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**Diversification Research:
Overview and Outlook**

von Thomas Hutzschenreuter
und
Fabian Günther

WHU- Otto Beisheim School of Management
Burgplatz 2
56179 Vallendar/Rhein

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- Prof. Dr. Thomas Hutzschenreuter ist Inhaber des Lehrstuhls für BWL, insbesondere Unternehmensentwicklung und Electronic Media Management (Dietmar-Hopp Stiftungslehrstuhl) an der WHU.
 - Fabian Günther ist wissenschaftlicher Mitarbeiter am Lehrstuhl für BWL, insbesondere Unternehmensentwicklung und Electronic Media Management (Dietmar-Hopp-Stiftungslehrstuhl) an der WHU.

1. INTRODUCTION

Diversification is one of the most prominent topics in strategic management. After several decades of research, scholars have analyzed a variety of topics and questions within the scope of the diversification phenomenon; and there is a vast amount of studies covering them. Despite the multitude of studies, however, the research domain has not yet reached maturity. According to Palich, Cardinal, and Miller (2000) a research stream is characterized as mature if scholars have conducted a substantial number of empirical studies delivering consistent and interpretable findings, and if these studies have generated general consensus concerning the key relationships. Although there are a substantial number of studies dealing with the topic, they fall far from consensus and consistent results. Especially the diversification-performance-relationship – probably the most investigated linkage in the diversification literature – delivers inconsistent findings (e.g. Datta, Rajagopalan, & Rasheed, 1991; Hutzschenreuter, 2003; Palich et al., 2000; Ramanujam & Varadarajan, 1989). Moreover, in order to find deeper insights and reach consensus, scholars continuously provide new ways of measuring diversification or new perspectives to analyze the phenomenon.

Based on these considerations, the goal of this article is threefold. First, we will provide an overview of different topics and questions analyzed in this research domain. Second, the article shall present the latest insights, methods, and perspectives that have been published in the last decade and that have so far not been covered by a comprehensive research overview article. Third, we will outline future trends in the field.

The article is structured as follows. In the next section we will provide basic concepts of the diversification phenomenon in order to provide unfamiliar readers an easy access to the diversification phenomenon. Specifically, we will clarify the roots of diversification, deliver various definitions applied in prior literature and explain different types of diversification. We also classify and discuss multiple reasons why firms diversify. Moreover, due to the centrality of the measurement issue in diversification research we give a comprehensive overview of different measures. Besides presenting traditional measures we also highlight contemporary attempts to measure diversification. After having discussed the fundamentals of diversification, we will give an overview on research in the field of diversification in the third section. Thereby, we start with a general overview of diversification research before turning to the central diversification-performance-linkage with an overview of its various studies and outcomes. Since most studies in the diversification literature are static and scholars started to

highlight the need for more dynamic research (e.g. Gary, 2005; Ramanujam & Varadarajan, 1989), we dedicate a separate section to these different perspectives on diversification. Finally, we close with implications for further research on diversification.

2. BACKGROUND

2.1 Definition of Diversification

Diversification has a rich tradition as a topic of research (Ramanujam & Varadarajan, 1989). The use of this term, however, is manifold (e.g. Mohren, 1996). The term diversification has its roots in the word “diverse” which literally means “different, unlike, distinct, or separate” (Pitts & Hopkins, 1982). Markowitz (1959) first introduced the term diversification in the context of his portfolio theory to finance theory and scientific discussion. He recognizes diversification as the dissimilarity of investment projects of one investor regarding their risk and return profiles. Applied to a business enterprise, diversification signifies differences among aspects of a firm’s activities. Thereby, practitioners and researchers use it to signify not functional, but rather business diversity (Pitts & Hopkins, 1982). In analogy to Markowitz’, the businesses a firm is active in can also be interpreted as investment projects. Thus, diversification of firms can be seen as the dissimilarity of businesses belonging to a firm (Hutzschenreuter & Sonntag, 1998). The first scholars using the concept of diversification in managerial research are Ansoff (1957; 1958), Chandler (1962), and Gort (1962). However, according to Ramanujam and Varadarajan (1989) even in managerial research there is still a great deal of variation in the way diversification is conceptualized, defined, and measured. To Gort (1962) diversification represents the number of markets served. Thereby he used the concept of “heterogeneity of output”. Berry (1974) defined diversification as an increase in the number of industries in which firms are active. Pitts and Hopkins (1982) based their definition on businesses rather than industries a firm is active in. This allows more subjectivity in the measurement of diversification.

The aforementioned studies defined diversification as the state of diversity. Ansoff’s (1957; 1965) notion of diversification, on the other hand, emphasizes a firm’s entry into new markets with new products. Therefore, he defined diversification rather as a process. This same distinction has been made by Ramanujam and Varadarajan (1989) and Grant, Jammine, and Thomas (1988). Consequently, when defining and analyzing diversification, one has to

distinguish between diversity (level/state of diversification), which measures the spread of a firm's activities at a point of time, and the process of diversification, which measures the change of diversity over time. It becomes obvious, that the phenomenon of diversification has a static and a dynamic component (a more comprehensive overview of this differentiation will be given in section 3.3).

2.2 Diversification Types

When classifying different types of diversification, the dissimilarity of businesses has to be explained. Using the static concept of diversification, diversification types relate to a firm's diversity and to the dissimilarity of all businesses a firm is active in. Diversification types classifying different diversification moves explain the dissimilarity between a new business and one or all of the existing businesses.¹ The diversification types introduced below can be applied for both the static and the dynamic concept of diversification.

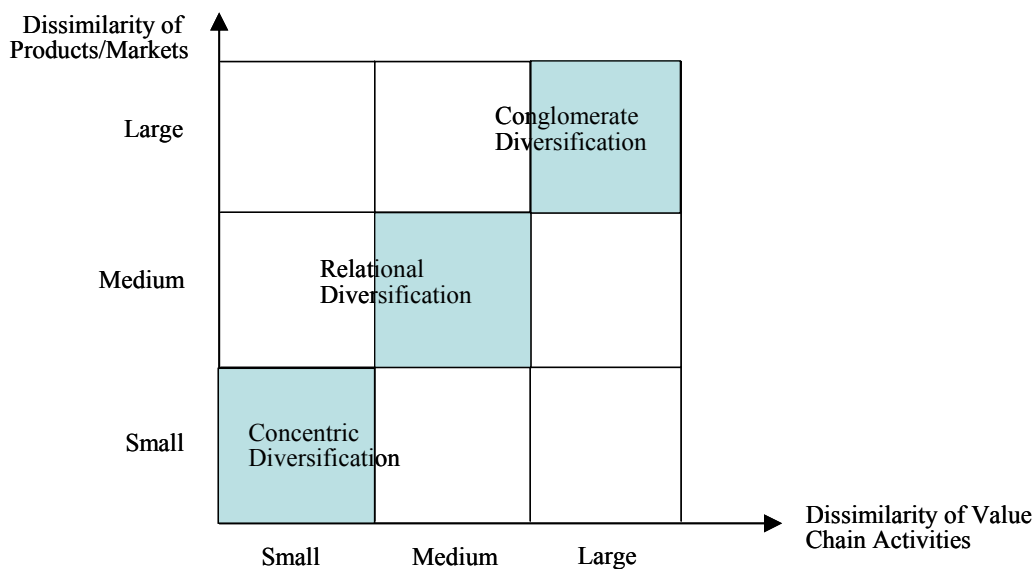
A business can be characterized as a combination of products or services sold in a certain market and using certain value chain activities (e.g. Hahn, 1992, 1994; Hinterhuber, 1992). A firm's diversity can be seen as the dissimilarity with regard to its markets (products, customers) and the underlying value chain activities. For measuring these dissimilarities the concepts of relatedness (Pennings, Barkema, & Douma, 1994; Singh & Montgomery, 1987) and of coherence (Piscitello, 2004; Teece, Rumelt, Dosi, & Winter, 1994) have to be considered since they grasp the relationship and similarity between businesses regarding their products, markets, resources, and value chain activities (Nayyar, 1992; Robins & Wiersema, 1995; Rumelt, 1974, 1982; Teece, 1980; Teece et al., 1994). Consequently, a firm is the more diversified (has a higher diversity), the more heterogeneous (unrelated) the product portfolio and the processes for manufacturing these products are (Hutzschenreuter & Sonntag, 1998).

Based on these two dimensions dissimilarity of markets served and dissimilarity of underlying value chains, different diversification types can be created (e.g. Hungenberg, 1995; Hutzschenreuter, 2001). This is visualized in figure 1. Besides these three ideal types, every combination along these dimensions is possible (Hutzschenreuter & Sonntag, 1998).

¹ This is consistent with a distinction introduced by Teece, Rumelt, Dosi, and Winter (1994). On the one hand, a new business can be referred to all existing businesses (WAR). On the other hand, a new business can be compared with the most similar existing business (WARN).

Figure 1: Diversification Types

Hutzschenreuter and Sonntag define three ideal diversification types (concentric diversification, relational diversification, and conglomerate diversification) according to the values of the two dimensions “dissimilarity of products/markets” and “dissimilarity of value chain activities”. The figure is based on Hutzschenreuter and Sonntag (1998: 6).



Concentric Diversification: concentric diversification is present when several businesses of a firm are very similar with regard to products and markets served. Moreover, a firm’s businesses have the same customers and competitors as well as (almost) identical value chain activities.

Relational Diversification: Relational diversification of a firm’s businesses is present when products and markets as well as internal processes are different. However, managerial requirements are similar since competitors and customers are similar and core competences for managing the value chain are alike.

Conglomerate Diversification: Conglomerate diversification of a firm’s businesses is present when products and markets as well as internal processes differ extensively which results in differing managerial requirements for different businesses within one firm.

2.3 Reasons to Diversify

Several reasons to diversify have been discussed in the literature. In the following, we will provide an overview of the most prominent ones. Most of these reasons are based on

assumptions of market and firm imperfections (Hoskisson & Hitt, 1990). Teece (1980; 1982) argued that diversified firms cannot be explained by the neo-classical view of the firm.

Probably the most discussed motive to diversify is the realization of synergies by leveraging and combining resources and capabilities. Sharing and leveraging knowledge and assets between new and already existing businesses yields economies of scale and scope (e.g. Hill, Hitt, & Hoskisson, 1992; Markides & Williamson, 1994; Scherer, 1980; Teece, 1980). Their existence leads to higher efficiency of resource and capability utilization in form of reduced unit costs. Economies of scale are realized when a bundle of resources is more fully utilized for the production of one product. These kind of economies can occur in specific functional areas like manufacturing, R&D or distribution (Rumelt, 1974; Salter & Weinhold, 1979; Singh & Montgomery, 1987). Economies of scope are present when capacity utilization is increased through joint production of two or more products (Panzar & Willig, 1981). Thus, excess firm specific assets can be exploited in different businesses (Markides, 1992). Moreover, the combination of resources and capabilities may be beneficial as it can increase the effectiveness of resource and capability utilization. Specifically, the combination of intangible resources like knowledge can lead to the creation of totally new knowledge to the firm encouraging the creation of innovations (Barney, 1991; Markides & Williamson, 1994, 1996; Robins & Wiersema, 1995; Wernerfelt, 1984).

Besides the aforementioned synergies, financial synergies and their beneficial impact for conducting diversification have been the subject of research. On the one hand, economies of scale for financing can emerge. Centralizing the acquisition of funds and thus higher volumes of raised funds can result in lower handling cost per unit and lower interest rates² (e.g. Hutzschenreuter & Sonntag, 1998). On the other hand, scholars have argued that firms can gain from using internal market efficiencies (Hill, 1988; Lang & Stulz, 1994; Servaes, 1996; Shleifer & Vishny, 1991; Stulz, 1990; Teece, 1982). A firm is not only more flexible and capable to raise external funds between its businesses (Lang & Stulz, 1994; Stulz, 1990), but it is also better informed to allocate the resources optimally (Servaes, 1996; Shleifer & Vishny, 1991; Williamson, 1975).

² Lower interest rates can be explained by less volatile cash flows following diversification and hence lower default risk.

Another motive for diversification is reduced transaction costs.³ Williamson (1975) suggested that internal capital markets provide a rationale for diversification. When high transaction costs exist due to high uncertainty or asset specificity, firms tend to internalize the assets in question rather than contract for services (e.g. Hoskisson & Hitt, 1990). Lower transaction costs also lead to higher efficiency of resource utilization (e.g. Hutzschenreuter & Sonntag, 1998).

Other scholars have analyzed the diversification motives from a market power perspective (e.g. Berry, 1971; Caves, 1981; Gort, 1962; Grant, 1998; Markham, 1973; Rhoades, 1973; Scherer & Ross, 1990; Sobel, 1999). They argue that firms engage in diversification since they receive the opportunity to impact their market environments and gain market power. Market power allows a firm for example to engage in predatory pricing, subsidization and reciprocity in buying and selling (Caves, 1981; Singh & Montgomery, 1987). Consequently, they can gain advantages over their competitors leading to higher success (e.g. Porter, 1980).

Moreover, other firm internal factors - like low performance and uncertain future cash flows - have been stressed in the literature as potential incentives to diversify. First, low performance may provide an incentive for diversification or to put it like Rumelt: "high performance eliminates the need for greater diversification" (1974: 125). This can be explained based on prospect theory (Kahneman & Tversky, 1979). Performance below a target or reference point creates incentives for greater risk taking, encouraging diversification if sufficient resources exist to pursue it. Second, scholars gave defensive reasons for diversification (e.g. Leontiades, 1985; Rumelt, 1974). Firms facing uncertainty regarding future cash flows which is the case in maturing industries must diversify to survive over the long run (Leontiades, 1985). According to Beattie (1980) firms may diversify to deal with uncertainty resulting from both supply and demand sources. Moreover, uncertainty and defensive reasons for diversification also exist in the case of industries in which foreign competitors with lower average costs have penetrated the domestic market (Buckley, 1989).

