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Zur Notwendigkeit des Corporate Portfolio Management: Eine Würdigung der wissenschaftlichen Forschung der letzten vier Jahrzehnte

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FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION
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Zur Notwendigkeit des Corporate Portfolio Management

Eine Würdigung der wissenschaftlichen Forschung der letzten vier Jahrzehnte

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Zusammenfassung

Obwohl wenige große Unternehmen Ein-Produkt Organisationen sind, widmet die wissenschaftliche Forschung dem Management von Mehr-Produkt Portfolien erstaunlich wenig Aufmerksamkeit. Trotz einer Vielzahl von Arbeiten im Umfeld der Diversifikations- und M&A-Forschung wird dem Corporate Portfolio Management (CPM) und CPM Instrumenten seit den 1980er Jahren kaum Beachtung geschenkt, wie unsere kritische Bestandsaufnahme der einschlägigen Veröffentlichungen im strategischen Management und verwandten Disziplinen offenbart. Es stellt sich die Frage: Warum ist das so? Wir untersuchen zwei Gründe für eine solche Geringschätzung – der begründete Verdacht einer ökonomischen Unterlegenheit der Unternehmensdiversifikation sowie die mögliche Unangemessenheit von CPM Instrumenten – und skizzieren eine Reihe von Anregungen im Hinblick auf praktische Implikationen und zukünftige Forschungsaktivitäten.

JEL-Klassifikation: L10, L22, M00, N01
Schlagworte: Unternehmensstrategie, Diversifikation, Planung, Portfolio, Überblick

Abstract

"On the Need for Corporate Portfolio Management"

Few major corporations are single business entities. Yet, academia pays surprisingly little attention to the management of multi-business portfolios. Although there is lots of work on diversification and mergers and acquisitions, corporate portfolio management (CPM) and CPM tools receive considerably less regard since the 1980s, as our review of the literature in strategic management and related disciplines discloses. This begs the question, "why?". We investigate two reasons for such contempt – the reasonable suspicion of economic inferiority of firm diversification and the possible inappropriateness of CPM tools – and outline a variety of suggestions for practical implications and future research.

JEL classification: L10, L22, M00, N01
Keywords: Corporate Strategy, Diversification, Planning, Portfolio, Review

Despite the ongoing academic drumbeat calling for breaking up diversified corporations multi-business firms remain the most prevalent form of organization. On a global scale, new competitors from emerging economies diversify into foreign countries and new businesses (Chakrabarti, Singh, & Mahmood, 2007). Different forms of strategic alliances, such as equity joint ventures or majority interests, which account for a significant portion of large companies' assets (Kale & Singh, 2009), have to be actively managed by their corporate owners. The recent financial and economic crisis additionally rejuvenated the interest of many boards and observers in corporate diversification as a means to manage corporate risk and performance: "In other words, the classic strategy of diversification has been doing its job. This prompts a broader thought: maybe the conglomerate model, discredited for decades, is due for a comeback." (The Economist, 23 August 2009).

Such evidence that multi-business firms will not be the exception but the rule in most markets flies in the face of theoretical models and empirical studies that assert the economic superiority of market-based coordination over internalization and claim that corporate diversification destroys value (e.g., Berger & Ofek, 1995; Lang & Stulz, 1994; Lyandres, 2007; Rajan, Servaes & Ziangales, 2000). This inconsistency implies the need for a better understanding of the existence and management of multi-business firms. Rather than only focusing on business strategies that deal with gaining competitive advantage within a particular industry or market, strategic management research should put more emphasis on investigating corporate strategy as a means to add value to a number of different businesses held by a corporation (Grant, 2010).

Corporate Portfolio Management (CPM) is at the centre of corporate strategy. CPM should not be limited to simple matrices or other instruments for managing the corporate portfolio. It comprises the key strategic decisions at the corporate level, such as the entry into new businesses, the allocation of scarce resources to different business units, or the liquidation of value destroying divisions. CPM should thus be highly relevant for executives and investors, as well as strategic management scholars. A recent study of leading multi-business firms worldwide proves that top management perceives CPM to be highly relevant and important (Pidun, Rubner, Kruehler, Nippa, & Untiedt, 2011). However, in academia, a comprehensive review reveals only

a few, often outdated, studies that focus predominantly on CPM and the process of analyzing, reviewing, and actively managing the corporate portfolio. Most research contributions address related but specific issues, such as diversification strategies (David, O'Brien, Yoshikawa, & Delios, 2010; Hoskisson & Johnson, 1992; Miller, 2006), mergers and acquisitions (Chatterjee, 1992; Trautwein, 1990), or parenting advantage (Campbell & Luchs, 1992; Goold, Campbell & Alexander, 1998).

