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Diversity and Profitability:  
Evidence and Future Research Directions

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*Howard Thomas*

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Diversity and Profitability:  
Evidence and Future Research Directions

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DIVERSITY AND PROFITABILITY:  
EVIDENCE AND FUTURE RESEARCH DIRECTIONS

ABSTRACT

Empirical research spanning two decades has failed to establish conclusively how diversification affects corporate performance. This article sheds new light on the relationship by reporting the findings of an empirical study of British manufacturing industry. We find that, in general, multinational diversification is more profitable than product diversification and that once a high level of product diversity is reached, increased diversity is associated with lower levels of profitability. We further argue that the nature of the relatedness between a company's business activities is a key determinant of the success of diversification: corporate-level relatedness is much easier to manage than operational relatedness. We conclude with a discussion of future research directions.



## Introduction

Academic research into the relationship between diversification and firm performance has contributed to a substantial shift in business opinion concerning the merits of diversification. In the decade 1962-72 a stream of research emanating from Harvard Business School identified a consistent trend in corporate development in the U.S. and Western Europe that pointed towards the diversified, divisionalized corporation as the highest evolutionary form of business enterprise.<sup>1</sup> These findings, occurring at a time when both large, established corporations and the newly-emerging conglomerate enterprises were embarking upon ambitious diversification strategies, reinforced the prevailing view that diversification offered the primary route for large firms to secure higher, more stable earnings.

However, one of the Harvard studies sounded a discordant note. Richard Rumelt's research confirmed the trend towards diversification among the Fortune 500, but found, first, that diversified firms did not, in general, outperform more specialized firms and, second, that firms pursuing unrelated diversification were less profitable than firms which diversified into closely related fields. Further study, both in the U.S. and in other countries produced similar findings, particularly regarding the superiority of related over unrelated diversification.<sup>2</sup> These results have been summarized by Peters and Waterman as follows:

...virtually every academic study has concluded that unchannelled diversification is a losing proposition...it seems worthwhile to illustrate rather exhaustively the almost total absence for

any rigorous support for very diversified business combinations (Peters and Waterman 1982, p. 294, 296).

Another management consultant, Milton Lauenstein of Lauenstein and Associates has summarized the evidence even more succinctly:

...we know that, on the whole, diversified companies have not done so well. (Lauenstein 1984, p. 49)

On the basis of their own observations and their reading of other people's research, Peters and Waterman have carried one of their golden rules--"stick to the knitting":

Organizations that do branch out but stick very close to their knitting outperform the others. The most successful are those diversified around a single skill...The least successful, as a general rule, are those companies which diversify into a wide variety of fields. Acquisitions especially among this group tend to wither on the vine. (Peters and Waterman, 1982, p. 293)

Yet despite the findings of Rumelt and others and the well-publicized failures of diversification initiatives among many leading companies, the case against broad-spectrum diversification is far from proven. It has been observed that the highly profitable "constrained" diversifiers in Rumelt's sample tended to inhabit high growth, high profit industries (e.g. pharmaceuticals).<sup>3</sup> There is also doubt over direction of causation: unrelated diversification may be a response to low profitability rather than a cause of it. Furthermore, recent studies are producing evidence of relatively strong profit performance by highly diversified companies--particularly among the "new conglomerates".<sup>4</sup>

The study reported in this paper is an analysis of the relationship between diversification and profitability based upon a large

sample of British manufacturing firms. The main findings are first, that diversification can be measured better using diversification indices. Second, that there are diminishing returns to diversity associated with increasing administrative and monitoring costs. Third, that international diversification is more profitable than product diversification.

### The research

We used a data base containing details of both product and multi-national diversification for 304 large British manufacturing companies which had been meticulously compiled by Azar Jamine (1984) for the years 1968 to 1984.

We started with three principal propositions concerning the relationship between diversification and profitability.

- 1) Competitive advantage Diversification builds competitive advantage for the firm either when it exploits economies of scope or where it permits the transfer of a key skill from one business area to another. If the success of diversification is dependent upon these conditions then it follows that
  - (i) diversification into related businesses is more profitable than diversification into unrelated businesses; and
  - (ii) multinational diversification is more profitable than product diversification since it is usually easier to transfer skills and resources between countries than between industries.
- 2) Complexity Diversification increases the complexity of corporate management and causes problems in communication, coordination,

accountability and control. This implies that there may be a limit to the degree of diversity that can be effectively managed. (Rumelt, 1982)

- 3) Profit-led diversification The usual assumption is that diversification strategy influences profitability. However, it is also likely that firms can use their profit earnings to finance diversifying investments. Indeed, in the latter case, managers may be tempted to use internal funds to build corporate empires or protect employment rather than to pursue stockholders' objectives.