Besides internal factors encouraging diversification, there are also external factors like the application of governmental instruments that have been mentioned as potential incentive for

³ Transaction costs are defined as costs for initiation, arrangement, control and adaptation when making an economic exchange. According to Williamson (1975, 1985), transaction costs are determined by limited rationality and opportunistic behavior of involved people and frequency, specificity, and uncertainty of the economic relationship.

diversification. Antitrust policy and tax laws have been discussed to be the main governmental instruments to influence decisions to diversify (e.g. Auerbach & Reishus, 1988; Gilson, Scholes, & Wolfson, 1988; Ravenscraft & Scherer, 1987; Scherer, 1980). Antitrust laws and governmental constraints can influence the amount and direction of diversification. The Celler-Kefauver Act discouraged for example horizontal and vertical mergers and led to increasing conglomerate mergers in the U.S. (Scherer, 1980). Furthermore, specific constellations of taxes can provide an incentive to diversify. Tax effects on diversification have thereby to be analyzed from two perspectives: shareholder and corporate taxation. Shareholders are normally better off when free cash flows are paid off in the form of dividends (Jensen, 1986). However, when dividends are taxed more heavily than income from capital gains, shareholders might receive a better return from stock value appreciation of retained and reinvested funds than through dividends (e.g. Turk & Baysinger, 1989). From a corporate taxation perspective, diversification might be desirable since the acquisition of a firm increases depreciation leading to lower taxable income (e.g. Auerbach & Reishus, 1988).

So far we have mentioned internal and external factors which constitute incentives to diversify. Their occurrence is beneficial for the firm and may lead to higher firm value, which follows the goal from a shareholder-value perspective. Moreover, there are managerial motives to diversify. They exist independent of external and internal firm incentives (Hoskisson & Hitt, 1990). However, since managers follow their own goals which are not necessarily in-line with those of a firm's shareholders, an agency problem exists (e.g. Jensen & Meckling, 1976). The major managerial motives for diversification are the reduction of employment risk and the increase of executive compensation. Executives may diversify the firm in order to diversify their employment risk (e.g. Amihud & Lev, 1981). Diversification reduces the volatility of cash flows leading to a lower default risk. Moreover, managers are motivated to engage in diversification, since diversification increases firm size and firm size is highly correlated with executive compensation (e.g. Dyl, 1988; Tosi & Gomez-Mejia, 1989).

2.4 Measurement of Diversification

There are various concepts and measures that have been developed and applied to grasp diversification. Since the diversification of a firm was defined as the dissimilarity of

businesses belonging to the firm, a first task when measuring diversification is the identification of a firm's individual businesses. Three quite different approaches to this task have been taken (Pitts & Hopkins, 1982). First, individual businesses can be distinguished according to internal firm resources. Thus, businesses are different if the resources involved are separate from those supporting the firm's other activities. However, the selection of data on firms' resources is an extremely difficult task. Second, an alternative approach looks outward from the firm to its markets. This approach has been advocated by scholars such as Abell (1980), Ansoff (1965), or Levitt (1960). However, this approach is also imposed with data difficulties. Market characteristics such as consumer needs or cross elasticity are extremely difficult to measure. A third approach to identify businesses focuses on product differences. Each product or product type is considered to be a separate business. This approach combines elements of the resource and the market approach. Two different products are likely to require separate equipment for manufacturing and different distribution channels (i.e. different resources) and they are likely to satisfy different customer needs (i.e. different markets). The data collection task for this approach is less difficult since researchers can draw on standardized and publicly available classification systems such as the Standard Industrial Classification system (SIC).

Most approaches to measure diversification relied on a business definition based on products and applied the SIC system. Out of the approaches using the SIC system, two distinct groups – business-count measures and strategic measures – can be differentiated.

Business-Count Measures. The *business-count approach* measures diversification by counting a firm's businesses. It is therefore called a continuous measure. This approach is rooted in industrial organization research. Several variants of this general approach exist. The least difficult approach is the *simple numerical count* of the number of businesses a firm is active in (e.g. Carter, 1977). However, this approach does not recognize differences in the size distribution of businesses. One approach to overcome this weakness has been applied by some researchers who have focused exclusively on a firm's largest business and measured firm diversification as a ratio of the business size relative to the firm as a whole (*share of largest business approach*). Rumelt (1974) used this approach for example to define the main diversification categories in his two-tier scheme to assign diversification categories (a complete description can be found within the strategic approach of diversification measures).

However, this approach also has its weaknesses since it does not capture the extent to which the remainder of a firm's activities may be diversified. To capture this feature, scholars have applied *comprehensive indexes* which constitute weighted count measures. The most popular of these weighted business-count measures are the Berry-index (Berry, 1971) and the entropy measure by Jacquemin and Berry (1979). The Berry-index (D_B) is a Herfindahl-measure and is constructed as the complement of the sum of the squared shares of each business on total firm size (p_i). If a firm is active in only one business D_B equals 0. The more active a firm is in different businesses, the higher is D_B and converges to 1.

$$D_B = 1 - \sum_{i=1}^N p_i^2 \quad (1.1)$$

The entropy measure by Jacquemin and Berry (1979) is based on the sum of the weighted shares of businesses. The weights are the natural logarithms of the reciprocal shares of businesses.

$$D_{J/B} = \sum_{i=1}^N p_i * \ln(1/p_i) \quad (1.2)$$

The probably most often applied entropy measure in diversification research is the one used by Palepu (1985). His approach is based on work by Jacquemin and Berry (1979) and it divides a firm's total diversification in a related and an unrelated diversification component to assess the relatedness between a firm's businesses. Therefore, he creates a relatedness index (DR) and an unrelatedness index (DU). By aggregating these indices he also constructs a total diversification index to measure the firm's level of diversity. Palepu's approach is based on a firm's business segment reporting. Using these data it is possible to extract a firm's activities corresponding to their SIC-code classification and their respective share of sales. For the calculation of the entropy measure, activities at the four-digit level are treated as segments, whereas industry groups are defined as activities sharing the same two-digit SIC-code.

The related diversification index is calculated in the following manner:

$$DR_j = \sum_{i \in J} p_i^j * \ln(1 / p_i^j) \quad (1.3)$$

$$DR = \sum_{j=1}^N DR_j * p^j \quad (1.4)$$

DR is the weighted average of the related diversification within all N groups, where p^j is the share of the jth group sales on total firm sales. DR is thereby a function of DR_j , which is the related diversification of several activities within one industry group j with p_i^j being the share of the segment i of group j on total sales of the group.

The unrelated diversification index is calculated in a similar manner:










$$DU = \sum_{j=1}^N p^j * \ln(1 / p^j) \quad (1.5)$$

Finally, the level of diversification (DT) is calculated as the sum of the related diversification index (DR) and the unrelated diversification index (DU).

$$DT = DR + DU \quad (1.6)$$

Table 1: Rumelt's Classification System

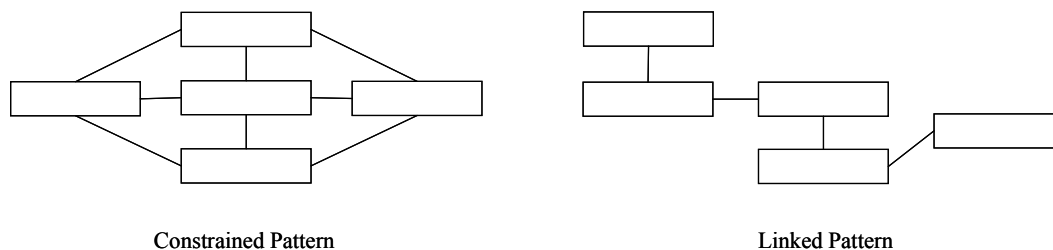
Rumelt's classification differentiates between 10 different types of diversification strategies. Based on a specialization ratio, main categories are created. These are further divided according to a related and a vertical ratio. The table is based on Rumelt (1974) and Montgomery (1982).

Specialization Ratio (SR)	Main Category	Final Diversification Category
≥ 0.95	Single Business Firms that are basically committed to a discrete business	—  single business single vertical
$0.70 \leq SR < 0.95$	Dominant Business Firms that have diversified to some extent but still obtain the preponderance of their revenues from a discrete business area	—  dominant vertical —  dominant constrained —  dominant linked —  dominant unrelated
$SR < 0.7$	Related Business Firms that are diversified and in which more than 70% of the diversification has been accomplished by relating new activities to old	—  related constrained —  related linked
	Unrelated Business Firms that have diversified and in which less than 70% of the diversification is related to the firm's original skills or strengths	—  multibusiness —  unrelated portfolio

Strategic Measures. In contrast to the *business-count approach* which is based on a firm's number of businesses, the *strategic approach* measures diversification based on the logic underlying a firm's businesses. Like the measure used by Palepu, strategic measures also assess the relatedness between a firm's businesses. However, whereas Palepu's and other business-count measures are continuous measures, strategic measures are discrete categorical measures. A first classification of discrete diversification categories was developed by Wrigley (1970). He created four categories based on the specialization ratio – the percentage of a firm's total sales that can be attributed to a discrete business area (Montgomery, 1982). The four categories include firms with a specialization ratio of $SR \geq 0.95$ (single product), $0.70 \leq SR < 0.95$ (dominant product), and $SR < 0.70$ (related and unrelated product), respectively. The distinction between related and unrelated products is based on subjective evaluation of relatedness between individual businesses. Rumelt (1974) based his work on Wrigley (1970) and advanced his work. Later studies (e.g. Bettis, 1981; Bettis & Hall, 1982; Bettis & Mahajan, 1985; Montgomery, 1979) using strategic measures have basically relied on Rumelt's sample and categories. Rumelt (1978) used a two-tier breakdown to assign a firm to categories. However, in contrast to Wrigley (1970) he introduced 10 separate categories (see table 1). The assignment to a main diversification category is also made on the basis of the specialization ratio. Further differentiation is based on the vertical ratio; the related ratio and the pattern of linkages among a firm's business lines (see figure 2). The related ratio

Figure 2: Patterns of Linkage (Rumelt Categorization)

The figure visualizes the two different patterns of linkages used by Rumelt (1974) to distinguish his diversification strategies into constrained and linked diversifiers. The figure is based on Rumelt (1974) and Montgomery (1982).



indicates the ratio of the size of the largest related businesses to a firm's total size. Analogous, the vertical ratio is the ratio of the size of the largest vertically connected businesses to a firm's total size. Moreover, a constrained diversifier represents a firm wherein new entities are consistently related to one core organizational strength or characteristic. In contrast, a linked diversifier has grown through relating new entities to old ones, but not necessarily to one core strength or characteristic. In order to qualify patterns of linkage, researchers have to browse published materials such as annual reports or articles in newspapers. This task, however, introduces problems associated with the lack of totally objective standards (Rumelt, 1974).

Validity of Business-Count and Strategic Measures. The widespread use of different measures of diversification has also created concerns about their validity (Robins & Wiersema, 2003). Therefore, a number of studies examined the validity of these measures, however, produced mixed results (e.g. Acar & Sankaran, 1999; Chatterjee & Blocher, 1992; Davis & Duhaime, 1992; Hall & St. John, 1994; Hoskisson, Hitt, Johnson, & Moesel, 1993; Lubatkin, Merchant, & Srinivasa, 1993; Robins & Wiersema, 1995; Robins & Wiersema, 2003).

Although Rumelt's classification (1974) has been criticized for the amount of subjective estimation it incorporates in classification decisions, a new classification attempt by Montgomery (1982) showed a high degree of interrater agreement between Montgomery's new classification and Rumelt's original attempt. This indicates that the reproducibility of category assignments is not the problem many expected it would be.

Moreover, Montgomery (1982) compared Rumelt's (1974) subjective categorical measures with a weighted business-count measure (Herfindahl). She observed that the value of the Herfindahl index increased monotonically from Rumelt's single- to unrelated-business categories. This assessment provides some evidence of convergent validity between the Herfindahl measure and Rumelt's measures. A number of studies using other weighted business-count measures, such as the entropy measure, also found strong correspondence with Rumelt's measures (e.g. Amit & Livnat, 1988; Chatterjee & Blocher, 1992). In contrast to the validity tests of weighted business-count measures, a study by Lubatkin, Merchant, and Srinivasa (1993) analyzed the construct validity for unweighted business-count measures. They found that the two unweighted measures of narrow spectrum diversification and broad spectrum diversification (Wood, 1971) also correspond strongly to Rumelt's categorical measures.

A study by Hoskisson, Hitt, Johnson, and Moesel (1993) specifically analyzed the construct validity of an entropy measure. Results of this study indicate strong convergent, discriminant and criterion-related validity for the entropy measure of diversification. In particular, support for the entropy measure of diversification strategy was demonstrated through associations with the Rumelt subjective measure of diversification (convergent validity), size, debt and R&D intensity (discriminant validity), and accounting and market-based performance (criterion-related validity).

A study by Chatterjee and Blocher (1992), however, suggested weak convergent validity for Rumelt's measures but good discriminating power of continuous measures to discriminate between Rumelt's measures. Moreover, Hall and St. John (1994) raised questions about the convergent validity of continuous business-count and categorical strategic measures. They argued that the choice of a diversification measure may influence research results.

