets. Mixed support was found for this hypothesis. Among the one-year lag models, only one or two out of the five models were significant. Stronger support for Hypothesis 1c was observed among the four two-year lag models. The effect of international diversification on innovation assets was found significant in all of the four models where ROA and market-to-book value were the performance measures, and significant in three models where ROS was the performance measure.

Hypothesis 2a indicated that innovation assets would have a positive effect on performance. Little support was found for this hypothesis among the one-year lag models. Only one model had a significant relationship between innovation assets and performance, where ROS and ROA were the performance measures. However, strong support was found in the models, where performance was measured as the market-to-book value. The hypothesis was supported in all of the four models here. The support for Hypothesis 2a was much stronger in the two-year lag models. Three out of the four models indicated a significant and positive effect of innovation assets on performance, where ROS and ROA were the performance measures. When firm performance was measured as the market-to-book value, all the four models had significant relationships between innovation assets and firm performance. The implication of the mixed findings is treated in the discussion section.

Hypothesis 2b stated that marketing assets have a positive effect on firm performance. There was limited support for Hypothesis 2b. Among the five one-year lag models, only two of them indicated support for the hypothesis. Similarly, two out of the four two-year lag models rendered support for hypothesis 2b.

Hypothesis 3 indicated that the effect of international diversification on performance would be greater for single business firms than for diversified firms. Among the one-year lag models, the hypothesis was supported in only two out of the five models. In other words, the effect of international diversification on firm performance was greater for single-business firms than for diversified firms in two of the one-year lag models. The

only exception to this is the model(s) where ROS was used as the performance measure. In these models, no support was found for hypothesis 3. Among the four two-year lag models, hypothesis 3 was supported in two models. The support was stronger when M/B was the performance measure, in which case three models provided support for hypothesis 3. Overall, it can be concluded that there is limited support for H3, which stated that the effect of international diversification would be greater for firms with little diversification than those firms with high product diversification.

Finally, Hypothesis 4 stated that there is a negative relationship between product diversification and innovation assets. More specifically, increasing product diversification has a negative effect on innovation assets. Strong support has been found for hypothesis 4. There was a negative and significant effect in both the one and two-year lag models.

In conclusion, the present study extended previous research by providing a better and more robust understanding of the relationships between firm resources, international and product diversification, and firm performance. First, the benefits derived from international diversification are not necessarily due to exploiting proprietary firm resources. In fact, international diversification helps firms to invest more in these assets. Secondly, the present study provided strong evidence that innovation assets lead to higher performance. Further, it was shown that such investments take some time to increase a firm's performance. There was also some support that firms with little or no product diversification are more likely to benefit from international diversification. Finally, it is clear that product diversification leads to lower investments in innovation assets. While the present study has contributed to a better understanding about the variables of interest, future studies must continue to examine the various relationships along the avenue as suggested.

REFERENCES ARE AVAILABLE FROM THE AUTHOR

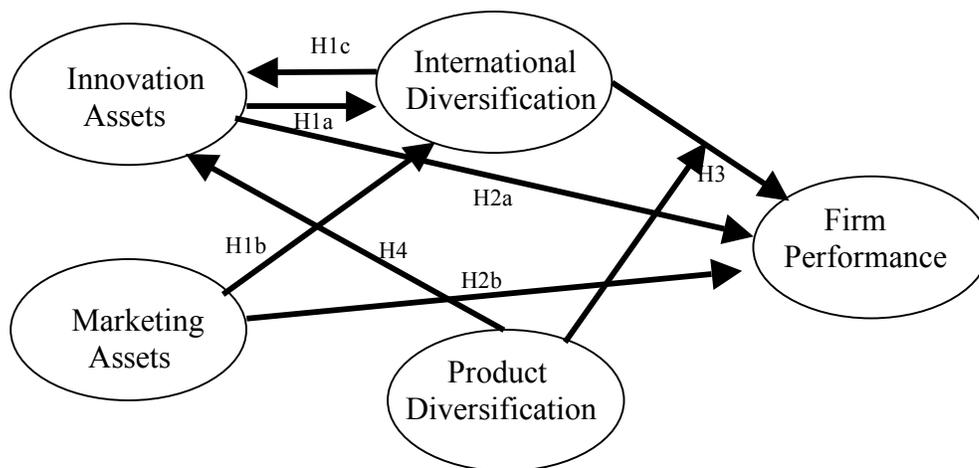


Figure 1. Hypothesized Relationships

Copyright of *Academy of Management Proceedings* is the property of *Academy of Management* and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.

Copyright of Academy of Management Annual Meeting Proceedings is the property of Academy of Management and its content may not be copied or emailed to multiple sites or posted to a listserv without the copyright holder's express written permission. However, users may print, download, or email articles for individual use.