#### Measuring diversification

Three measures of diversification were employed:

1. Rumelt's (1976) classification of diversification strategies which is based upon two criteria: first, the specialization ratio of the company (the proportion of sales which the major activity accounts for) and, second, the relationship between the activities. Rumelt identifies three types of relationship: vertical integration (the output of one activity is an input of another), "constrained" diversification (activities are related to one other by a common core skill), and "linked" diversification (each business activity is related to at least one other but the businesses are not all related to one another). Rumelt's eight-cell classification of strategies is shown in Table 1.

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INSERT TABLE 1 ABOUT HERE  
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Firms were thus judgementally allocated to different categories of corporate strategy depending upon the extent of product-diversity and the relationships between different businesses.

2. Index of product diversification (PDI) This was measured as  $1/\sum_1 s_1^2$  where  $s_1$  is the share of a company's total sales in industry  $i$ . This is a very common measure of diversity in industrial organization research. Hence, a company specialized within a single industry has a product diversification index (PDI) of 1, a company with sales equally distributed between 4 industries has PDI of 4.
3. The overseas ratio is an index of multinational diversity. A company's multinationality was measured by the proportion of its sales accounted for by overseas subsidiaries.

It should be noted that the chief merit of the product and multi-national diversity measures is that they are continuous quantitative measures which measure differences in diversity across firms and time. The merit of the Rumelt classification is that it measures relatedness as well as breadth of diversity.

### The findings

Because firm profitability is influenced by a very large number of factors, it was necessary to use multiple regression analysis to separate out the influence of diversification from that of industry variables, firm size and leverage. Summary details of the equations used are given in Table 2. Our first general finding was that diversification accounted for only a small proportion of inter-firm differences in return on investment (ROI). Differences in diversity

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INSERT TABLE 2 ABOUT HERE  
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between firms explained between 5 and 9% of total inter-firm variance in ROI, while industry effects explained around 12%. However, although diversification did not appear to be a major factor explaining differences in performance between companies, its relationship with profitability was both significant and interesting. The key findings were as follows:

1. The impact of diversification strategies

In contrast with a number of prior studies, we found that the Rumelt strategic categories were of little value in explaining why some firms were more profitable than others. Table 3 shows the profitability differences associated with each category relative to the profitability of the single business strategy.

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INSERT TABLE 3 ABOUT HERE  
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Over the period as a whole (1972-84) the differences in percentage ROI between the strategic categories (after excluding the effects of firm size, industry membership and other variables) were small and all were statistically insignificant from zero. The only notable finding was that more diversified categories tended to perform better than the more specialized categories. Also the relative profitability of the different categories changed substantially over time, in particular, the profitability of the Single Business firms declined by an average of 74% over the period, while the Related Business categories improved their relative profitability, even after taking account of other variables.



Our finding that there were no significant performance differences between related and unrelated diversification strategies contradicts the findings of several earlier studies. However, this finding does not necessarily mean that relatedness between businesses is irrelevant in affecting the success of diversification. It is more likely that the empirical measure of relatedness incorporated into our classification was too narrow to encompass the full range of relationships between a company's business units. The Rumelt categorization is based largely upon technological and market linkages but firms may create competitive advantage through the exploitation of "distinctive competencies," which may involve other dimensions of relatedness such as financial synergy. We shall return to the issue of relatedness in our concluding section.

## 2. Product diversification and ROI

Our dissatisfaction with the strategic categories approach was confirmed by the regression analysis which showed that the simple Product Diversity Index explained a higher proportion of inter-firm differences in ROI than did the Rumelt classification. Hence our subsequent analysis of product diversification utilized PDI.

The key finding was that the relationship between product diversity and ROI was quadratic in form. In essence, the costs of managing a complex diversified firm overwhelm the benefits of diversity beyond a certain level of diversification. Once the influences of multinational diversity, industry membership, firm size and leverage were taken into account, ROI increased with product diversity up to a PDI

of 3.7, after which further increases in PDI reduced ROI. Figure 1 graphs the relationship.