Contemporary Relatedness Measures. So far we have explained diversification measures based on the business-count approach and the strategic approach. Whereas some of these measures (i.e. entropy measures by Jacquemin and Berry (1979) and Palepu (1985) as well as strategic measures by Wrigley (1970) and Rumelt (1978; 1974) incorporate the relatedness between the businesses a firm is active in, they all rely on the use of the SIC system. Although the measurement of diversification based on the SIC classification is common practice in

strategic management research, the use of these measures has widely been criticized (e.g. Brush, 1996; Farjoun, 1994, 1998; Montgomery, 1982; Nayyar, 1992; Robins & Wiersema, 1995; Silverman, 1999). The SIC classification is a weak source to evaluate the relationship between industries. It was developed for data collection purposes in macroeconomic research. It therefore offers only limited information on the types of strategic interrelationships that are important in the theory of the diversified firm (Robins & Wiersema, 1995). To overcome these deficiencies, several scholars started to construct alternative measures which are closer to the concept of relatedness and have better content validities (Brumagim, 1992; Fan & Lang, 2000; Farjoun, 1994; Klavans, 1990; Robins & Wiersema, 1995). These approaches go beyond the SIC system and employ different sources of information. Thereby, similarities in knowledge and capabilities between industries – which underlie the concept of relatedness and form the basis for competitive advantage – are captured, even though the measurement is only indirect. In the following, we will present the most prominent approaches given by Fan and Lang (2000), Robins and Wiersema (1995), Farjoun (1994; 1998) and Teece, Rumelt, Dosi, and Winter (1994).

Relatedness Measure by Fan/Lang. Fan and Lang (2000) introduced two relatedness measures: a vertical relatedness measure and a complementarity measure. For the construction of their measures they used input-output tables provided by the Bureau of Economic Analysis. The tables report value of commodity flows between industries: for each pair of industries i and j the dollar value of i 's output to produce industry j 's total output (denoted as a_{ij}) is given. On the one hand, the vertical relatedness coefficient (V_{ij}) indicates the average input transfer between industries and can be used as a proxy for the opportunity for the vertical integration between two industries. It is calculated as $V_{ij} = \frac{1}{2} (v_{ij} + v_{ji})$, whereby v_{ij} and v_{ji} represent input requirement coefficients. The input requirement coefficient v_{ij} represents the dollar value of industry i 's output required to produce 1 dollar worth of industry j 's output and is calculated as the quotient of a_{ij} and the dollar value of industry j 's total output. The same logic applies for the calculation of v_{ji} . On the other hand, the complementarity coefficient (C_{ij}) measures the degree to which two industries share their input and output. C_{ij} is calculated in the following manner: $C_{ij} = \frac{1}{2} [\text{corr}(b_{ik}, b_{jk}) + \text{corr}(v_{ij} + v_{ji})]$. The input requirement coefficients v_{ij} and v_{ji} are already known from the calculation of the vertical relatedness coefficient (V_{ij}). The two coefficients b_{ik} and b_{jk} define the output percentage each industry supplies to each intermediate industry k . A large correlation coefficient in the percentage output flows suggests a significant overlap in the market to which industries i and j sell their products. A

large correlation coefficient in the input requirements suggests a significant overlap in inputs required by industries i and j . The measures V_{ij} and C_{ij} measure the relatedness between a pair of industries and can such be applied for the relatedness measurement between two businesses of a firm. In order to measure relatedness at the firm level and define a firm's diversity, the following calculations have been applied by Fan and Lang (2000):

$$V = \sum_j (w_j * V_{ij}) \quad (2.7)$$

$$C = \sum_j (w_j * C_{ij}) \quad (2.8)$$

where w_j represents a sales weight that equals the ratio of the j th secondary segment sales⁴ to the total sales of all secondary segments. V_{ij} and C_{ij} are the vertical relatedness and complementarity coefficients associated with the pair of business segments consisting of the primary segment i and the secondary segment j .

Relatedness Measure by Robins/Wiersema. The measure introduced by Robins and Wiersema (1995) captures the similarity between industries by examining patterns of technology flows between industry groups. They report coefficients of similarity between 37 industry groups. Relationships between groups were defined by inflows of technology and two groups were similar to the degree that they imported technologies in similar patterns from other industry groups. Consequently, the correlations between any two industries reported in the 37 x 37 matrix are a direct measure of similarity in patterns of technology inflow from the entire sector to each of the two groups. A perfect correlation of 1.0 would indicate that a pair of industries imported technology from all other sectors in precisely the same proportions. A correlation of zero would indicate no similarity, whereas a negative correlation would indicate inverse profiles of technology imports (Robins & Wiersema 1995: 284). Similar to the measures introduced by Fan and Lang (2000), these correlations can only be applied to measure the relatedness between two businesses. In order to measure firm-level relatedness and thus a firm's diversity, a summary measure has to be created. To this end, Robins and Wiersema created a sales-weighted measure of interrelationship R_{ij} :

⁴ A firm largest business segment is denoted as primary segment and the remaining segment(s) as secondary segment(s).

$$R_{ij} = P_i * r_{ij} + P_j * r_{ij} \quad (2.9)$$

where P_i is the percentage of sales in industry category i , P_j is the percentage of sales in industry category j , and r_{ij} is the structural equivalence similarity (correlation) of i and j . These measures of interrelationship are summed up (M) over all combinations of two industries that could be formed from the business portfolio of the firm.

$$M = \sum R_{ij} = \sum r_{ij} * (P_i + P_j) \quad (2.10)$$

Furthermore, since the range of this index varies with the total number of businesses a firm is active in, a correction was introduced. Applying this correction, the adjusted index ranges from + 1.0 to -1.0, with a positive score indicating that a firm has a positively interrelated portfolio and vice versa.

Relatedness Measure by Farjoun. For the construction of his diversification measure, Farjoun (1994; 1998) made use of human resource profiles of industry groups. Data for the construction of these profiles has been taken from the Occupational Employment Survey (OES) conducted by U.S. Department of Labor Statistics. The OES contains data about the percentage distribution of 480 occupations in all U.S. industries. The occupational employment ratios indicate both the different types of human expertise needed in an industry and the extent to which they are required. These occupational categories have been aggregated to 41 summary occupational variables in order to facilitate data processing.⁵ Based on these variables, Farjoun calculated a distance measure between the resource profiles of each pair of industries. The lower this measure is, the more similar industries are in terms of their profiles. All of these similarity measures produced an industry similarity-in-expertise matrix which served as input for a cluster analysis. Farjoun then clustered industries by their profile similarity and obtained eight clusters. Thus, industries could be grouped into different clusters with industries in the same cluster being related in terms of human resource profiles. Using this relatedness data, he was able to calculate a diversity measure based on the mechanics of the entropy measure by Palepu (1985). Whereas in the original case (Palepu

⁵ In his 1998 study Farjoun only used 38 summary occupational variables.

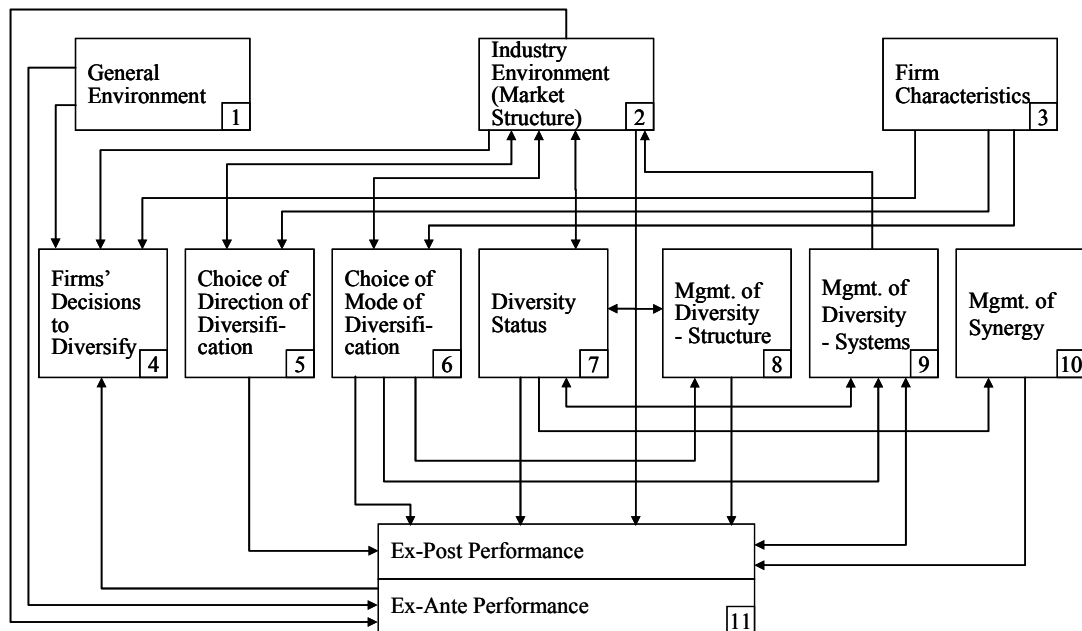
approach) industry groups were defined by the 2-digit SIC, in the skill-based approach industry groups were defined by groups of similar skills revealed in the cluster analysis.

Relatedness Measure by Teece/Rumelt/Dosi/Winter. Teece, Rumelt, Dosi, and Winter (1994) suggested a diversification measure, which determines business relatedness based on the survivor principle. They assume activities that are more related will be more frequently combined within the same firm. If firms that engage in activity A almost always also engage in activity B, these two activities would be seen as highly related. Conversely, activities that are rarely or never combined are unrelated. The underlying logic is that more related activities can be combined more efficiently and thus, less related activities which constitute less efficient combinations do not survive due to competitive pressure. In order to construct their relatedness measure, Teece et al. (1994) observed how often the combination of two businesses is present in the sample of firms. J_{ij} is the number of firms which are active in both industries i and j . Using a hyper-geometric probability function, the expected number of combinations was calculated. If the actual number of J_{ij} of linkages between industries i and j greatly exceeds the expected number, the two industries are seen as highly related. Hence, using the t-value comparing the actual number of J_{ij} of linkages with the expected number based on a random distribution, relatedness can be measured. The higher t_{ij} (t-value), the more two businesses are related to each other.

Static vs. dynamic Perspective. So far we have not distinguished between approaches that measure the extent of diversification at a certain point in time (i.e. firm diversity) and diversification from a process perspective. Business-count and strategic approaches measure a firm's status at a certain point in time. However, in order to capture diversification from a process perspective, several studies have calculated the change of diversity between two points in time by incorporating the difference of diversity measures (e.g. Grant et al., 1988). More recent studies have identified relatedness between single businesses and calculated a firm's diversity by aggregating these relatedness figures (e.g. Fan & Lang, 2000; Farjoun, 1994, 1998; Robins & Wiersema, 1995; Teece et al., 1994). This kind of relatedness measure is also applicable to qualify diversification from a dynamic perspective and grasp the similarity between new and already established businesses.

Figure 3: Overview Research on Diversification: Themes and Linkages

The figure displays central themes in diversification research represented by numbered boxes. Linkages between these boxes signify research dealing with the relationships between different diversification themes. The figure is from Ramanujam and Varadarajan (1989: 526).



3. OVERVIEW RESEARCH ON DIVERSIFICATION

This section gives an overview of existing literature on diversification. Section 3.1 provides a general overview of topics which have been captured in the diversification literature. Section 3.2 specifies one of these topics - the relationship between diversification and success - and provides a more detailed overview.⁶ Section 3.3 then emphasizes the difference between the cross-sectional and dynamic perspective on diversification research. The necessity to conduct longitudinal research on the diversification phenomenon has been stressed for years, but only a few scholars have really applied a dynamic research design.

3.1 General Overview of Research on Diversification

A diverse body of literature dealing with the phenomenon of diversification has already been published. Ramanujam and Varadarajan (1989) proposed a framework to classify the literature on diversification according to central themes or concepts. Based on their framework, we will give a short overview of these different themes in diversification research.

⁶ This specification is due to the centrality of the performance impact in this study.

Figure 3 displays that framework. It consists of 11 boxes representing the central themes and their linkages identified by Ramanujam and Varadarajan.

Basically, research on diversification can be grouped into two types. Studies constituting the first kind of research are entirely within one or the other of the boxes. These studies describe the relevant phenomenon and develop central concepts. Boxes 1 through 3 and 11 represent generic strategic management concepts – the general environment, the industry environment, firm characteristics, and firm performance. Moreover, boxes 4 through 10 include concepts specific to the diversification phenomenon.

Table 2 gives an overview of some studies characterized as theme-oriented, i.e. delineating central concepts. The first theme to mention is described in box 4 (Firms' decisions to diversify). Antecedents and influences on firms' decisions to diversify are crucial for understanding research on diversification. An overview of those antecedents and influences has already been given in more detail in section 2.3. Some of these influences have received particular emphasis in the literature. They are grouped in boxes 1 through 3 (central environment, industry environment, and firm characteristics) and 11 (firm performance). These influences not only impact a firm's decision to diversify, but also affect many other aspects of diversification. Because of their centrality in the research on corporate diversification, they are separated as individual themes.

Table 2: Overview of Theme-Oriented Studies

The table gives an overview of studies dealing with several themes in diversification research outlined by Ramanujam and Varadarajan (1989). The illustrative studies are separated into conceptual and empirical studies. The table is based on Ramanujam and Varadarajan (1989) and extended by the author with more recent research.