The objectives of this paper are to substantiate the apparent gap between the practical and theoretical importance and the academic regard of CPM, and to subsequently derive promising fields of future research. Three motivations guided our critical appraisal of four decades of academic research: First, the apparent need to systematically assess the intellectual ground and scholarly debate regarding CPM and CPM instruments. Second, the wish to uncover and clarify common misbeliefs about CPM. And third, our intention to elaborate interesting research questions that will help close the identified gaps.

As research directions and subjects of social sciences can not be evaluated without consideration of the historical context, the paper starts by briefly outlining important shifts in the approach to corporate strategy and CPM caused by major changes in the competitive environment and dominant scholarly paradigms over the last 50 years. Central to the question of whether scholars acknowledge the importance and relevance of CPM is the overriding economic rationale concerning whether, and under what conditions, diversification adds or destroys value for the firm; i.e. whether external market coordination of businesses outperforms internal, hierarchical coordination. Consequently, our review distinguishes between three interrelated research streams that constitute the scholarly debate of CPM, namely: (a) the economic valuation of diversification strategies at large as a *sine qua non* of any CPM activity, (b) research applying and assessing CPM instruments, particularly criticism regarding prominent decision support matrices, and (c) studies that focus on CPM practices – i.e., the process of managing the corporate portfolio. Based upon our comprehensive review, we highlight and propose promising fields of future research. Our contribution is less a review than a substantiated call for research initiatives in an important field of strategic management that has been neglected for decades.

The Rise and Fall of CPM in Strategic Management Thinking

Centuries ago, the dynasty of the Fugger banking family, later the East India Company, were already aware of the need to successfully manage different business activities, such as expanding into new ventures, allocating scarce resources, closing down unprofitable branches or dealing with dissenting governors. The same is true for large companies that emerged during the industrialization era in the late 19th century, such as General Electric or Siemens. Yet most scholars view the decade following World War II as the true time of the birth of multi-business firms and corporate strategy (Rumelt, 1974, 1982). In fact, the rise of diversification activities that gained momentum in the 1950s was induced by three important paradigms that shaped strategic management thinking for almost three decades.

First, *firm growth* was seen as the most important driver of profitability and success. The wartime economy (e.g., Liberty ships, B-24) had proven the relevance of accumulated production volume for unit costs through experience effects such as learning, specialization, or economies of scale. The rationale reads rather simply: among otherwise comparable competitors, the one with the largest accumulated volume would be the most profitable due to lowest unit costs (Hax & Majluf, 1982). Consequently, scale growth – gaining market share through organic growth or acquisitions – became the dominant strategy. Additionally, resurging markets offered many opportunities for international and product diversification.

Second, it was believed that a corporate economy, or *hierarchical coordination*, would outperform a market economy – mainly due to transaction costs (Williamson, 1975) and the supposed inherent advantages of strategic planning and resource allocation (Galbraith, 1952). Theoretical reasoning and empirical evidence proved corporate headquarters to be more efficient than external capital markets when it comes to resource allocation and the steering of strategic business units.

Third, the development of, and belief in, general management skills and universal principles of management (e.g., Drucker, 1954) bolstered the idea that managers educated at leading business schools were optimally qualified to manage multi-business firms efficiently (Grant, 2010). Management scholars tried to identify and describe basic principles of management and to develop management methods and tools applicable in various industries and

businesses (Goold & Luchs, 1993). Consequently, it was perceived that management elites – a sort of Platonic class of professional managers – should be able to successfully lead a set of different strategic business units.

Propelled by these paradigms, diversification strategies became the norm, resulting in a significant increase in diversified, multi-business firms between 1950 and 1970 (Rumelt, 1982). Diversification strategies across different industries showed comparable patterns and investors appeared to reward expanded diversification (Shleifer & Vishny, 1991). Although diversification in related businesses dominated from the late 1950s through the mid 1960s, the subsequent period revealed a major shift towards diversification into weakly and non-related conglomerate businesses. In the wake of a general quest for growth, conglomerates[1] with high price/earnings multiples became the darlings of the stock markets and received cheap capital that enabled them to continue to grow through the acquisition of additional businesses. As a consequence, management of diversified corporations had to formulate and implement efficient corporate strategies that addressed the challenges of generating and allocating free cash-flow, exploiting synergies, identifying new growth opportunities, and/or deciding whether to sell low performing businesses. From a financial perspective, the different businesses of a corporation constitute a portfolio of assorted investments that vary with regard to profit or return expectations, growth potential, and risk. Therefore, applying and transferring the concept of portfolio management from finance theory (Markowitz, 1952; Sharpe, 1963) to the real economy was an obvious expansion.