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INSERT FIGURE 1 ABOUT HERE  
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Thus at high levels of diversity, the dominant influence on profitability was the increased costs of managerial complexity associated with very diverse companies. However, the positive association between diversity and profitability over most of the range of our observations could not be unambiguously interpreted. The positive relationship could be due either to efficiency benefits from diversification through economies of scope or transfer of skills, or from profitability being used to finance diversification.

To shed light on the issue of causation we examined changes in product diversity and changes in ROI over the period. By switching dependent and independent variables and examining which changes occurred first, the predominant direction of causation could be established. If diversification was driving profitability, then change in PDI would be positively associated with future changes in ROI, with a lag of around five years. If profitability was driving diversification, then changes in PDI would be positively associated with the rate of cash flow generation by the company (where cash flow was defined as past tax earnings plus depreciation).

We found that changes in product diversity had an insignificant relationship with future changes in ROI. Cash flow, on the other hand, bore a positive, if weak, association with product diversity. The implication, therefore, is that our positive relationship between

profitability and product diversity was due primarily to retained earnings being used to finance diversification.

### 3. Multinational diversification and ROI

In contrast to product diversity, multinationality showed no quadratic relationship with ROI once product diversity, firm size, leverage and industry effects were taken into account, the best fit between overseas ratio and ROI was a simple, straight-line relationship (see Figure 2).

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INSERT FIGURE 2 ABOUT HERE  
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As with product diversity, this relationship was consistent either with multinational expansion generating increased profitability, or with retained earnings being used to finance overseas direct investment. Hence, we followed the previous procedure in investigating causation. We found:

- (a) changes in the overseas ratio were positively and significantly related to future changes in ROI (with a five year lag)
- (b) changes in the overseas ratio were even more strongly related to future changes in sales:
- (c) cash flow was positively and significantly related to changes in overseas ratio.

Unlike product diversification, therefore, we observe a strong two-way relationship between multinational expansion and profitability. The firms in our sample which were responsible for most of the overseas expansion over the period displayed the following characteristics:

- they were large
- they were largely UK based at the beginning of the period,
- they were earning above average ROI on their UK operations.

At the same time, overseas expansion appeared to be successful in generating increases in both ROI and sales. The relationships which we estimated are shown in Figure 3.

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INSERT FIGURE 3 ABOUT HERE  
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#### Implications for the management of diversification

On its own, our study offers little guidance to managers on whether or how to undertake diversification. The relationships which our study identifies are for British companies over the period 1972 to 1984. These relationships cannot be assumed to hold in other countries and in other time periods. In order to make recommendations for the management of diversification we must fit our findings into the overall framework of knowledge concerning diversification and firm performance to see what general relationships, if any, emerge.

The key problem here has already been discussed: no consensus emerges either among previous or current studies which permits any set of rules to be drawn up. Thus, many earlier studies found strong evidence of related diversification outperforming unrelated diversification--yet our study found no significant differences, while other recent studies have shown unrelated diversification to yield superior returns. Several studies have shown multinational corporations to perform less well than domestic corporations<sup>5</sup>, but our results show multinationality to be

associated with higher profitability and higher growth. However, it is in seeking explanations of these differences in empirical findings that enables deeper and more valuable insights to be gained into the true nature of the relationships between corporate behavior and performance.

On the basis of our own and other researchers' findings we identify four major lessons for practicing manager:

- 1) There is no strong evidence of product diversification leading to superior profitability. While there is a weak positive relationship between product diversity and profitability, up to fairly high levels of diversity, there was no tendency for diversification to increase the rate of profitability and the primary direction of causation appeared to be from profitability to diversification. Although other studies have not specifically addressed the causation issue, there is broad agreement that diversification does not generally lead to higher profitability. Why then does diversification take place? Two explanations are feasible. The first is that diversification is directed towards reducing risk rather than increasing return. However, most studies show that, in terms of returns to stockholders: corporate diversified companies have neither lower overall risk nor lower systematic risk than undiversified companies.<sup>5</sup> Our study also supports this finding. Moreover, modern financial theory suggests that in efficient securities markets, corporate diversification yields no benefits to stockholders who are able to diversify their own portfolio holdings.