Box	Theme	Illustrative Studies	
		Conceptual	Empirical
4	Influences on firms' decisions to diversify	Reed and Luffmann (1986) Teece (1982)	Khurana (1981) McDougall and Round (1984)
5	Choice of direction of diversification	Ansoff (1957) Leontiades (1983, 1985, 1986)	Palepu (1985) Varadarajan (1986) Varadarajan and Ramanujam (1987)
6	Choice of mode of diversification	Jemison and Sitkin (1986a,b) Salter and Weinhold (1981)	Busija, O'Neill, and Zeithaml (1997) Chatterjee and Singh (1999) Paine and Power (1984) Pennings, Barkema, and Douma (1994) Salter and Weinhold (1978, 1981) Sharma (1998) Yip (1982)
7	Diversity status	Dundas and Richardson (1980) Williamson (1975)	Chandler (1962) Farjoun (1994) Gort (1962) Robins and Wiersema (1995) Rumelt (1974)
8	Management of diversity - Structure	Galbraith and Kazanjian (1986) Hoskisson, Hitt, and Hill (1991) Kazanjian and Drazin (1987)	Berg (1973) Hill, Hitt, and Hoskisson (1992) Hoskisson (1987) Pitts (1976, 1977)
9	Management of diversity - Systems	Campbell, Goold, and Alexander (1995) Hoskisson, Hitt, and Hill (1991) Prahald and Bettis (1986)	Bettis and Hall (1981)
10	Management of synergy	Bettis (1981) Chatterjee (1986) Gary (2005) Lemelin (1982) Porter (1985) Salter and Weinhold (1979)	Buzzell and Gale (1987) Caves, Porter, Spence, and Scott (1980) Porter (1987) Ravenscraft (1983)

After having decided to diversify, a firm has to choose the direction in which to diversify. This captures the basis and extent of relatedness between new and old lines of activities. Research dealing with this issue is grouped in box 5. Another major theme to mention is the choice of the diversification mode. A firm can enter a new business by internal business development or acquisition. Since acquisition-based diversification has been attractive to firms, a number of studies have focused on this issue (for an overview see Datta, Pinches, and Narayanan (1992) and King, Dalton, Daily, and Covin (2004)). Above we have mentioned that diversification can be seen as a process or a status. Whereas box 5 captures studies dealing with the process of diversification, box 7 includes research on a firm's diversification status, i.e. a firm's diversity. Box 7 is also intended to capture the extensive stream of cross-sectional studies exploring different diversity profiles. Managing a diversified firm is a difficult task. Boxes 8, 9, and 10 are therefore included to represent the stream of work on

Table 3: Overview of Linkage-Exploring Studies

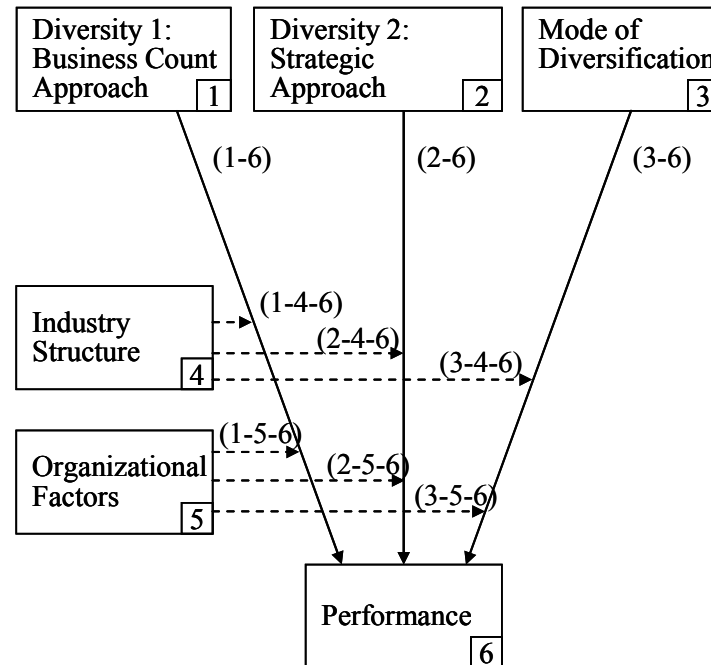
The table gives an overview of studies dealing with links between several themes in diversification research. Both themes and links have been conceptualized by Ramanujam and Varadarajan (1989). The first column captures the kind of linkage. The two numbers represent the two central themes (see table 2) between which a link is examined. The table is based on Ramanujam and Varadarajan (1989) and extended by the author with more recent research.

Link	Illustrative Studies	Link	Illustrative Studies
1-4	Auerbach and Reishus (1988) Dundas and Richardson (1980) Hoskisson and Hitt (1990) Ravenscraft and Scherer (1987)	6-8	Berg (1973) Pitts (1974, 1976, 1977)
2-4	Beattie (1980) Buckley (1989) Leontiades (1985) Miles and Cameron (1982)	7-2	Christensen and Montgomery (1981) Montgomery (1985) Rumelt (1982) Wernerfelt and Montgomery (1986) Weston and Mansinchica (1971)
2-6	Chatterjee and Singh (1999) Sharma (1998)	7-8	Chandler (1962) Hill and Hoskisson (1987) Rumelt (1974) Williamson (1975) Wrigley (1970)
2-7	Chenhall (1984)	7-9	Calvo and Wellisz (1978) Hill and Hoskisson (1987) Hill, Hitt, and Hoskisson (1992) Hoskisson and Johnson (1992) Keren and Levhari (1983) Leontiades and Tezel (1981) Markides (1992a) Markman and Gartner (2002) Pralhad and Bettis (1986)
3-4	Amihud and Lev (1981) Hill, Hitt, and Hoskisson (1992) Hoskisson and Hitt (1990) Markides and Williamson (1994)	7-10	Jose, Nichols, and Stevens (1986)
3-5	Chang (1996) Kim and Kogut (1996) Levitt (1975) Roberts and Berry (1985) Teece, Rumelt, Dosi, and Winter (1994)	9-2	Day (1977) Hedley (1977)
3-6	Amihud and Lev (1981) Chatterjee and Singh (1999) Hitt, Hoskisson, and Harrison (1991) Hitt, Hoskisson, and Ireland (1990) Levitt (1975) Simmonds (1990)	9-7	Bettis and Hall (1981)

implementation and management aspects of diversification such as the impact of diversity on structure, processes, and systems as well as the exploitation of synergies associated with diversification.

Figure 4: Overview of Prior Research on Diversification-Performance-Linkage

This figure provides an overview of different groups of research dealing with the relationship between diversification and performance. Different perspectives of diversification are thereby differentiated. Moreover, besides studies on the direct relationship between diversification and performance, different moderating effects exist. The figure is based on Datta, Rajagopalan, and Rasheed (1991: 531).



The second set of studies explores various linkages between those main concepts. Arrows between the boxes display linkages. Studies dealing with linkages have explored simple bivariate relationships as well as more involved contingency-type relationships involving more than a pair of variables. Table 3 summarizes linkage-exploring studies. Studies dealing with box 11 and linkages between performance and other central diversification themes will be discussed with more detail in the next section.

3.2 Overview of Research on Diversification and Success

The relationship between diversification and performance is perhaps the most researched linkage in strategic management literature (Palich et al., 2000). Because of the centrality of this linkage in the literature, this separate section is dedicated to this crucial linkage.

Based on a review by Datta, Rajagopalan, and Rasheed (1991) a systematic of research dealing with the linkage in question is provided (see figure 4). This relates to the systematic already provided in the last section. The systematic provided by Datta et al. (1991), however, is more fine grained and thus more suitable for an overview of the central linkage between

Table 4: Overview of Studies exploring Diversification-Performance-Linkage

The table gives an overview of studies dealing with the relationship between diversification and performance. The overview distinguishes between direct and moderating effects as well as between different aspects of diversification. The table is based on a conceptualization and an overview of studies provided by Datta, Rajagopalan, and Rasheed (1991) and extended by the author with more recent research.

Diversification - Performance-Linkage			
	Diversity (Business Count Approach)	Diversity (Strategic Approach)	Mode of Diversification
Direct Effect	Amit and Livnat (1988)	Bettis (1981)	Beattie (1980)
	Bergh (1995b)	Bettis and Mahajan (1985)	Biggadike (1979)
	Gort (1962)	Chatterjee (1986)	Busija, O'Neill, and Zeithaml (1997)
	Grant, Jammine, and Thomas (1988)	Chatterjee and Blocher (1992)	Holzman, Copeland, and Hayya (1975)
	Hall and St. John (1994)	Dubofsky and Varadarahan (1987)	Lamont and Anderson (1985)
	Hamilton and Shergill (1992)	Elgers and Clark (1980)	Melicher and Rush (1973)
	Hill and Hansen (1991)	Grant and Jammine (1988)	Pennings, Barkema and Douma (1994)
	Lang and Stulz (1994)	Grant, Jammine, and Thomas (1988)	Weston and Mansinchica (1971)
	Lubaktin, Merchant, and Srinivasan (1993)	Grinyer, Yasai-Ardekani, and Al-Bazzaz (1980)	Weston, Smith, and Shrieves (1972)
	Markham (1973)	Hall and St. John (1994)	
	McDougall and Round (1984)	Hill (1983)	
	Montgomery (1985)	Lubatkin (1987)	
	Nguyen, Seror, and Devinney (1990)	Lubatkin and Chatterjee (1991)	
	Ravenscraft (1983)	Lubatkin and Chatterjee (1994)	
	Rhoades (1973, 1974)	Lubatkin, Merchant, and Srinivasan (1993)	
	Servaes (1996)	Lubatkin and O'Neill (1987)	
		Luffman and Reed (1984)	
		Montgomery and Singh (1984)	
		Palepu (1985)	
		Rumelt (1974)	
		Singh and Montgomery (1987)	
		Varadarajan and Ramanujam (1987)	
		Bettis and Hall (1982)	Sharma (1998)
		Christensen and Montgomery (1981)	
		Grant and Jammine (1988)	
		Rumelt (1982)	
	Wernerfelt and Montgomery (1986)		
	Dundas and Richardson (1982)	Sharma (1998)	
	Grinyer, Yasai-Ardekani, and Al-Bazzaz (1980)		
	Hitt and Ireland (1986)		
	Hoskisson (1987)		
	Rumelt (1974)		
	Jahera, Lloyd, and Page (1987)		
Moderating Effect (Industry Structure)	Gassenheimer and Keep (1998)		
	Jones, Laudadio, and Percy (1977)		
	Miller (1969, 1973)		
Moderating Effect (Organizational Factors)	Bergh (1995a)		
	Bergh and Holbein (1997)		
	Grinyer, Yasai-Ardekani, and Al-Bazzaz (1980)		
	Hill, Hitt, and Hoskisson (1992)		
	Jahera, Lloyd, and Page (1987)		

diversification and performance. Datta et al. (1991) for example distinguish between a firm's diversity measured according to the business-count (box 1) and the strategic approach (box 2).⁷

Moreover, this systematic not only overviews the direct relationships between diversification and performance but it also shows moderating effects of variables describing industry structure and organizational factors.⁸ Table 4 displays studies exploring the direct as well as the moderated relationship between different aspects of diversification (e.g. diversity measured based on business-count approach and strategic approach as well as diversification mode) and firm performance. This framework, however, does not include the link between diversification from a process perspective and performance. The vast majority of studies dealing with the performance impact of diversification have analyzed the issue by analyzing the relationship between a firm's status at a certain point in time (level of diversity) and firm

⁷ For an overview of different approaches to measure diversification and diversity, especially see section 2.4.

⁸ The moderating variables are shown in boxes 4 (industry structure) and 5 (organizational factors). They are consistent with boxes 2 and 3 provided in the framework by Ramanujam and Varadarajan (1989).

Table 5: Overview of Studies on Superiority of Diversification Types

There are different outcomes for the relationship between diversification strategy and firm performance. The table lists different studies indicating the superiority of different diversification strategies. The table is from Hutzschenreuter (2003) and extended by the author with further studies.

Studies giving Evidence for Superiority Concentric Diversification	Studies giving Evidence for Superiority Related Diversification	Studies giving Evidence for Superiority Conglomerate Diversification	Studies giving no Evidence for Superiority of any Diversification Strategy
Ansoff and Weston (1963)	Bettis (1981)	Chatterjee (1986)	Amit and Livnat (1988)
Bühner (1983)	Bettis and Mahajan (1985)	Elgers and Clark (1980)	Arnould (1969)
Grinyer, Yasai-Ardekani, and Al-Bazzaz (1980)	Chang (1996)	Ravenscraft (1983)	Beattie (1980)
Hill and Hansen (1991)	Christensen and Montgomery (1981)	Weston, Smith, and Shrieves (1972)	Bergh (1995b)
Holzman, Copeland, and Hayya (1975)	Davis, Robinson, Pearce, and Park (1992)		Bettis and Hall (1982)
Servaes (1996)	Farjoun (1998)		Chang and Thomas (1989)
Varadarajan (1986)	Hamilton and Shergill (1992)		Chatterjee and Blocher (1992)
	Geringer, Beamish, and daCosta (1989)		Dubofsky and Varadarahan (1987)
	Lang and Stulz (1994)		Gassenheimer and Keep (1998)
	Lubatkin and Chatterjee (1994)		Gort (1962)
	Markides (1995)		Hall and St. John (1994)
	Markides and Williamson (1994)		Lubatkin (1987)
	Markides and Williamson (1996)		Melicher and Rush (1973)
	Nguyen, Seror, and Deviney (1990)		Montgomery (1985)
	Palepu (1985)		Seth (1990)
	Pennings, Barkema, and Douma (1994)		Srivastava and Prabhu (1996)
	Robins and Wiersema (1995)		
	Rumelt (1974)		
	Rumelt (1982)		

performance. The way in which firms diversify and reach their level of diversity as well as the performance impact of the diversification path have received little attention.⁹

Although there is a huge amount of studies dealing with the relationship between a firm's diversity and performance, empirical studies analyzing this issue show a variety of outcomes (e.g. Datta et al., 1991; Palich et al., 2000; Ramanujam & Varadarajan, 1989). Using the types of diversification introduced in section 2.2, there are studies giving evidence for the superiority of concentric, related as well as conglomerate diversification. There are also studies, showing no superiority of any type of diversification. Hutzschenreuter (2003) provides an overview of studies belonging to one or the other of these categories (see table 5).