In the late 1960s, Bruce D. Henderson, founder of The Boston Consulting Group (BCG), systematized and simplified the evaluation of the different products or business units of a corporation in relation to their cash flow generation and consumption. “The portfolio composition is a function of the balance between cash flows. High growth products require cash to grow. Low growth products should generate cash. Both kinds are needed simultaneously.” (Henderson, 1970, p. 1). Thus, market growth – as proxy for cash demand – and relative market share – as proxy for cash generation via an experience curve effect – constituted the basic dimensions of the CPM concept that became known as the BCG growth-share matrix. Responding to its success and market needs, similar CPM matrices were developed and applied by other management consultants, such as McKinsey (Wind, 1974) or A.D. Little (Wright,

1978). They became very popular among corporate management, were used by many large companies (Bettis & Hall, 1981; Haspeslagh, 1982), and quickly found their way into many strategic management textbooks of the time.

Partly as a result of mimicry that led to excessive diversification and unrelated conglomerization, the pendulum of strategic management thinking started to swing back towards more focused corporate portfolios in the 1980s. This was accompanied by a major paradigm shift within the field of strategic management. A new dominance of theory-based beliefs in the superiority of markets (invisible hand) over corporations (visible hands) gave way to theories of core competences or capabilities-oriented corporate strategy (Prahalad & Hamel, 1990; Stalk, Evans, & Shulman 1992; Collis & Montgomery, 1995). The corporate world experienced – supported by the growth of innovative financial engineering, such as junk bonds – the emergence of leveraged buyout firms, such as KKR, who profited heavily from breaking up conglomerates. Such external forces established a market for corporate control that stimulated company restructuring, corporate spin-offs and increasingly more focused companies (Goold & Luchs, 1993). These developments were grist to the mill of economists, who argued that increasingly efficient financial markets were better at allocating capital than managers of multi-business firms and, consequently, should outperform organizational arrangements. It followed logically that if corporate diversification strategies are per se inefficient and value-destroying (Jensen, 1989; Wernerfelt & Montgomery, 1988) then CPM and CPM tools, too, were dispensable. The predominance of an economic paradigm that denies the pertinence of corporate diversification may be the reason for a diminishing interest of scholars in CPM: If there is no economic rationale whatsoever for corporate diversification, research on how to effectively manage a corporate portfolio also loses its attractiveness.

Our following investigation of the status of corporate portfolio management research thus starts with the question: (a) How relevant is CPM as a key discipline of corporate strategy given the alleged economic inferiority of corporate diversification versus market-based diversification? In the subsequent section we investigate (b) What has academia contributed to effective CPM and how valid is the scholarly criticism of CPM instruments? And finally, we provide answers to the matter (c) To what extent have scholars systematically investigated actual CPM practices and implementation of CPM instruments?

CPM Relevance: Does Research on Diversification Eviscerate CPM?

Of special interest with regard to the need for CPM are studies that address the fundamental questions of whether and how diversification leads to superior performance.[2] The diversification-performance link has been intensively studied by management researchers from various disciplines, but mainly from financial economics and strategic management, as earlier reviews and meta-analyses have revealed (Hitt, Tihany, Miller, & Connelly, 2006; Palich, Cardinal, & Miller, 2000; Goold & Luchs, 1993; Chatterjee & Wernerfelt, 1991; Ramanujam & Varadarajan, 1989).

Examining over three decades of research on the diversification–performance linkage, Palich et al. (2000: 156ff.) derived and tested three theoretical models that have found significant conceptual support in the respective literature: the linear, the inverted-U and the intermediate model. Although Palich et al. (2000) suggest distinguishing between the so called 'Linear Model' and the 'Intermediate Model', we propose to subsume these subsets under *'Value Enhancing Model'* as both predict that diversification and performance are positively related; i.e., increasing diversification adds value to the corporation at any level of diversification.[3] As an economically justified rejection of corporate diversification and CPM requires a continuously negative correlation of diversification and performance, a *'Value Destroying Model'* has to be amended. Combining both extremes as well as incorporating contingencies militates in favor of an *'Inverted-U Model'*. In the following sections, rationales and empirical evidence of these three models will be outlined (see Table 1).