The second is that diversification is promoted largely by managers promoting their own rather than stockholder interests. Thus, diversification may offer managers the benefits of larger corporate size and greater security from hostile takeovers. Our finding that profit earnings tend to promote diversification together with the accumulating evidence on the poor returns from mergers to the stockholders of acquiring firms<sup>6</sup> is suggestive that the underlying motives for diversification may be top executives' drive for self and corporate aggrandizement.

- 2) There are limits to the degree of organizational complexity that firms can successfully manage. Our study found that
- beyond fairly high levels of product diversity, diversity was negatively associated with profitability.
  - the most diverse firms (both product and multinational) tended to reduce their degree of diversity from the late 1970s onwards.

These findings together with others that report generally poor performance from highly diversified companies, support the notion that, for most companies, there is some limit to the number and range of activities that can comfortably be managed within a single enterprise. However, it is also true that both in our UK sample and in some U.S. studies, some of the most profitable companies have been highly diversified, conglomerate companies.

3) Multinational diversification in general offers greater profit potential than product diversification. Our study finds that multinational diversification is conducive both to increased profitability and growth. This confirms a number of theoretical arguments supporting the competitive advantages of multinationals. What is interesting, however, is that few other studies have found similar evidence.<sup>7</sup> Hence the suspicion remains that the relationship between multinational diversification and increased profitability that we identify may reflect the particular circumstances of the British economy over the period--notably the low ROI earnings in British manufacturing industry as compared to those in other countries.

4) On related and unrelated diversification strategies.

Probably the most interesting issues for the management of diversification concern the differential success of different diversification strategies. The principal finding of earlier research was the superior performance of related diversification over unrelated diversification. However, our study found no significant performance differences between related and unrelated strategies.<sup>8</sup> Other recent studies have found similar results while two have found unrelated diversifiers earning higher ROI than related diversifiers. The inconsistencies of these findings are not easily explicable. Our prior hypotheses argued strongly for the advantages of related diversification in terms of exploiting economies of

scope and transferring distinctive competencies. However, these arguments concern the potential benefits from diversification and ignore the organizational and administrative costs incurred in exploiting these gains. The main finding arising from organizational studies of diversification is that the costs of managing related businesses exceed those of managing unrelated businesses.

To understand why, consider the multidivisional corporation. The primary benefit of the multidivisional structure in the management of diversity is that it economizes on coordination costs by separating operational management from strategic management. However, the benefits of the multidivisional structure in permitting differentiation of functions and management systems between corporate head office and the operating divisions and in allowing divisional autonomy in operating policy are severely compromised where there are important interdependencies between the divisions. Lorsch and Allen's study of managing diversity and interdependence in six multidivisional firms found that the problems of coordination encountered in managing diversity depended upon the degree and the type of interdependence between divisions.<sup>8</sup> The existence of "operating synergies" necessitated lateral coordination between divisions, a corporate headquarters that exercised important functional responsibilities, and modifications to the autonomous division profit center concept.

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INSERT TABLE 4 ABOUT HERE  
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The implication, therefore, is that in analyzing the potential for diversification to create competitive advantage we need to consider different types of relatedness between businesses. Table 4 proposes three types of relatedness that may occur between businesses. The main prediction from Table 4 is that, while operational relatedness offers the most tangible benefits in the form of cost reductions from economies of scope, these benefits are likely to be offset by the costs of managing the necessary coordination. On the other hand, the benefits of skill relatedness and corporate management relatedness may be less observable, but pose significant coordination problems. Thus Lorsch and Allen (1973, p. 168) report:

...the conglomerate firms we studied seemed to be achieving appreciable degrees of financial and managerial synergy but little or no operating synergy; others had met with little success in trying to achieve it.

The role of corporate management relatedness has been largely overlooked in the literature. Many of the firms that we (and others) have classified as "unrelated" show little or no operating or skill relatedness (e.g. technological, marketing, etc.) but can be effectively managed because the operating subsidiaries face similar strategic issues and respond to similar control, incentive and resource allocation systems. Thus the diverse activities of Hanson Trust in the UK are linked by their being high market share, mature businesses with limited exposure to international competition,

and are fitted to Hanson's particular type of financially-based corporate management style.