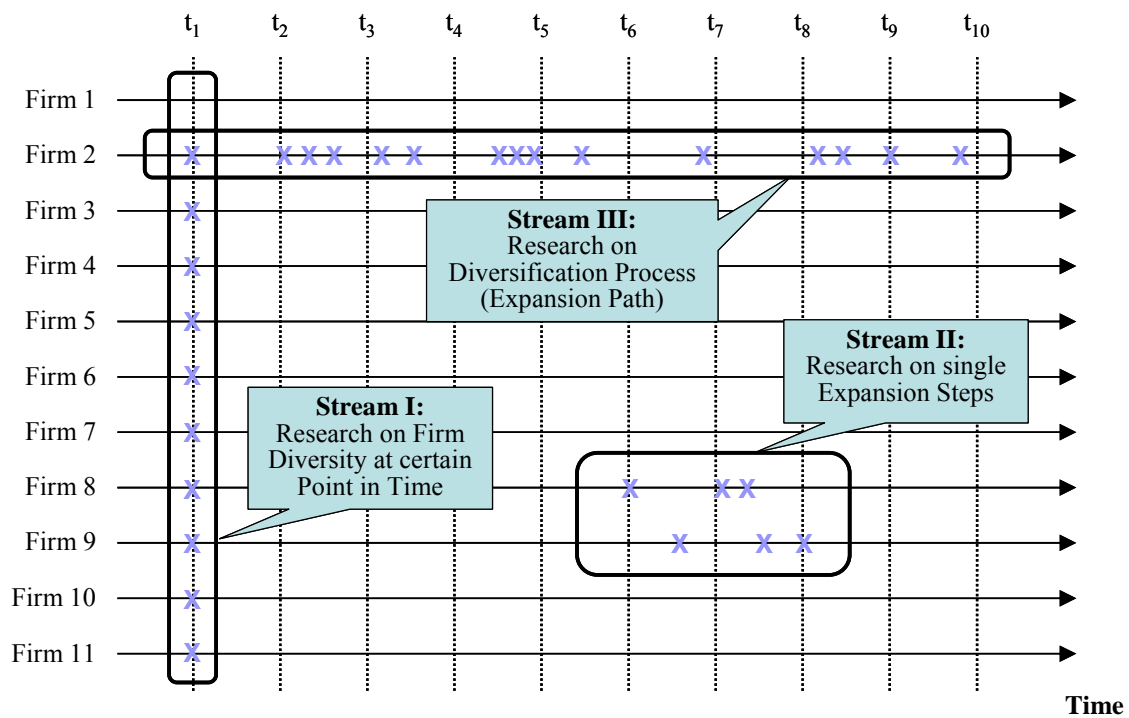
3.3 Cross-sectional vs. Dynamic Perspective on Diversification and Success

The last section revealed that empirical studies analyzing the relationship between diversification and success have to date produced inconclusive results and a consensus has not been reached so far (e.g. Datta et al., 1991; Palich et al., 2000; Ramanujam & Varadarajan, 1989). Research has addressed this issue mostly by analyzing the relationship between a firm's status at a certain point in time (level of diversity) and firm performance. The way in which firms diversify and reach their level of diversity has received little attention. Literature

⁹ Only a few studies exist that deal with the performance impact of diversification from a process perspective and performance. Since the diversification process is an important contingency for the diversification-performance-linkage, a separate and more detailed overview is given in the next section.

Figure 5: Different Streams of Research on Diversification and Performance

This figure gives an overview of different research streams dealing with the relationship between diversification and performance. A first stream deals with the relationship in question from a cross-sectional perspective by analyzing the performance impact of firm diversity at a certain point in time. This is the pre-dominant stream in diversification-performance research. A second stream analyzes the performance impact of single expansion steps. A third stream investigates the diversification-performance phenomenon from a truly dynamic perspective by analyzing the diversification process and thus the expansion path consisting of several subsequent expansion steps.



on diversification, however, has pointed to the dynamic nature of the diversification phenomenon. Specifically, it has stressed that a firm's diversification program is a path-dependent process (Kim & Kogut, 1996), that it can take several years before the full performance impact of a diversification step can be assessed (Biggadike, 1979), that diversification profiles change extensively over short periods of time (Gary, 2005), and that other factors that can only be analyzed over time such as process mechanisms and implementation issues (Datta et al., 1991; Gupta & Govindarajan, 1986; Larsson & Finkelstein, 1999; Nayyar, 1992) are essential for performance examination. Consequently, scholars started to question the possibility to gain new empirical insights from the cross-sectional examination of the relationship between different measures of diversity and performance (e.g. Gary, 2005; Ramanujam & Varadarajan, 1989).

When analyzing and classifying the diversification-performance phenomenon from a perspective standpoint (i.e. cross-sectional vs. dynamic perspective), three distinct streams of

research can be identified. The first stream deals with the relationship between (i) *product diversity and performance* and thus takes a cross-sectional perspective on the issue. A second perspective investigates the relationship between (ii) *expansion/diversification steps and performance* and depicts a first approach to analyze the dynamic nature of the diversification phenomenon. A few studies follow a truly dynamic approach and analyze the (iii) performance impact of a firm's *expansion path* and thus its *diversification process*.

(i) Product Diversity and Performance. The relationship between product diversity and performance is by far the most researched linkage regarding the performance impact of diversification. As already shown, theoretical predictions and empirical results fall short of consensus (e.g. Palich et al., 2000). Predictions and results for a positive, negative, neutral, and curvilinear relationship between product diversity and firm performance are ample (e.g. Datta et al., 1991; Palich et al., 2000; Ramanujam & Varadarajan, 1989). As displayed in figure 5, studies in this stream of research are characterized by a “snapshot” view of firms' product diversity, i.e. these studies analyze the product diversity of many firms at a certain point in time. Therefore, this perspective is cross-sectional. Although there is no consensus regarding the relationship between product diversity and performance, one outcome of these studies is the insight that the performance impact of corporate diversity depends on the conditions under which it is attempted (Piaskowska, 2005). It has been shown that the performance impact varies with different firm- and industry-specific characteristics (e.g. Bettis & Mahajan, 1985; Campa & Kedia, 2002; Delios & Beamish, 1999; Grant & Jammine, 1988), for different geographical scopes (e.g. Geringer, Tallman, & Olsen, 2000; Hitt, Hoskisson, & Kim, 1997; Tallman & Li, 1996; Wan & Hoskisson, 2003), for different time periods (e.g. Grant & Jammine, 1988; Lubatkin, Srinivasan, & Merchant, 1997; Martin & Sayrak, 2003; Mayer & Whittington, 2003; Montgomery, 1994), as well as for other contextual factors (e.g. Makino, Isobe, & Chan, 2004; Mayer & Whittington, 2003).

(ii) Expansion/Diversification Steps and Performance. The investigation of the diversification-performance linkage from a longitudinal perspective has been proposed by scholars for many years (e.g. Penrose, 1959; Ramanujam & Varadarajan, 1989). However, when analyzing the diversification phenomenon from a dynamic perspective and thus examining the way in which firms diversify most research has focused on single expansion/diversification steps. Scholars for example analyzed the impact of expansion through mergers and acquisitions and greenfield investments (e.g. Barkema & Vermeulen,

1998; Chatterjee & Singh, 1999; Lamont & Anderson, 1985; Montgomery, 1994; Pennings et al., 1994; Simmonds, 1990; Singh & Montgomery, 1987) or corporate refocusing steps (e.g. Bergh, 1995a; Hoskisson & Johnson, 1992; Johnson, 1996; Markides, 1992, 1995) on firm performance. In this stream of research, the most commonly researched issue is the performance impact of mergers and acquisitions. Thereby, different hypotheses have been postulated and supported of which scholars have most often proposed and delivered results for the hypothesis that unrelated acquisitions and conglomerate mergers are less successful than related acquisitions and non-conglomerate mergers (Flanagan, 1996; Flanagan & O'Shaughnessy, 2003; Halebian & Finkelstein, 1999; Morck, Shleifer, & Vishny, 1990; Pangarkar & Lie, 2004; Pennings et al., 1994; Piaskowska, 2005). Alternatively, some scholars postulated and/or provided evidence for a negative or inverted U-shaped relationship between firm performance and relatedness between target and bidder firm. Whereas research on performance outcomes of acquisition moves within and across industries is ample, research on performance consequences of greenfield investments is scarce (Piaskowska, 2005). Some studies provide arguments regarding firm's preferences for different modes of diversification (e.g. Chatterjee & Singh, 1999). It has even found that exclusive reliance on a single mode of expansion may restrict performance (Busija et al., 1997; Vermeulen & Barkema, 2001). Moreover, some studies analyzed the performance outcome of greenfield investments over acquisitive growth (Lamont & Anderson, 1985; Pennings et al., 1994; Simmonds, 1990).

Whereas studies on mergers and acquisitions as well as greenfield investments analyze the diversification phenomenon from a perspective of positive growth and an increasing or continuous level of product diversity, there are also studies in this stream of research focusing on the performance impact of corporate refocusing steps (e.g. Bergh, 1995a; Hoskisson & Johnson, 1992; Johnson, 1996; Markides, 1992, 1995). These studies analyze the diversification phenomenon from a perspective of negative growth (decline) and a decreasing level of product diversity. The central argument in these studies is that firms can diversify beyond an optimal point and thus face performance declines. Consequently, when refocusing and decreasing a firm's level of product diversity, its performance increases. An overview of different studies concerning this issue and their outcomes can be found in Johnson (1996).

(iii) Expansion Path, Diversification Process and Performance. Studies belonging to the second stream of research are characterized by the analysis of single, independent

diversification steps. In reality, however, a firm's diversification program consists of several subsequent diversification steps that are not independent of each other. Only by considering their total amount during a certain period of time can one explain the impact on firm performance at the end of that period. Thus, besides the level of diversity also the way in which this level is reached is of interest when determining the performance impact of a firm's diversification program. This is consistent with notions from literature on firm growth. According to Penrose's seminal work (1959) and following research (e.g. Brown & Eisenhardt, 1997; Mishina, Pollock, & Porac, 2004; Vermeulen & Barkema, 2002) the way in which firms grow matters for their performance. This also holds true for the diversification path since it is one form of growth. Consequently, the historic diversification path consisting of different subsequent diversification steps matters in explaining the present firm performance. To analyze the performance impact of the whole diversification path consisting of several subsequent diversification steps and thus taking a process perspective on diversification is the objective of the third stream of research.

A firm's expansion path and diversification program can be seen as a learning process that is firm-specific and path-dependent (Piaskowska, 2005). With each expansion step a firm can search for new solutions, it can gain new experiences, and it can improve its routines through feedback (Nelson & Winter, 1982). Thus, a firm is able to improve its capabilities to expand into familiar, related as well as into new, unrelated industries (Markides & Williamson, 1996). A firm is developing its base of knowledge from which it can support further expansions (Kim & Kogut, 1996). On the one hand, this cumulative nature of organizational learning enables the gradual enlargement and improvement of a firm's capabilities. On the other hand, however, it also constrains what a firm is able to do in the future. Past experience forms the platform of a firm's knowledge, routines, and capabilities. This in turn influences the way in which managers search for expansion opportunities, evaluate them and make their decisions. This is the core of the concept of path-dependency which proposes that the current position of a firm including the possible trajectories from this position are dependent on historic events (Teece, Pisano, & Shuen, 1997; Teece et al., 1994). Consequently, when expanding from different platforms characterized by different bases of resources, capabilities, and experience, a specific new expansion step will be interpreted differently by varying firms. Thus, firms will learn in a different manner as well as they will gain different experiences from the same expansion step (Bernardo & Chowdhry, 2002; Foss & Christensen, 2001). Moreover, varying firms have different abilities to execute the same step. This in turn implies,

that expansion steps conducted by different firms – even if executed in exactly the same manner - can be successful for one firm and disadvantageous for another (Nachum, 2004). Therefore, it is not astonishing that firms expand into fields that relate to their current activities (Teece et al., 1994) and that match their existing capabilities (Matsusaka, 2001). Summarized, the path-dependent nature of a firm's expansion path emphasizes the importance of the way in which firms diversify and expand when analyzing performance impacts.

However, only a few exceptional studies have really taken a dynamic perspective on the diversification-performance linkage and analyzed the performance impact of a firm's whole expansion path. Prahalad and Bettis (1986) for example noted that not necessarily the level of diversity but rather the dominant logic for expansion, the ability to acquire new skills and to adapt the dominant logic and routines through learning are relevant for firm performance. Markides and Williamson (1994) discussed how and when a diversified business portfolio can be used to build long-term competitive advantage. They cited that strategic importance and similarity of underlying assets are of central importance. Static exploitation, however, does not create long-term competitive advantage. Therefore, they proposed different dynamic types of relatedness a firm should seek to exploit in order to quickly and cheaply create and accumulate strategic assets and hence build long-term competitive advantage. Pennings, Barkema, and Douma (1994) found in their research that expansion steps are likely to last longer if a firm's prior diversification activity level was high. Chang (1996) examined the effect of business entry and exit on corporate performance. His analysis shows that well-directed entries and exits contribute to the improvement of a firm's performance. Vermeulen and Barkema (2002) showed in the context of international expansion that the speed of expansion, the spread of markets entered, and the irregularity of the expansion pattern negatively affect the relationship between number of foreign subsidiaries and performance. Hayward (2002) analyzed the influence of prior acquisitions on a firm's focal acquisition performance. He showed that a firm's focal acquisition performance positively relates to prior acquisitions that are not highly similar or dissimilar to the focal acquisition, that are associated with small losses and that are not too temporally close to or distant from the focal acquisition. A study by Haleblian and Finkelstein (1999) concluded that a firm's acquisitions perform better the more similar they are to prior ones. Moreover, in another study they found out that second acquisitions under-perform first acquisitions, particularly when target firms are from different industries (Finkelstein & Haleblian, 2002). However, Hayward as well as Haleblian and Finkelstein analyzed only expansions through mergers and acquisitions. Hill

and Hansen (1991) conducted a longitudinal empirical analysis in the pharmaceutical industry between 1977 and 1986. They found that increasing change in diversity has a negative impact on firm performance. Similar insights were found by Piscitello (2004) who offered evidence that performance is positively influenced by a firm's ability to increase its corporate coherence. Gambardella and Torrisi (1998) examined the diversification path of U.S. and European electronics firms between 1984 and 1992. They found that firms which focused their core business, but increased their technological diversification performed best. Moreover, Gary (2005) examined the process of implementing a related process strategy by modeling performance implications of a related diversification move. His simulations show that when lacking sufficient organizational slack, even high levels of relatedness with substantial synergy potential can negatively impact firm performance. In contrast to existing theory, his simulations also showed that for certain circumstances higher relatedness can lead to lower performance. Although he examined only one diversification move, his study can be seen as dynamic since it analyzes the performance impact over several subsequent periods.