Theoretical models of the diversification – performance link

Value Enhancing Models that propose a consistently positive relationship between diversification and corporate performance draw mainly upon arguments from market power theory, internal capital market efficiency reasoning, transaction costs theory, portfolio theory, industry or product life cycles, and taxations advantages (Gomes & Livdan, 2004; Grant, 2010; Lubatkin & Chatterjee, 1994; Markides & Williamson, 1996;). For example, economies of scale and scope, smart allocation of capital based upon sophisticated knowledge about businesses, exploration of new business opportunities while simultaneously exploiting mature businesses, and tax benefits of profit retention are said to lead to significant advantages of corporate

diversification. Consequently, one has to expect that investors prefer diversified, multi-business firms over less diversified peer competitors, leading to a diversification or conglomerate premium (Palich et al., 2000).

Value Destroying Models question the positive impact of corporate diversification and assume that multi-business firms are less profitable than focused, single-business firms. Advocates predominantly refer to internal transaction costs and principal-agent reasoning, and argue that economic benefits of diversification such as exploiting economies of scope come at the cost of increasing bureaucracy and subsequent coordination and governance costs (Denis, Denis, & Sarin, 1997; Jones & Hill, 1988; Lu & Beamish, 2004). It has been further argued that these costs exceed the benefits, leading to a decrease of profitability or a lower economic value of corporate diversification compared to a market-based diversification (Markides, 1995). The more efficient the external capital market, the lower the market-based transaction costs compared to internalization. Supporters of Value Destroying Models argue that the risk mitigating benefits of corporate diversification can also be achieved by shareholders themselves diversifying their financial investments in the external capital market, without running the risk of being exploited by employed managers. Moreover, the most significant risk benefits should come from unrelated diversification that can be expected to have the lowest benefits from economies of scope, but the highest internal transaction and governance cost. Empirical work on firm diversification has often been interpreted as supporting the view that conglomerates are inefficient. Findings such as the fact that conglomerates trade at a discount, relative to a portfolio of comparable stand alone firms, have led researchers to believe that diversification destroys value (Gomes & Livdan, 2004, p. 507).

Authors advocating Inverted-U Models argue that there is an optimal level of diversification, that is, moderately diversified firms outperform both single-business firms or limited diversifiers on the one hand and highly diversified corporations on the other. In particular, it is argued that there is a trade-off between benefits and costs of diversification. Multi-business firms that are engaged in related markets (related diversifiers) are able to benefit from synergies or the leverage of resources at reasonable coordination costs leading to an increase of profitability, compared to focused firms or limited diversifiers (Lubatkin & Chatterjee, 1994) or may be able to explore and to exploit parenting advantages (Goold,

Campbell, & Alexander, 1994; 1998). The more a multi-business firm diversifies in less related businesses, the more coordination costs (e.g., increased monitoring, bureaucracy, resource allocation, conflict) soar and benefits decline, leading to decreasing profitability (Jones & Hill, 1988; Nayyar, 1992). Consequently, any additional diversification beyond the optimal diversification level reduces the overall profitability and value of the corporation (Gomes & Livdan, 2004; Palich et al., 2000; Tallman & Li, 1996; Singh, Gaur, & Schmidt, 2010).

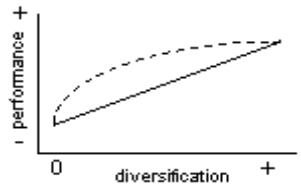
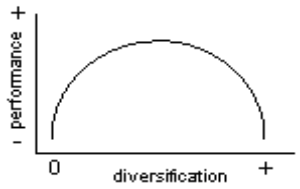
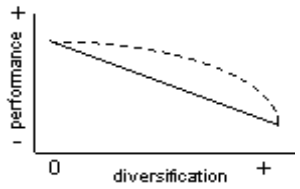
Empirical evidence of these models

Our focused review reveals that there is no clear empirical proof of an unconditional economic disadvantage of corporate diversification compared to purely focused firms.[4] There are a few studies that support Value Enhancing Models (Schoar, 2002, Yan, 2006) as well as some studies that appear to prove Value Destroying Models (Berger & Ofek, 1995; Servaes, 1996). To date, Inverted-U Models seem to have the most support in empirical studies and meta-analyses (Rumelt, 1974; Hoskisson & Hitt, 1990; Palich et al., 2000; Santalo & Becerra, 2008; Singh et al., 2010). There is ample evidence that corporate diversification pays as long as the benefits deriving from factors predominantly subsumed under relatedness are not overcompensated by escalating internal coordination costs. However, the actual shape of the inverted U-distribution of profitability and market value depends on important contingencies such as industry concentration, market or country maturity, or other industry characteristics (Kim, Hwang, & Burgers, 1989; Santalo & Becerra, 2008) as well as on the efficiency of external capital markets (Yan, 2006).