Other companies have perceived certain synergies arising from operating and skill relatedness, but have ignored the issue of whether these areas of relatedness can be effectively harnessed by corporate management. A classic example here is EMI in the UK whose diversification from phonographic records and consumer electronics into medical electronics offered elements of technological relatedness but was a total mismatch in terms of corporate management systems and style. The ability of management to handle the medical electronics area was very poor. The consequent disastrous performance of the medical electronics divisions eventually led to EMI's demise.<sup>10</sup>

Thus it appears likely that the key aspects of relatedness that determine success in diversification may be compatible corporate-level management style and systems, or what Prahalad and Bettis have termed the "dominant general management logic."<sup>11</sup> Or to put it simply, diversifications may offer certain potential areas of relatedness and synergy. But they can only be made to work by knowledgeable and effective management.

### Conclusions

The empirical findings presented in this article indicate that corporate diversification is neither generally successful nor

generally unsuccessful. The variation in the experiences of individual companies is considerable and it is clear from other evidence (including case studies such as EMI) that the profitability of diversification is crucially dependent upon factors which are specific to the industries which the firm is spanning, the firm's resource base and the characteristics of its organization and management systems. The only findings which emerge from our research which are consistent with other studies are, first, that very high levels of product diversity are associated with relatively poor profitability and, second, the tendency for a strong cash flow to drive diversification is consistent with diversification being directed towards non-profit goals.

The most important issue arising from our research and that of others concerns the vital role of business relatedness in influencing the success of diversification. The central problem is managing diversification is how to exploit the benefits of relatedness through economies of scope and transferable distinctive competences while minimizing the organizational and managerial costs of coordination. We argue that the balance between the costs and benefits of diversity differs between different types of relatedness. While operational relatedness is likely to impose managerial difficulties that outweigh the potential economies, corporate level relatedness through strategically similar businesses are likely to offer a much more favorable ratio of potential benefit to managerial cost.

FUTURE RESEARCH DIRECTIONS: A POSTSCRIPT

In the spirit of constructive debate about research issues, we offer the following suggestions about appropriate directions for future research work.

The course grained research<sup>12</sup> presented here adds some needed clarifications to previous research particularly with regard to work on U.K. rather than U.S.-based data bases. This research, like many U.S.-based studies shows that performance is more strongly influenced by such factors as industries, markets and size than by the diversification strategy chosen. However, there are certain interesting issues raised by the current research which merit increased attention:

- (i) While diversification is preferable to specialization, the research suggests that beyond a certain diversification level there are limits to managing diversity, i.e., the costs of managing a complex, diversified firm overwhelm the benefits of diversification.
- (ii) While related diversification is superior to unrelated diversification, there are concerns both about the measurement of relatedness and how to realize the benefits of relatedness and synergy in practice.
- (iii) In the U.K., context multi-national diversification is better than product diversification. Indeed, multi-national related diversification is far superior to domestic unrelated diversification.

- (iv) Profitability tends to drive diversification implying that diversification is supply-led as firms seek profitable opportunities for retained earnings.

The principal problem in drawing concrete conclusions from such coarse-grained analyses is that the total impact of diversification upon performance depends upon the interactions between diversification and industry membership, firm resources, organization and managerial capabilities. Consequently, in the paragraphs which follow, we argue that future research should focus primarily on implementation issues, theory building and the concept of relatedness.

Therefore, given the finding (i) above that diversification is affected by the ability to manage complexity, it is necessary to take account of implementation effects in diversification strategy. That is, for example, within any given diversification category (related, unrelated, etc.), the effect of diversification strategy on performance could be influenced by reward systems designed to make business-unit managers in diversified firms act like their counterparts in more specialized firms. Similarly, within any given diversification strategy corporate managers may be motivated to either maximize shareholder wealth, satisfy growth objectives or reduce risk at the expense of shareholder concerns. Because coarse-grained studies do not control for the influence of reward and control systems or managerial motivations the empirical results are generally unenlightening and only "partial" analyses of the problem. Future studies should clearly incorporate reward systems, managerial motivations, organization and

managerial capabilities so that their moderating influences on the diversification-performance relationship can be properly examined and tested.

Theoretical frameworks can also guide future research.