Summarized, there is a small but increasing stream of research examining a firm's expansion path and its performance impact. It can be shown that different characteristics of that path have a significant influence on firm performance.

4. IMPLICATIONS FOR FURTHER RESEARCH

Based on the research overview presented before, several implications for further research can be derived. Specifically, the differentiation of several perspectives on diversification helps to identify implications regarding applied methodologies. Besides different methodologies applied, different ways of measuring diversification have great potential to obtain new insights.

As already pointed out by some scholars, the possibility to gain new insights from the cross-sectional investigation of the diversification phenomenon is limited. The methodology of cross-sectional research applies to questions and research problems regarding a firm's status at a certain point in time. If analyzing these kinds of questions, cross-sectional analyses can be further applied. The diversification phenomenon, however, is a dynamic phenomenon. Only some questions touch static problems. When analyzing dynamic issues like development and evolution, applied methodologies have to be dynamic, too. This is due to the dynamic nature

of the underlying theories. Applying cross-sectional methodologies to questions on firm development leads to a mismatch of research problem and associated theories with research methodology. Therefore, it is not astonishing that research has produced inconclusive results regarding the diversification-performance-linkage and that the field has not yet achieved consensus, since most studies have applied a cross-sectional research design for the analysis of a dynamic research question. In summary, there is little progress to be expected in this stream of research.

The second stream analyzes the impact of single expansion steps and is thus a first approach to capture the dynamic nature of the diversification phenomenon. Although it captures some dynamics, there are more dynamic aspects like learning issues between following diversification steps scholars should focus on. How can firms apply their knowledge gathered at planning and implementing one step for the conduction of the following step? Are there boundaries for learning? Are there situations and contingencies under which firms should apply previous experience?

The third stream analyzing the whole diversification path is promising. Research design and methodology in this stream match most of the problems raised in stream one. In this stream, dynamic theories are tested with a proper methodology. Although data gathering is difficult and methods of analysis are ambitious, studies in this field are expected to provide deeper insights on the diversification phenomenon. More dynamic research might help to find consensus regarding some research questions in the field. Whereas the majority of present studies in the field are still cross-sectional, there is a small but growing number of dynamic research. Dynamic research questions and dynamic theories are en vogue. Scholars even started to demand more longitudinal research on the diversification phenomenon. Studies in this stream of research shall among others focus on characteristics of the diversification path. Scholars should identify ways to describe the diversification path using several characteristics as well as analyze the impact of these different characteristics. Such characteristics can for example describe the extent of expansion, the scope of diversification, the regularity or irregularity of the path, etc. Moreover, studies in this stream could analyze certain firm specifics as contingencies for the diversification path within and across industries, for the expansion path into existing and new geographic markets as well as for the diversification path with regard to the mode of expansion. Questions to be answered might be: Are there capabilities specific for conducting expansion and diversification? If so, which factors

influence these capabilities? Are these capabilities always advantageous or do situations exist under which they hamper?

Besides the conduction of longitudinal research designs, the application of alternative diversification measures seems promising to provide new insights of the diversification phenomenon. Whereas traditional measures rely on the SIC system which allows only limited information on the types of strategic interrelationship between different businesses, contemporaneous measures are closer to the concept of relatedness. Therefore, they are better suited to capture the diversification phenomenon. This has three implications for future research. First, future studies should not solely rely on traditional measures but rather apply the latest measures into their research design. Second, since there are only few alternative approaches to go beyond the SIC system and measure relatedness based on alternative sources of information, more basic research on further alternative measures and their validities is required. Third, these alternative approaches to measure relatedness should also be applied based on non-U.S. data.

References

- Abell, D. F. (1980). *Defining the business: the starting point of strategic planning*. Englewood Cliffs, N.J.: Prentice-Hall.
- Acar, W. & Sankaran, K. (1999). The myth of the unique decomposability: specializing the Herfindahl and entropy measures? In: *Strategic Management Journal*, 20(10): 969-975.
- Amihud, Y. & Lev, B. (1981). Risk reduction as a managerial motive for conglomerate mergers. In: *Bell Journal of Economics*, 12(2): 605-617.
- Amit, R. & Livnat, J. (1988). Diversification strategies, business cycles and economic performance. In: *Strategic Management Journal*, 9(2): 99-110.
- Ansoff, H. I. (1957). Strategies for diversification. In: *Harvard Business Review*, 35(5): 113-124.
- Ansoff, H. I. (1958). A model for diversification. In: *Management Science*, 4(4): 392-414.
- Ansoff, H. I. & Weston, J. F. (1963). Merger objectives and organization structure. In: *Quarterly Review of Economics and Business*, 3: 49-58.
- Ansoff, H. I. (1965). *Corporate strategy: an analytic approach to business policy for growth and expansion*. New York: McGraw-Hill.
- Arnould, R. J. (1969). Conglomerate growth and profitability. In: L. Garoian & O. Corvallis (Eds.), *Economics of conglomerate growth*. Corvallis: Oregon State University.
- Auerbach, A. J. & Reishus, D. (1988). Taxes and merger decisions. In: J. C. Coffee, L. Lowenstein & S. Rose-Ackerman (Eds.), *Knights, raiders, and targets: the impact of the hostile takeover*: 300-313. New York: Oxford University Press.
- Barkema, H. G. & Vermeulen, F. (1998). International expansion through start-up or acquisition: a learning perspective. In: *Academy of Management Journal*, 41(1): 7-26.
- Barney, J. (1991). Firm resources and sustained competitive advantage. In: *Journal of Management*, 17(1): 99-120.
- Beattie, D. L. (1980). Conglomerate diversification and performance: a survey and time series analysis. In: *Applied Economics*, 12(3): 251-273.
- Berg, N. A. (1973). Corporate role in diversified companies. In: B. Taylor & K. MacMillan (Eds.), *Business policy: teaching & research*: 298-347. New York: Wiley.
- Bergh, D. D. (1995a). Size and relatedness of units sold: an agency theory and resource-based perspective. In: *Strategic Management Journal*, 16(3): 221-239.
- Bergh, D. D. (1995b). Problems with repeated measures analysis: demonstration with a study of the diversification and performance relationship. In: *Academy of Management Journal*, 38(6): 1692-1708.

- Bergh, D. D. & Holbein, G. F. (1997). Assessment and redirection of longitudinal analysis: demonstration with a study of the diversification and divestiture relationship. In: *Strategic Management Journal*, 18(7): 557-571.
- Bernardo, A. E. & Chowdhry, B. (2002). Resources, real options, and corporate strategy. In: *Journal of Financial Economics*, 63(2): 211-234.
- Berry, C. H. (1971). Corporate growth and diversification. In: *Journal of Law & Economics*, 14(2): 371-383.
- Berry, C. H. (1974). *Corporate growth and diversification*. Princeton, N.J.: Princeton University Press.
- Bettis, R. A. (1981). Performance differences in related and unrelated diversified firms. In: *Strategic Management Journal*, 2(4): 379-393.
- Bettis, R. A. & Hall, W. K. (1981). Strategic portfolio management in the multibusiness firm. In: *California Management Review*, 24(1): 23-38.
- Bettis, R. A. & Hall, W. K. (1982). Diversification strategy, accounting determined risk, and accounting determined return. In: *Academy of Management Journal*, 25(2): 254-264.
- Bettis, R. A. & Mahajan, V. (1985). Risk/return performance of diversified firms. In: *Management Science*, 31(7): 785-799.
- Biggadike, R. (1979). The risky business of diversification. In: *Harvard Business Review*, 57(3): 103-111.
- Brown, S. L. & Eisenhardt, K. M. (1997). The art of continuous change: linking complexity theory and time-paced evolution in relentlessly shifting organizations. In: *Administrative Science Quarterly*, 42(1): 1-34.
- Brumagim, A. L. (1992). Occupational skills linkages: a resource-based investigation of conglomerates. In: *Academy of Management Proceedings*: 7-11.
- Brush, T. H. (1996). Predicted change in operational synergy and post-acquisition performance of acquired businesses. In: *Strategic Management Journal*, 17(1): 1-24.
- Buckley, P. J. (1989). Strategic response for firms operating in mature industries threatened by foreign competition. Unpublished doctoral thesis, Texas A&M University.
- Bühner, R. (1983). Portfolio-Risikoanalyse der Unternehmensdiversifikation von Industrieaktiengesellschaften. In: *Zeitschrift für Betriebswirtschaft*, 53: 1023-1040.
- Busija, E. C., O'Neill, H. M. & Zeithaml, C. P. (1997). Diversification strategy, entry mode, and performance: evidence of choice and constraints. In: *Strategic Management Journal*, 18(4): 321-327.
- Buzzell, R. D. & Gale, B. T. (1987). *The PIMS principles: linking strategy to performance*. New York, London: Free Press, Collier Macmillan.

- Calvo, G. A. & Wellisz, S. (1978). Supervision, loss of control, and the optimum size of the firm. In: *Journal of Political Economy*, 86(5): 943-952.
- Campa, J. M. & Kedia, S. (2002). Explaining the diversification discount. In: *Journal of Finance*, 57(4): 1731-1762.
- Campbell, A., Goold, M. & Alexander, M. (1995). Corporate strategy: the quest for parenting advantage. In: *Harvard Business Review*, 73(2): 120-132.
- Carter, J. R. (1977). In search of synergy: a structure-performance test. In: *Review of Economics & Statistics*, 59(3): 279-289.
- Caves, R. E., Porter, M. E., Spence, A. M. & Scott, J. T. (1980). *Competition in the open economy: a model applied to Canada*. Cambridge, Mass.: Harvard University Press.
- Caves, R. E. (1981). Diversification and seller concentration: evidence from changes, 1963-72. In: *Review of Economics & Statistics*, 63(2): 289-293.
- Chandler, A. D. (1962). *Strategy and structure: chapters in the history of the industrial enterprise*. Cambridge, Mass.: MIT Press.
- Chang, S. J. (1996). An evolutionary perspective on diversification and corporate restructuring: entry, exit, and economic performance during 1981-89. In: *Strategic Management Journal*, 17(8): 587-611.
- Chang, Y. & Thomas, H. (1989). The impact of diversification strategy on risk-return performance. In: *Strategic Management Journal*, 10(3): 271-284.
- Chatterjee, S. (1986). Types of synergy and economic value: the impact of acquisitions on merging and rival firms. In: *Strategic Management Journal*, 7(2): 119-139.
- Chatterjee, S. & Blocher, J. D. (1992). Measurement of firm diversification: is it robust? In: *Academy of Management Journal*, 35(4): 874-888.
- Chatterjee, S. & Singh, J. (1999). Are tradeoffs inherent in diversification moves? A simultaneous model for type of diversification and mode of expansion decisions. In: *Management Science*, 45(1): 25-41.
- Chenhall, R. H. (1984). Diversification within Australian manufacturing enterprise. In: *Journal of Management Studies*, 21(1): 23-60.
- Christensen, H. K. & Montgomery, C. A. (1981). Corporate economic performance: diversification strategy versus market structure. In: *Strategic Management Journal*, 2(4): 327-343.
- Datta, D. K., Rajagopalan, N. & Rasheed, A. M. A. (1991). Diversification and performance: critical review and future directions. In: *Journal of Management Studies*, 28(5): 529-558.
- Datta, D. K., Pinches, G. E. & Narayanan, V. K. (1992). Factors influencing wealth creation from mergers and acquisitions: a meta-analysis. In: *Strategic Management Journal*, 13(1): 67-84.

- Davis, P. S., Robinson, R. B. J., Pearce, J. A. I. & Park, S. H. (1992). Business unit relatedness and performance: a look at the pulp and paper industry. In: *Strategic Management Journal*, 13(5): 349-361.
- Davis, R. & Duhaime, I. M. (1992). Diversification, vertical integration, and industry analysis: new perspectives and measurement. In: *Strategic Management Journal*, 13(7): 511-524.
- Day, G. S. (1977). Diagnosing the product portfolio. In: *Journal of Marketing*, 41(2): 29-38.
- Delios, A. & Beamish, P. W. (1999). Geographic scope, product diversification and the corporate performance of Japanese firms. In: *Strategic Management Journal*, 20(8): 711-727.
- Dubofsky, P. & Varadarahan, P. (1987). Diversification and measures of performance: additional empirical evidence. In: *Academy of Management Journal*, 30(3): 597-608.
- Dundas, K. N. M. & Richardson, P. R. (1980). Corporate strategy and the concept of market failure. In: *Strategic Management Journal*, 1(2): 177-188.
- Dundas, K. N. M. & Richardson, P. R. (1982). Implementing the unrelated product strategy. In: *Strategic Management Journal*, 3(4): 287-301.
- Dyl, E. A. (1988). Corporate control and management compensation: evidence on the agency problem. In: *Managerial & Decision Economics*, 9(1): 21-25.
- Elgers, P. T. & Clark, J. J. (1980). Merger types and shareholder returns: additional evidence. In: *Financial Management*, 9(2): 66-72.
- Fan, J. P. H. & Lang, L. H. P. (2000). The measurement of relatedness: an application to corporate diversification. In: *Journal of Business*, 73(4): 629-659.
- Farjoun, M. (1994). Beyond industry boundaries: human expertise, diversification and resource-related industry groups. In: *Organization Science*, 5(2): 185-199.
- Farjoun, M. (1998). The independent and joint effects of the skill and physical bases of relatedness in diversification. In: *Strategic Management Journal*, 19(7): 611-630.
- Finkelstein, S. & Halebian, J. (2002). Understanding acquisition performance: the role of transfer effects. In: *Organization Science*, 13(1): 36-47.
- Flanagan, D. J. (1996). Announcements of purely related and purely unrelated mergers and shareholder returns: reconciling the relatedness paradox. In: *Journal of Management*, 22(6): 823-835.
- Flanagan, D. J. & O'Shaughnessy, K. C. (2003). Core-related acquisitions, multiple bidders and tender offer premiums. In: *Journal of Business Research*, 56(8): 573-585.
- Foss, N. J. & Christensen, J. F. (2001). A market-process approach to corporate coherence. In: *Managerial & Decision Economics*, 22(4/5): 213-226.