After more than forty years of research, there is thus no clear answer to the question whether corporate diversification adds or destroys value (Table 1). Several authors highlight that comparisons and conclusions are impeded by different concepts, assumptions, variables, measures and methods employed (Hitt et al., 2006; Robins & Wiersema, 2003). For example, there is little differentiation between relatedness and the extent of diversification (Bettis & Hall, 1983) and/or product, market or international diversification.

As there is no predominant empirical proof of the economic superiority of market-based diversification over corporate diversification, the more interesting question may be *how* diversification can increase the value of a company and *how* a corporation should manage its diversified portfolio. Analyzing and appraising the concept of corporate portfolio management has thus not only practical but also scholarly relevance and is worthy of continued study. To this extent, it is also worthwhile to analyze existing CPM instruments, respective criticism and scholarly attempts to advance them, in order to answer the key research question of how to effectively manage the corporate portfolio for a given degree of diversification.

Table 1: Generic models and empirical evidence of the diversification–performance link*

Value Enhancing Models	**Inverted-U Models**	**Value Destroying Models**
		
THEORETICAL RATIONALE		
- market power advantages such as cross-subsidization - economies of scale and scope regarding multiple-use resources - capital market advantages and more efficient allocation - corporate diversification reduces risk, or volatility in rates of return	- synergies and parenting advantage can only be exploited to a certain degree of diversification - competitive advantages restricted to related diversification - the less related the diversification the more costs outlast benefits	- internal power struggles increase influence costs - inefficient internal capital markets - inappropriate expansion due to agency problems
EMPIRICAL EVIDENCE†		
Profitability increase:†	*∩-Shape run of profitability:*†	*Profitability decrease:*†
- Schoar (2002) - Mathur et al. (2004)	- Rumelt (1974, 1982) - Itami et al. (1982) - Grant et al. (1988) - Hoskisson and Hitt (1990) - Palich et al. (2000) ‡ - Singh et al. (2010)	- Berger and Ofek (1995) - Rajan et al. (2000) - Maksimovic and Phillips (2002)
Diversification Premium:†	*Contingent market value:*†	*Diversification Discount:*†
- Jandik and Makhija (2005) - Yan (2006)[1] - David et al. (2010)	- Wernerfelt and Montgomery (1988) - Palich et al. (2000) ‡ - Villalonga (2004)	- Lang and Stulz (1994) - Berger and Ofek (1995) - Servaes (1996) - Denis et al. (2002) - Best et al. (2004)

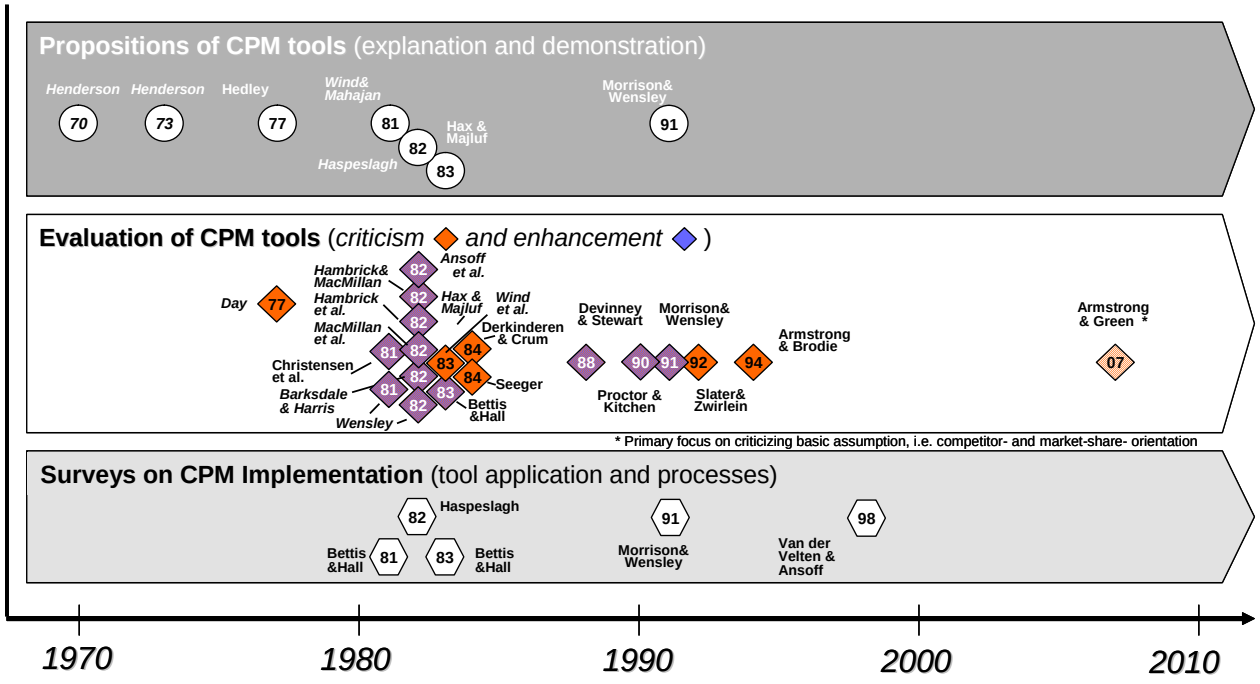
** substantially modified from Palich et al. (2000)*