Williamson's<sup>13</sup> work on transaction costs provides theoretical underpinnings for the assessment of the total impact of diversification strategy on performance. Williamson's analysis of the firm as a governance structure points to the internalization of transactions within the diversified firm as generating efficiencies through economizing on transactions costs and correcting agency problems. Therefore, diversified firms may be more profitable than specialized firms. Indeed, the economic theory of organization also gives grounds for predicting that, over time, the costs of internal organization (through, for example, improved planning, control and financial systems) may decline relative to the costs of market organization. However, it is also possible to argue for an alternative thesis which is consistent with the evidence of a trade-off between managing complexity and the level of diversity. This alternative thesis is that markets provide flexible and efficient means of resource allocation and that substituting corporate governance for market transactions increases cost and reduces efficiency. In an early paper, Williamson<sup>14</sup> analyzed how increasing firm size necessitates additional levels of management hierarchy with consequent information distortion, control loss and increased administrative costs. Diversification by creating an additional level of corporate management to control and coordinate operating costs, not only imposes increased administrative

cost but may cause inefficiencies arising from inflexibility to environmental change, politicization of strategic decision-making, and increasing a strain on top management as the corporate center seeks to manage an increasing number and diversity of businesses.

A related theoretical issue concerns the concept of relatedness as an organizational strategy construct. In view of the complexity of, and time involved in, applying Rumelt's categorization scheme it may be sensible to develop new tools for categorizing firms on the basis of interrelatedness among businesses. Possible approaches include the following:

- (i) analyzing the networks of linked pairs of businesses along a variety of strategic dimensions<sup>15</sup>
- (ii) the use of continuous measures of diversification drawn from literatures in industrial organization:
  - (a) The Total Diversification Measure<sup>16</sup> - often referred to as the entropy measure.
  - (b) The Related Diversification Measure<sup>17</sup>
  - (c) The Unrelated Diversification Measure<sup>18</sup>
  - (d) The Synergy Measure (which requires line of business data) which is a distance measure across SIC codes.

However, the key issue with relatedness (assuming satisfactory measurement) is the decision of how to exploit it in the competitive context and measure its value. Rumelt's relatedness construct is made up of two constructs: the specialization ratio and the related ratio. The specialization ratio indicates resource focus (i.e., a lower vs. a higher number of businesses) whereas the relatedness ratio shows the

degree to which firm revenues are dependent upon a set of related "core" skills. However, the concept of relatedness is problematical in practice because it classifies firms in terms of potential (not actual) synergies. More importantly it does not differentiate between firms falling in the same relatedness category but which may differ widely with respect to resource focus (number of businesses) and the pattern of revenue dispersion. Clearly, an implication is that a high degree of resource focus (i.e., fewer businesses) may provide greater managerial potential for exploiting synergies. In addition, unrelated diversification with a high resource focus may, in fact lead to improved performance. Consequently, in exploiting relatedness the overall conclusion is the relationship between relatedness and resource focus may jointly influence market power which may, in turn, lead to improved profitability. To test this hypothesis, we would need (apart from continuous measures of relatedness previously suggested) measures of resource focus and market power.<sup>19</sup>

Finally, these conjectures do not exhaust future research avenues. For example, indepth field studies of diversification strategies in practice should provide rich inductive insights about effective implementation. This in turn, may lead to theoretical generalizations which should stimulate more comprehensive, deductively oriented, coarse-grained analyses. Either way, it would be worthwhile to see multiple research methods adopted in future studies in this field.



FOOTNOTES

<sup>1</sup>For a summary, see Richard E. Caves "Industrial Organization Corporate Strategy and Structure," Journal of Economic Literature, March, 1980, pp. 64-92.

<sup>2</sup>For the U.S., see K. Palepu "Diversification Strategy, Profit Performance and the Entrophy Measure," Strategic Management Journal, July-September, 1985, pp. 239-255.

<sup>3</sup>R. A. Bettis and W. K. Hall, "Diversification Strategy, Accounting Risk and Accounting Determined Return" Academy of Management Journal, 1982 pp. 254-264.

<sup>4</sup>In the U.S., M. Dolan ("The Case for the New Conglomerate" Booz, Allen and Hamilton 1985, found conglomerate firms earned a higher ROI than any other group once industry differences in profitability had been taken into account, while Michel and Shaked ("Does Business Diversification Affect Performance?" Financial Management, Winter 1984, pp. 18-24) found risk-adjusted returns to shareholders were higher for unrelated than related diversifiers.

<sup>5</sup>R. Melicher and D. Rush, "The Performance of Conglomerate Firms: Recent Risk and Return Experience," Journal of Finance, 1973, pp. 381-388; and C. Montgomery and H. Singh, "Diversification Strategy and Systematic Risk," Strategic Management Journal, 1984, pp. 181-191.