- Galbraith, J. R. & Kazanjian, R. K. (1986). *Strategy implementation: structure, systems, and process* (2nd ed.). St. Paul: West Pub.
- Gambardella, A. & Torrissi, S. (1998). Does technological convergence imply convergence in markets? Evidence from the electronics industry. In: *Research Policy*, 27(5): 445-463.
- Gary, M. S. (2005). Implementation strategy and performance outcomes in related diversification. In: *Strategic Management Journal*, 26(7): 643-664.
- Gassenheimer, J. B. & Keep, W. W. (1998). Generalizing diversification theory across economic. In: *Journal of Marketing Theory & Practice*, 6(1): 38-47.
- Geringer, J. M., Beamish, P. W. & daCosta, R. C. (1989). Diversification strategy and internationalization: implications for MNE performance. In: *Strategic Management Journal*, 10(2): 109-119.
- Geringer, J. M., Tallman, S. & Olsen, D. M. (2000). Product and international diversification among Japanese multinational firms. In: *Strategic Management Journal*, 21(1): 51-80.
- Gilson, R., Scholes, M. & Wolfson, M. (1988). Taxation and the dynamics of corporate control: the uncertain case for tax motivated acquisitions. In: J. C. Coffee, L. Lowenstein & S. Rose-Ackerman (Eds.), *Knights, raiders, and targets: the impact of the hostile takeover*: 279-299. New York: Oxford University Press.
- Gort, M. (1962). *Diversification and integration in American industry*. Princeton, N.J.: Princeton University Press.
- Grant, R. M. & Jammine, A. P. (1988). Performance differences between the Wrigley/Rumelt strategic categories. In: *Strategic Management Journal*, 9(4): 333-346.
- Grant, R. M., Jammine, A. P. & Thomas, H. (1988). Diversity, diversification, and profitability among British manufacturing companies 1972-84. In: *Academy of Management Journal*, 31(4): 771-801.
- Grant, R. M. (1998). *Contemporary strategy analysis: concepts, techniques, applications* (3rd ed.). Boston: Blackwell Publishers.
- Grinyer, P. H., Yasai-Ardekani, M. & Al-Bazzaz, S. (1980). Strategy, structure, the environment, and financial performance in 48 United Kingdom companies. In: *Academy of Management Journal*, 23(2): 193-220.
- Gupta, A. K. & Govindarajan, V. (1986). Resource sharing among SBUs: strategic antecedents and administrative implications. In: *Academy of Management Journal*, 29(4): 695-714.
- Hahn, D. (1992). Zweck und Entwicklung der Portfolio-Konzepte in der strategischen Unternehmensplanung. In: D. Hahn & B. Taylor (Eds.), *Strategische Unternehmensplanung - Strategische Unternehmensführung*, 4th ed. Wiesbaden: Gabler.
- Hahn, D. (1994). *PuK, Controllingkonzepte: Planung und Kontrolle, Planungs- und Kontrollsysteme, Planungs- und Kontrollrechnung* (4th ed.). Wiesbaden: Gabler.

- Haleblian, J. & Finkelstein, S. (1999). The influence of organizational acquisition experience on acquisition performance: a behavioral learning perspective. In: *Administrative Science Quarterly*, 44(1): 29-56.
- Hall, E. H. J. & St. John, C. H. (1994). A methodological note on diversity measurement. In: *Strategic Management Journal*, 15(2): 153-168.
- Hamilton, R. T. & Shergill, G. S. (1992). The relationship between strategy-structure fit and financial performance in New Zealand: evidence of generality and validity with enhanced controls. In: *Journal of Management Studies*, 29(1): 95-113.
- Hayward, M. L. A. (2002). When do firms learn from their acquisition experience? Evidence from 1990-1995. In: *Strategic Management Journal*, 23(1): 21-39.
- Hedley, B. (1977). Strategy and the "Business Portfolio". In: *Long Range Planning*, 10(1): 9-15.
- Hill, C. W. L. (1983). Conglomerate performance over the economic cycle. In: *Journal of Industrial Economics*, 32(2): 197-211.
- Hill, C. W. L. & Hoskisson, R. E. (1987). Strategy and structure in the multiproduct firm. In: *Academy of Management Review*, 12(2): 331-341.
- Hill, C. W. L. (1988). Internal capital market controls and financial performance in multidivisional firms. In: *Journal of Industrial Economics*, 37(1): 67-83.
- Hill, C. W. L. & Hansen, G. S. (1991). A longitudinal study of the cause and consequences of changes in diversification in the U.S. pharmaceutical industry 1977-1986. In: *Strategic Management Journal*, 12(3): 187-199.
- Hill, C. W. L., Hitt, M. A. & Hoskisson, R. E. (1992). Cooperative versus competitive structures in related and unrelated diversified firms. In: *Organization Science*, 3(4): 501-521.
- Hinterhuber, H. H. (1992). *Strategische Unternehmensführung* (5th ed.). Berlin, New York: Campus.
- Hitt, M. A. & Ireland, R. D. (1986). Relationships among corporate level distinctive competencies, diversification strategy, corporate structure and performance. In: *Journal of Management Studies*, 23(4): 401-416.
- Hitt, M. A., Hoskisson, R. E. & Ireland, R. D. (1990). Mergers and acquisitions and managerial commitment to innovation in M-form firms. In: *Strategic Management Journal*, 11(4): 29-47.
- Hitt, M. A., Hoskisson, R. E. & Harrison, J. S. (1991). Strategic competitiveness in the 1990s: challenges and opportunities for U.S. executives. In: *Academy of Management Executive*, 5(2): 7-22.
- Hitt, M. A., Hoskisson, R. E. & Kim, H. (1997). International diversification: effects on innovation and firm performance in product-diversified firms. In: *Academy of Management Journal*, 40: 767-798.

- Holzmann, O. J., Copeland, R. M. & Hayya, J. (1975). Income measures of conglomerate performance. In: *Quarterly Review of Economics and Business*, 15(3): 67-78.
- Hoskisson, R. E. (1987). Multidivisional structure and performance: the contingency of diversification strategy. In: *Academy of Management Journal*, 30(4): 625-644.
- Hoskisson, R. E. & Hitt, M. A. (1990). Antecedents and performance outcomes of diversification: a review and critique of theoretical perspectives. In: *Journal of Management*, 16(2): 461-509.
- Hoskisson, R. E., Hitt, M. A. & Hill, C. W. L. (1991). Managerial risk taking in diversified firms: an evolutionary perspective. In: *Organization Science*, 2(3): 296-314.
- Hoskisson, R. E. & Johnson, R. A. (1992). Corporate restructuring and strategic change: the effect on diversification strategy and R&D intensity. In: *Strategic Management Journal*, 13(8): 625-634.
- Hoskisson, R. E., Hitt, M. A., Johnson, R. A. & Moesel, D. D. (1993). Construct validity of an objective (entropy) categorical measure of diversification strategy. In: *Strategic Management Journal*, 14(3): 215-235.
- Hungenberg, H. (1995). *Zentralisation und Dezentralisation: strategische Entscheidungsverteilung in Konzernen*. Wiesbaden: Gabler.
- Hutzschenreuter, T. & Sonntag, A. (1998). Erklärungsansätze für die Diversifikation von Unternehmen, HHL - Arbeitspapier Nr. 13. Leipzig.
- Hutzschenreuter, T. (2001). *Wachstumsstrategien. Einsatz von Managementkapazitäten zur Wertsteigerung*. Wiesbaden: Gabler.
- Hutzschenreuter, T. (2003). 40 Jahre empirische Diversifikationsforschung - Offene Probleme und Lösungsansätze. In: M. Schwaiger & D. Harhoff (Eds.), *Empirie und Betriebswirtschaft*: 201-235. Stuttgart: Schäffer-Poeschel.
- Jacquemin, A. P. & Berry, C. H. (1979). Entropy measure of diversification and corporate growth. In: *Journal of Industrial Economics*, 27(4): 359-369.
- Jahera, J. S., Lloyd, W. P. & Page, D. E. (1987). Firm diversification and financial performance. In: *Quarterly Review of Economics and Business*, 27(1): 51-62.
- Jemison, D. B. & Sitkin, S. B. (1986a). Acquisitions: the process can be a problem. In: *Harvard Business Review*, 64(2): 107-110.
- Jemison, D. B. & Sitkin, S. B. (1986b). Corporate acquisitions: a process perspective. In: *Academy of Management Review*, 11(1): 145-163.
- Jensen, M. C. & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. In: *Journal of Financial Economics*, 3(4): 305-360.
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. In: *American Economic Review*, 76(2): 323-329.

- Johnson, R. A. (1996). Antecedents and outcomes of corporate refocusing. In: *Journal of Management*, 22(3): 439-483.
- Jones, J. C. H., Laudadio, L. & Percy, M. (1977). Profitability and market structure: a cross-section comparison of Canadian and American manufacturing industry. In: *Journal of Industrial Economics*, 25(3): 195-211.
- Jose, M. L., Nichols, L. M. & Stevens, J. L. (1986). Contributions of diversification, promotion, and R&D to the value of multiproduct firms: a Tobin's Q approach. In: *Financial Management*, 15(4): 33-42.
- Kahneman, D. & Tversky, A. (1979). Prospect theory: an analysis of decision under risk. In: *Econometrica*, 47(2): 263-291.
- Kazanjian, R. K. & Drazin, R. (1987). Implementing internal diversification: contingency factors for organizational design choices. In: *Academy of Management Review*, 12(2): 342-354.
- Keren, M. & Levhari, D. (1983). The internal organization of the firm and the shape of average costs. In: *Bell Journal of Economics*, 14(2): 474-486.
- Khurana, R. (1981). *Growth of large companies: impact of monopolies legislation*. New Delhi: Wiley Eastern.
- Kim, D.-J. & Kogut, B. (1996). Technological platforms and diversification. In: *Organization Science*, 7(3): 283-301.
- King, D. R., Dalton, D. R., Daily, C. M. & Covin, J. G. (2004). Meta-analyses of post-acquisition performance: indications of unidentified moderators. In: *Strategic Management Journal*, 25(2): 187-200.
- Klavans, R. (1990). Acquisitions: resource dependency vs. human resource perspectives. In: *Academy of Management Proceedings*: 170-174.
- Lamont, B. T. & Anderson, C. R. (1985). Mode of corporate diversification and economic performance. In: *Academy of Management Journal*, 28(4): 926-934.
- Lang, L. H. P. & Stulz, R. M. (1994). Tobin's Q, corporate diversification, and firm performance. In: *Journal of Political Economy*, 102(6): 1248-1280.
- Larsson, R. & Finkelstein, S. (1999). Integrating strategic, organizational, and human resource perspectives on mergers and acquisitions: a case survey of synergy realization. In: *Organization Science*, 10(1): 1-26.
- Lemelin, A. (1982). Relatedness in the patterns of interindustry diversification. In: *Review of Economics & Statistics*, 64(4): 646-657.
- Leontiades, M. & Tezel, A. (1981). Some connections between corporate-level planning and diversity. In: *Strategic Management Journal*, 2(4): 413-418.

- Leontiades, M. (1983). Rationalizing the unrelated diversification. In: M. Leontiades (Ed.), *Policy, strategy and implementation*. New York: Random House.
- Leontiades, M. (1985). *Managing the unmanageable: strategies for success within the conglomerate*. Reading, Mass.: Addison-Wesley.
- Leontiades, M. (1986). The rewards of diversifying into unrelated businesses. In: *Journal of Business Strategy*, 6(4): 81-87.
- Levitt, T. (1960). Marketing myopia. In: *Harvard Business Review*, 38(4): 45-56.
- Levitt, T. (1975). Dinosaurs among the bears and bulls. In: *Harvard Business Review*, 53(1): 41-53.
- Lubatkin, M. (1987). Merger strategies and stockholder value. In: *Strategic Management Journal*, 8(1): 39-53.
- Lubatkin, M. & O'Neill, H. M. (1987). Merger strategies and capital market risk. In: *Academy of Management Journal*, 30(4): 665-684.
- Lubatkin, M. & Chatterjee, S. (1991). The strategy-shareholder value relationship: testing temporal stability across market cycles. In: *Strategic Management Journal*, 12(4): 251-270.
- Lubatkin, M., Merchant, H. & Srinivasa, N. (1993). Construct validity of some unweighted product-count diversification measures. In: *Strategic Management Journal*, 14(6): 433-449.
- Lubatkin, M. & Chatterjee, S. (1994). Extending modern portfolio theory into the domain of corporate diversification: does it apply? In: *Academy of Management Journal*, 37(1): 109-136.
- Lubatkin, M., Srinivasan, N. & Merchant, H. (1997). Merger strategies and shareholder value during times of relaxed antitrust enforcement: the case of large mergers during the 1980s. In: *Journal of Management*, 23(1): 59-81.
- Luffman, G. A. & Reed, R. (1984). *The strategy and performance of British industry, 1970-80*. New York: St. Martin's Press.
- Makino, S., Isobe, T. & Chan, C. M. (2004). Does country matter? In: *Strategic Management Journal*, 25(10): 1027-1043.
- Markham, J. W. (1973). *Conglomerate enterprise and public policy*. Boston: Harvard University.
- Markides, C. C. (1992). Consequences of corporate refocusing: ex ante evidence. In: *Academy of Management Journal*, 35(2): 398-412.
- Markides, C. C. & Williamson, P. J. (1994). Related diversification, core competences and corporate performance. In: *Strategic Management Journal*, 15(5): 149-165.
- Markides, C. C. (1995). Diversification, restructuring and economic performance. In: *Strategic Management Journal*, 16(2): 101-118.