† *selection* ‡ *meta-analysis* [1] *for costly external capital markets only*

Scholarly Reception of CPM Methods: Explanation, Criticism and Advancements

As mentioned above, the origins of CPM instruments can be traced back to the late 1960s, when management consultancies such as The Boston Consulting Group (Henderson, 1970), A.D. Little (Wright, 1978) and McKinsey (Wind, 1974), as well as corporate practitioners (e.g., General Electric) developed frameworks to support executives of diversified corporations in making strategic decisions (Grant, 2010). Whereas the original BCG growth-share matrix measures and quantifies market attractiveness and competitive position based upon single proxies (market growth versus relative market share), frameworks such as the GE/McKinsey industry attractiveness-business strengths matrix aggregate multiple parameters (Bettis & Hall, 1981; Wind & Mahajan, 1981). Although some traditional corporate portfolio instruments consider different variables, they ultimately only modify two dimensions: market conditions (the 'attractiveness' dimension) and company potential relative to competitors (the 'competitive position' dimension; Hambrick & MacMillan, 1982, p. 85).

Figure 1: Main scholarly oriented publications on CPM issues



While practitioners perceive CPM matrices as useful and intelligible tools for corporate planning and particularly resource allocation (Day, 1977; Hedley, 1977; Hax & Majluf, 1983a; Seeger, 1984), scholars emphasize that they have to be understood and used as diagnostic tools rather than as deterministic prescriptions of norm strategies (Morrison & Wensley, 1991; Proctor & Kitchen, 1990). However, a closer look at the response from academia reveals some interesting patterns over time (see Figure 1). Research-oriented journals rarely published articles that explain and demonstrate methodologies and instruments ('*Propositions of CPM tools*' in Figure 1). Rather, once the CPM matrices had found broad acceptance in the corporate world and business schools alike, they were put to test ('*Evaluation of CPM tools*', predominantly in the early 1980s). At the same time a few researchers conducted surveys that investigated different aspects of the use of CPM in large multi-business firms ('*Surveys on CPM implementation*', Bettis & Hall, 1981; Haspeslagh, 1982). Surprisingly, although CPM methods are still taught at business schools all over the world, research interest seems to have vanished after the mid 1980s, apart from some rare exceptions in the 1990s. The interesting question is: what causes this apparent scholarly neglect in light of its ongoing practical use? The first thought is that the academic assessment and fierce criticism of CPM matrices (Day, 1977; Wensley, 1981; Wind et al., 1983) led researchers to claim their general inferiority and/or potential harm.