<sup>6</sup>See, for example, M. Firth "The Profitability of Takeovers and Mergers," Economic Journal, 1979.

<sup>7</sup>See, for example, A. Michel and I. Shaked, "Multinational Corporations versus Domestic Corporations," Journal of International Business Studies, Fall, 1986, pp. 89-106.

<sup>8</sup>See footnote 4.

<sup>9</sup>Jay Lorsch and Stephen A. Allen, Managing Diversity and Independence: An Organizational Study of Multidivisional firms Harvard Business School, Boston, 1973.

<sup>10</sup>See, EMI and the CT Scanner (B) HBS Case Services No. 9-383-195, Cambridge, Mass. 1983.

<sup>11</sup>C. K. Prahalad and R. Bettis "The Dominant Logic: A New Linkage between Diversity and Performance," Strategic Management Journal, Nov.-Dec. 1986, pp. 485-502.

<sup>12</sup>See K. R. Harrigan, "Research Methodologies for Contingency Approaches to Business Strategy," Academy of Management Review, 8, 3, 1983, 398-405. Harrigan draws the distinction between coarse-grained (often data-driven, quantitative) research and fine-grained (more contextual, qualitative) research and argues for hybrid mixes of both approaches in strategy research.

<sup>13</sup>See a) O. E. Williamson, "Transactions Cost Economics: The Governance of Contractual Relations," Journal of Law and Economics, 22, 1979, 232-261. b) Williamson, O. E., "The Modern Corporation: Origins, Evolution, Attributes," Journal of Economic Literature, 19, 1981, 1537-1568.

<sup>14</sup>See O. E. Williamson, "Hierarchical Control and Optimal Firm Size," Journal of Political Economy, 75, 1967, 123-138.

<sup>15</sup>See M. Gary Davis, "On an Inconsistency in Rumelt's (1974) Methodology," Working Paper, University of New Brunswick, Canada, 1987.

<sup>16</sup>See A. P. Jacquemin and C. H. Berry, "Entropy Measure of Diversification and Corporate Growth," Journal of Industrial Economics, 27, 1979, 359-369.

<sup>17</sup>See L. Palepu, "Diversification Strategy, Profit Performance and the Entropy Measures," Strategic Management Journal, 6, 1985, 239-255.

<sup>18</sup>See R. Amit and J. Livnat, "Diversification and Risk-Return Trade-Off: Accounting and Market Analyses," Working Paper, Kellogg School, Northwestern University, July 1987.

<sup>19</sup>See a) W. G. Shepherd, A Treatment of Market-Power, NY: Columbia University Press, 1975. b) C. A. Montgomery, "Product-Market Diversification and Market Power," Academy of Management Journal, 27, 1985, 789-798.

Table 1: The Rumelt Classification of Firms According to Their Diversification Strategy

Firms are classified to different strategy types according to their specialization ratio (the sales of the major business activity as a proportion of the firm's total sales) and related ratio (the proportion of the firm's total sales that are in businesses that are related).

The categories are as follows:

(i) Single Business

A corporation with  $SR \geq 0.95$

(ii) Dominant Business

A corporation with  $0.95 > SR \geq 0.70$

(a) Dominant-Vertical

A vertically integrated corporation

(b) Dominant-Constrained

A corporation, the major portion of whose (minor) diversified activities is closely related to its basic (dominant) business

(c) Dominant-Linked

A corporation, the major portion of whose (minor) diversified activities is only vaguely related to its basic (dominant) business

(d) Dominant-Unrelated

A corporation, the major portion of whose (minor) diversified activities is unrelated to its basic (dominant) business, i.e.,  $RR < \frac{1}{2} (SR+1)$

(iii) Related Business

A corporation with  $SR < 0.70$  and  $RR \geq 0.70$

(a) Related-Linked

A corporation, at least 70 percent of whose businesses are closely related to one another through a specific core skill common to each

Table 1 (cont'd.)

(b) Related-Linked

A corporation, the majority of whose businesses are only vaguely relate to one another via a string of linkages between them

(c) Unrelated Business

TABLE 2

SUMMARY OF REGRESSION EQUATIONS

A. RELATIONSHIP BETWEEN RETURN AND DIVERSITY: EXAMINATION OF RELATIVE VALUE OF PRODUCT AND MULTINATIONAL DIVERSITY

RETURN = f (Product diversity, multinational diversity, size, leverage, industry membership)

Notes: a) Product diversity varied between regressions. One set used Rumelt, another set used the product diversification index--in both linear and quadratic form (to reflect diminishing returns to PDI)

b) Multinational Diversity (MDI) was also included in both linear and quadratic form.