- Markides, C. C. & Williamson, P. J. (1996). Corporate diversification and organizational structure: a resource-based view. In: *Academy of Management Journal*, 39(2): 340-367.
- Markman, G. D. & Gartner, W. B. (2002). Is extraordinary growth profitable? A study of Inc. 500 high-growth companies. In: *Entrepreneurship: Theory & Practice*, 27(1): 65-75.
- Markowitz, H. M. (1959). *Portfolio selection; efficient diversification of investments*. New York: Wiley.
- Martin, J. D. & Sayrak, A. (2003). Corporate diversification and shareholder value: a survey of recent literature. In: *Journal of Corporate Finance*, 9(1): 37-58.
- Matsusaka, J. G. (2001). Corporate diversification, value maximization, and organizational capabilities. In: *Journal of Business*, 74(3): 409-431.
- Mayer, M. & Whittington, R. (2003). Diversification in context: a cross-national and cross-temporal extension. In: *Strategic Management Journal*, 24(8): 773-781.
- McDougall, F. M. & Round, D. K. (1984). A comparison of diversifying and nondiversifying Australian industrial firms. In: *Academy of Management Journal*, 27(2): 384-398.
- Melicher, R. W. & Rush, D. F. (1973). The performance of conglomerate firms: recent risk and return experience. In: *Journal of Finance*, 28(2): 381-388.
- Miles, R. H. & Cameron, K. S. (1982). *Coffin nails and corporate strategies*. Englewood Cliffs, N.J.: Prentice-Hall.
- Miller, R. A. (1969). Market structure and industrial performance: relation of profit rates to concentration, advertising intensity and diversity. In: *Journal of Industrial Economics*, 17: 104-118.
- Miller, R. A. (1973). Concentration and marginal concentration, advertising and diversity: three issues in structure-performance tests. In: *IO Review*, 1: 15-33.
- Mishina, Y., Pollock, T. G. & Porac, J. F. (2004). Are more resources always better for growth? Resource stickiness in market and product expansion. In: *Strategic Management Journal*, 25(12): 1179-1197.
- Mohren, H. (1996). *Entwicklungsfähigkeit diversifizierter Unternehmen*. Wiesbaden: Gabler.
- Montgomery, C. A. (1979). Diversification, market structure, and firm performance: an extension of Rumelt's work. Unpublished Doctoral dissertation, Purdue University.
- Montgomery, C. A. (1982). The measurement of firm diversification: some new empirical evidence. In: *Academy of Management Journal*, 25(2): 299-307.
- Montgomery, C. A. & Singh, H. (1984). Diversification strategy and systematic risk. In: *Strategic Management Journal*, 5(2): 181-191.
- Montgomery, C. A. (1985). Product-market diversification and market power. In: *Academy of Management Journal*, 28(4): 789-798.

- Montgomery, C. A. (1994). Corporate diversification. In: *Journal of Economic Perspectives*, 8(3): 163-178.
- Morck, R., Shleifer, A. & Vishny, R. W. (1990). Do managerial acquisitions drive bad acquisitions? In: *Journal of Finance*, 45: 31-48.
- Nachum, L. (2004). Geographic and industrial diversification of developing country firms. In: *Journal of Management Studies*, 41(2): 273-294.
- Nayyar, P. R. (1992). On the measurement of corporate diversification strategy: evidence from large U.S. service firms. In: *Strategic Management Journal*, 13(3): 219-235.
- Nelson, R. R. & Winter, S. G. (1982). *An evolutionary theory of economic change*. Cambridge, Mass.: Belknap Press of Harvard University Press.
- Nguyen, T. H., Seror, A. & Devinney, T. M. (1990). Diversification strategy and performance in Canadian manufacturing firms. In: *Strategic Management Journal*, 11(5): 411-418.
- Paine, F. T. & Power, D. J. (1984). Merger strategy: an examination of Drucker's five rules for successful acquisitions. In: *Strategic Management Journal*, 5(2): 99-110.
- Palepu, K. (1985). Diversification strategy, profit performance and the entropy measure. In: *Strategic Management Journal*, 6: 239-255.
- Palich, L. E., Cardinal, L. B. & Miller, C. C. (2000). Curvilinearity in the diversification-performance linkage: an examination of over three decades of research. In: *Strategic Management Journal*, 21: 155-174.
- Pangarkar, N. & Lie, J. R. (2004). The impact of market cycle on the performance of Singapore acquirers. In: *Strategic Management Journal*, 25(12): 1209-1216.
- Panzar, J. C. & Willig, R. D. (1981). Economies of scope. In: *American Economic Review*, 71(2): 268-272.
- Pennings, J. M., Barkema, H. & Douma, S. (1994). Organizational learning and diversification. In: *Academy of Management Journal*, 37(3): 608-640.
- Penrose, E. T. (1959). *The theory of the growth of the firm*. New York: Wiley.
- Piaskowska, D. (2005). The value of expansions within and across industries: a learning perspective. Paper presented at the Academy of Management Meeting, Honolulu.
- Piscitello, L. (2004). Corporate diversification, coherence and economic performance. In: *Industrial and Corporate Change*, 13(5): 757-787.
- Pitts, R. A. (1974). Incentive compensation and organization design. In: *Personnel Journal*, 53: 338-344.
- Pitts, R. A. (1976). Diversification strategies and organizational policies of large diversified firms. In: *Journal of Economics & Business*, 28(3): 181-188.

- Pitts, R. A. (1977). Strategies and structures for diversification. In: *Academy of Management Journal*, 20(2): 197-208.
- Pitts, R. A. & Hopkins, H. D. (1982). Firm diversity: conceptualization and measurement. In: *Academy of Management Review*, 7(4): 620-629.
- Porter, M. E. (1980). *Competitive strategy: techniques for analyzing industries and competitors*. New York: Free Press.
- Porter, M. E. (1985). *Competitive advantage: creating and sustaining superior performance*. New York, London: Free Press, Collier Macmillan.
- Porter, M. E. (1987). From competitive advantage to corporate strategy. In: *Harvard Business Review*, 65(3): 43-59.
- Prahalad, C. K. & Bettis, R. A. (1986). The dominant logic: a new linkage between diversity and performance. In: *Strategic Management Journal*, 7(6): 485-501.
- Ramanujam, V. & Varadarajan, P. R. (1989). Research on corporate diversification: a synthesis. In: *Strategic Management Journal*, 10(6): 523-551.
- Ravenscraft, D. J. (1983). Structure-profit relationships at the line of business and industry level. In: *Review of Economics & Statistics*, 65(1): 22-31.
- Ravenscraft, D. J. & Scherer, F. M. (1987). *Mergers, sell-offs, and economic efficiency*. Washington, D.C.: Brookings Institution.
- Reed, R. & Luffman, G. A. (1986). Diversification: the growing confusion. In: *Strategic Management Journal*, 7(1): 29-35.
- Rhoades, S. A. (1973). The effect of diversification on industry profit performance in 241 manufacturing industries: 1963. In: *Review of Economics & Statistics*, 55(2): 146-155.
- Rhoades, S. A. (1974). A further evaluation of the effect of diversification on industry profit performance. In: *Review of Economics & Statistics*, 56(4): 557-559.
- Roberts, E. B. & Berry, C. A. (1985). Entering new businesses: selecting strategies for success. In: *Sloan Management Review*, 26(3): 3-17.
- Robins, J. & Wiersema, M. F. (1995). A resource-based approach to the multibusiness firm: empirical analysis of portfolio interrelationships and corporate financial performance. In: *Strategic Management Journal*, 17: 277-299.
- Robins, J. A. & Wiersema, M. F. (2003). The measurement of corporate portfolio strategy: analysis of the content validity of related diversification indexes. In: *Strategic Management Journal*, 24(1): 39-59.
- Rumelt, R. (1978). *Diversity and profitability*, University of California. Los Angeles.
- Rumelt, R. P. (1974). *Strategy, structure, and economic performance*. Cambridge, Mass.: Harvard University Press.

- Rumelt, R. P. (1982). Diversification strategy and profitability. In: *Strategic Management Journal*, 3(4): 359-369.
- Salter, M. S. & Weinhold, W. A. (1978). Diversification via acquisition: creating value. In: *Harvard Business Review*, 56(4): 166-176.
- Salter, M. S. & Weinhold, W. A. (1979). *Diversification through acquisition: strategies for creating economic value*. New York: Free Press.
- Salter, M. S. & Weinhold, W. A. (1981). Choosing compatible acquisitions. In: *Harvard Business Review*, 59(1): 117-127.
- Scherer, F. M. (1980). *Industrial market structure and economic performance* (2d ed.). Chicago: Rand McNally College Pub.
- Scherer, F. M. & Ross, D. (1990). *Industrial market structure and economic performance* (3rd ed.). Boston: Houghton Mifflin.
- Servaes, H. (1996). The value of diversification during the conglomerate merger wave. In: *Journal of Finance*, 51(4): 1201-1225.
- Seth, A. (1990). Value creation in acquisitions: a reexamination of performance issues. In: *Strategic Management Journal*, 11(2): 99-115.
- Sharma, A. (1998). Mode of entry and ex-post performance. In: *Strategic Management Journal*, 19(9): 879-900.
- Shleifer, A. & Vishny, R. W. (1991). Takeovers in the '60s and the '80s: evidence and implications. In: *Strategic Management Journal*, 12(8): 51-59.
- Silverman, B. S. (1999). Technological resources and the direction of corporate diversification: toward an integration of the resource-based view and transaction cost economics. In: *Management Science*, 45(8): 1109-1124.
- Simmonds, P. G. (1990). The combined diversification breadth and mode dimensions and the performance of large diversified firms. In: *Strategic Management Journal*, 11(5): 399-410.
- Singh, H. & Montgomery, C. A. (1987). Corporate acquisition strategies and economic performance. In: *Strategic Management Journal*, 8(4): 377-386.
- Sobel, R. (1999). *The rise and fall of the conglomerate kings*. Washington, D.C.: Beard Books.
- Srivastava, A. & Prabhu, S. S. (1996). The role of corporate synergy accomplishment in determining performance of diversification. In: *International Journal of Technology Management*, 12(1): 75-84.
- Stulz, R. M. (1990). Managerial discretion and optimal financing policies. In: *Journal of Financial Economics*, 26(1): 3-27.

- Tallman, S. & Li, J. (1996). Effects of international diversity and product diversity on the performance of multinational firms. In: *Academy of Management Journal*, 39(1): 179-196.
- Teece, D. J. (1980). The diffusion of an administrative innovation. In: *Management Science*, 26(5): 464-470.
- Teece, D. J. (1982). Towards an economic theory of the multiproduct firm. In: *Journal of Economic Behavior and Organization*, 3: 39-63.
- Teece, D. J., Rumelt, R., Dosi, G. & Winter, S. (1994). Understanding corporate coherence. In: *Journal of Economic Behavior & Organization*, 23(1): 1-30.
- Teece, D. J., Pisano, G. & Shuen, A. (1997). Dynamic capabilities and strategic management. In: *Strategic Management Journal*, 18(7): 509-533.
- Tosi, H. L. J. & Gomez-Mejia, L. R. (1989). The decoupling of CEO pay and performance: an agency theory perspective. In: *Administrative Science Quarterly*, 34(2): 169-189.
- Turk, T. A. & Baysinger, B. (1989). The impact of public policy on corporate strategy: taxes, antitrust policy, and diversification clienteles. Texas A&M University.
- Varadarajan, P. R. (1986). Product diversity and firm performance: an empirical investigation. In: *Journal of Marketing*, 50(3): 43-57.
- Varadarajan, P. R. & Ramanujam, V. (1987). Diversification and performance: a reexamination using a new two-dimensional conceptualization of diversity in firms. In: *Academy of Management Journal*, 30(2): 380-393.
- Vermeulen, F. & Barkema, H. G. (2001). Learning through acquisitions. In: *Academy of Management Journal*, 44(3): 457-476.
- Vermeulen, F. & Barkema, H. G. (2002). Pace, rhythm, and scope: process dependence in building a profitable multinational corporation. In: *Strategic Management Journal*, 23(7): 637-653.
- Wan, W. P. & Hoskisson, R. E. (2003). Home country environments, corporate diversification strategies, and firm performance. In: *Academy of Management Journal*, 46(1): 27-45.
- Wernerfelt, B. (1984). A resource-based view of the firm. In: *Strategic Management Journal*, 5(2): 171-180.
- Wernerfelt, B. & Montgomery, C. A. (1986). What is an attractive industry? In: *Management Science*, 32(10): 1223-1230.
- Weston, J. F. & Mansinchica, S. K. (1971). Tests of the efficiency performance of conglomerate firms. In: *Journal of Finance*, 26(4): 919-936.
- Weston, J. F., Smith, K. V. & Shrieves, R. E. (1972). Conglomerate performance using the capital asset pricing model. In: *Review of Economics & Statistics*, 54(4): 357-363.

Williamson, O. E. (1975). *Markets and hierarchies, analysis and antitrust implications: a study in the economics of internal organization*. New York: Free Press.

Williamson, O. E. (1985). *The economic institutions of capitalism: firms, markets, relational contracting*. New York, London: Free Press, Collier Macmillan.

Wood, A. (1971). Diversification, merger and research expenditures: a review of empirical studies. In: R. Morris & A. Wood (Eds.), *The corporate economy: growth, competition, and innovation potential*: 428-453. Cambridge, Mass.: Harvard University Press.

Wrigley, L. (1970). *Divisional autonomy and diversification*. Harvard University, Boston.

Yip, G. S. (1982). Diversification entry: internal development versus acquisition. In: *Strategic Management Journal*, 3(4): 331-345.