Table 2: Important scholarly criticism regarding CPM matrices

	Author(s)	Journal	Category of Criticism				Primary foundation		Criticism / Proposals for Improvement
			F	*M*	*A*	*O*	*Conceptual*	*Empirical*	
1	Day (1977)	JoMarketing	⊙	⊙			✓		Wrong assumptions re: generalizability of market-share profitability link; other firm objectives than cash balance; measures; unanticipated consequences.
2	Christensen et al. (1981)	AoM Proceedings		⊙	⊙	⊙	✓		Inappropriateness of strategic prescriptions for corporate 'Dog' divisions; invalid or too narrow assumptions which need careful verification in a particular context.
3	Wensley (1981)	JoMarketing	⊙	⊙			✓		Preference for high market growth (e.g. faster pay-off) and cash-balance (e.g. disregard of external capital market and risk) empirically and theoretically not justified.
4	Hambrick & MacMillan (1982)	CMR			⊙	⊙		✓	Use of PIMS data to prove performance predictions of BCG-matrix; results challenge the dictum that all 'Dogs' are rather worthless; proposal for further strategic analyses.
5	Hambrick et al. (1982)	AoMJ			⊙	⊙		✓	Empirical test and extension of the BCG product portfolio matrix. Result: expanded understanding of the strategic profile of each type of business.
6	MacMillan et al. (1982)	AoMJ			⊙	⊙		✓	Empirical analysis of the association between the strategic attributes and profitability of SBUs in the four cells of the BCG-matrix. Challenge some early strategic prescriptions.
7	Ansoff et al. (1982)	Ind. Marketing Mgmt		⊙	⊙		✓		Challenge 'Point Hypothesis', i.e. determination of a certain location of each SBU; formulate a need for 'Area Hypothesis' and propose dispersion positioning of SBUs.
8	Wensley (1982)	SMJ	⊙	⊙	⊙		✓		Criticizes very unrealistic competitive responses and over-emphasis of economics and cost advantages; questions link between market-share and growth and profitability.
9	Barksdale & Harris (1982)	LRP	⊙	⊙			✓		Definitional problems (e.g. SBUs or product/market groups; standardized market growth rates); incompleteness (pioneering products, negative growth); offer own model.
10	Bettis & Hall (1983)	LRP		⊙	⊙			✓	Basic model is inappropriate for most large diversified firms, i.e. there is no clear division into a 'reasonable number' of independent SBUs (disregards relatedness).
11	Hax & Majluf (1983a, b)	Interface	⊙	⊙	⊙	⊙	✓		Popular labels; measuring market share at the consumer end; SBUs not independent; validity of share and growth; profitable portfolios do not have to be cash flow balanced.
12	Wind et al. (1983)	JoMarketing		⊙	⊙	⊙	✓	✓	Inconsistencies with respect to classification of SBUs within portfolio due to equivocal operational definitions and weightings of variables, division rules applied, and model used.
13	Derkinderen & Crum (1984)	LRP	⊙	⊙	⊙		✓		Share/growth portfolio techniques disregard subtle but strategically important situational characteristics, and therefore can lead to problematic recommendations.
14	Seeger (1984)	SMJ			⊙	⊙	✓		Problem of oversimplification and stereotyping leading to wrong decisions by naive users; dangerous misapplication if model seen as a prescription of norm strategies.
15	Devinney & Stewart (1988)	MSc	⊙	⊙			✓		Refering to limitations of traditional CPM and project selection models, an advanced model is proposed that accounts for different forms of risk, interdependencies, etc.
16	Proctor & Kitchen (1990)	Marketing Intell & Plan.		⊙			✓		Mainly repetition of what is already known, e.g. univariate measures (market growth and share); high growth markets may be inattractive; disregard of capabilities.
17	Morrison & Wensley (1991)	JoMarketingMgmt	⊙	⊙	⊙		✓		Review of the history of the BCG-matrix and further advancements; systematization of established criticism (e.g. focus, assumptions, definitions, politicking, implementation).
18	Slater & Zwirlein (1992)	JoM				⊙		✓	Investment decisions based upon prescriptions from GE-/McK industry attractiveness - competitive position matrix may lead to value destruction instead of value creation.
19	Armstrong & Brodie (1994)	Intl.Jo Res in Marketing				⊙		✓	Laboratory experiments with 1000+ subjects (not specified) showed that those who knew or used the BCG-matrix were misled and chose an inferior investment decision.
20	Armstrong & Green (2007)	Intl.Jo Business	⊙				✓	✓	Paper does not focus on CPM, but on competitor and market share orientation (key for CPM-matrices); result: competitor-oriented objectives esp. market share are harmful.