B. DIRECTION OF CAUSATION

(i) Changes in return regressed on changes in PDI and MDI

$\Delta\text{RETURN} = f(\Delta\text{PDI}, \Delta\text{MDI}, \text{industry membership})$

Note:  $\Delta\text{RETURN}$  denotes change in return. etc.

(ii) Changes in diversity regressed on cash flow and other factors

$\Delta\text{PDI} = f(\text{Cashflow, size, leverage, industry membership, \{or } \Delta\text{MDI}\}$  initial levels of diversity)



Table 4: Types of relatedness between the business units of a diversified corporation.

TYPE OF RELATEDNESS	EXAMPLES	PERFORMANCE IMPLICATIONS
Operational relatedness	Inputs and activities common to several business units	Exploits economies of scope in joint activities but imposes costs of coordination on corporate management, lowers divisional autonomy and flexibility.
Transfer of core skills	Transfer from one business unit to another of R&D capabilities, marketing skills, manufacturing expertise etc.	Permits transfer of competitive advantage between businesses at low additional cost but also requires some corporate level coordination which may conflict with the benefits from decentralization.
Corporate	The application of common systems of resource allocation, performance monitoring, & strategy formulation to different business units.	Permits increased effectiveness in the conduct of corporate level management processes, while maintaining business units as autonomous profit centers.

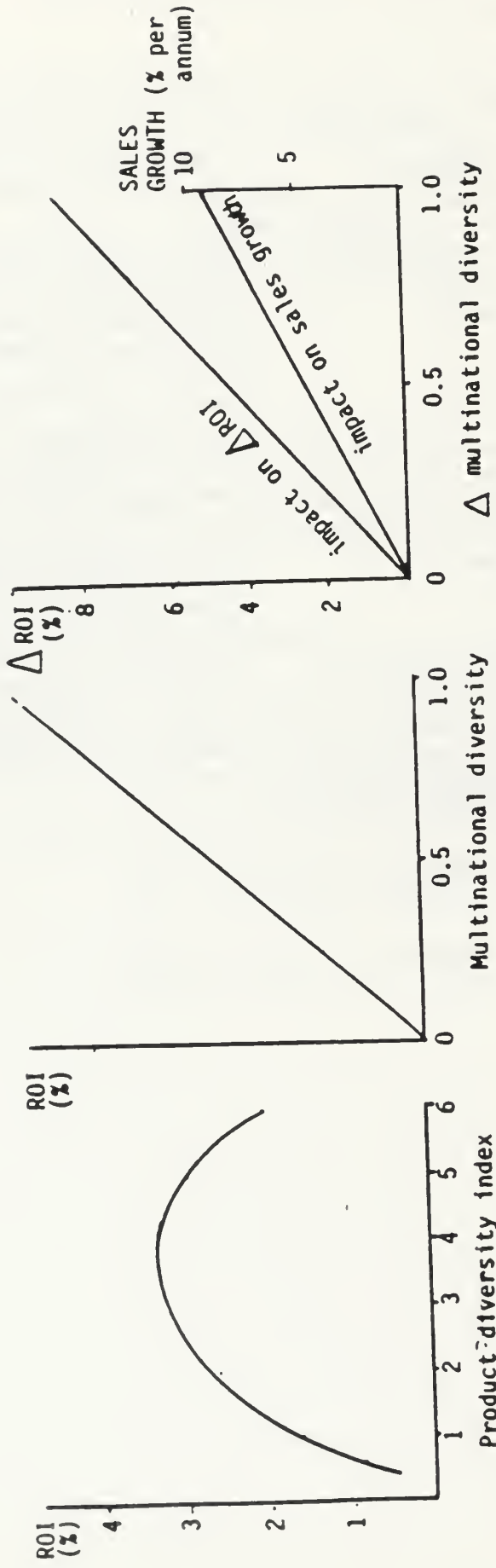


Figure 1: The incremental impact of product diversity on ROI

Figure 2: The incremental impact of multinational diversity on ROI

Figure 3: The impact of changes in multinational diversity on changes in ROI and sales growth











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