F = Fundamental e.g., validity and reliability of the corporate portfolio concept at large
M = Model e.g., assumptions, definitions, variables, …
A = Application e.g., appropriate use by corporate decision makers
O = Outcome e.g., consistency; does application of the model generate superior decisions

A review of the scholarly criticism of CPM instruments – predominantly traditional CPM matrices – published in management and marketing journals over the last 30 years shows clear patterns and provides interesting insights (for an overview see Table 2). Prior to detailing the criticism, a few elucidating remarks are necessary with regard to an elaboration of important aspects and streams of criticism. As there is not one single CPM matrix, but different, partly competing ones (Wind et al., 1983), one has to recognize which model is being criticized, although all of them compare an internal dimension (mission, capabilities) with an external one (market, environment) (Davis & Devinney, 1997). While most criticism –most likely as a result of its widespread use, success, and pictorial labeling– centers on the traditional BCG growth-share matrix, some authors address other matrices (e.g., Slater & Zwirlein, 1992) or the portfolio approach in general (e.g., Devinney & Stewart, 1988). Furthermore, there is almost no development of criticism; with rare exceptions the different authors do not build upon previous contributions although they refer to them. Finally, there is disagreement among critics with regard to applied methods, reliability and generalizability of findings, and conclusions (e.g., Armstrong & Brodie, 1994a; 1994b versus Wensley, 1994). The following review of the criticism of CPM instruments makes use of broad categories that show up in the overall picture: On the one hand, scholarly contributions that emphasize conceptual and methodological deficiencies, and on the other, those that focus on shortcomings and problems with regard to application, implementation and outcomes.

Criticism regarding the basic concept and operationalization of CPM matrices

A number of contributions challenge the general appropriateness of CPM matrices for strategy formulation and strategic decision-making at the corporate level. This issue is addressed with particular regard to the growth-share matrix. Many authors question the reliability of founding strategic management decisions of multi-business firms on just two variables and a single objective – i.e., cash flow balance (Ansoff, Kirsch & Roventa, 1982; Day, 1977; Seeger, 1984; Wensley, 1981, 1982) – although some also emphasize the virtue of this simplicity (Day, 1977; Derkinderen & Crum, 1982; Wensley, 1994). Other approaches, such as the industry attractiveness-business strengths matrix that aggregates a variety of variables into two dimensions, may avoid the problem of relying on just one measure at the cost of becoming less

transparent and prone to manipulation (Wensley, 1981; Wind et al., 1983; Hax & Majluf, 1983b). Accordingly, CPM matrices are frequently marked as oversimplified methods that will most likely lead to inferior strategic decisions (Seeger, 1984; Slater & Zwirlein, 1992; Armstrong & Brodie, 1994).

Beyond pointing to the risk of oversimplification, critics challenge some fundamental assumptions of the original CPM matrices such as:

- the objective of maintaining a balanced portfolio in terms of internal cash flows,

- the positive correlation between market share and profitability, and

- the superiority of investments in industry growth.

According to Henderson (1970), the preferred corporate portfolio should be balanced with regard to internal cash flows. Even in times of rather inefficient external capital markets, scholars have questioned this assumption, criticizing that "the capital market as a source of funds seems to be almost ignored in some approaches" (Wensley, 1981, p. 176). A similar opinion is expressed by Hax & Majluf (1983a), who argue that external capital markets are often more efficient than internal ones, and that other rationales and planning tools to support decision making about acquiring, maintaining, and selling of SBUs are therefore needed.

As a heuristic regarding the cash flow of a product or business, Henderson (1970, p. 1) originally proposed that "[m]argins and cash generated are a function of market share. High margins and high market share go together. This is a matter of common observation explained by the experience curve effect." Challenging this assumption, Day (1977) highlighted the fact that the economic value of market share differs significantly from industry to industry. Apparently, important contingencies moderate the relationship of market share and profitability; thus, making an increase of relative market share the strategic priority of the firm may neglect other important drivers of profitability (Hax & Majluf, 1983a). More generally, Armstrong & Green (2007) reviewed and summarized studies that prove, from their point of view, that pure competitor-oriented objectives, especially increasing market share, come at costs that in most cases reduce rather than increase profitability.

Finally, the third pillar of CPM matrices has also been challenged: “Is industry growth really the only variable that fully explains growth opportunities?” (Hax & Majluf, 1983a, p. 56). This is particularly relevant to the BCG growth-share matrix with its emphasis on industry and business growth. Wensley (1981) has argued that there is no empirical evidence that expanding market share in rapid growth markets is economically easier, that is, more profitable, than in low growth markets. Consequently, the assumption that free cash flow should be directed from mature or slowly growing markets towards high growth markets appears to be unfounded.

Beside those basic assumptions of traditional CPM matrices, the lack of clear definitions, criteria and metrics has been frequently criticized, for example with regard to the definition of the relevant markets and strategic business units (SBUs) or the scales and dividing lines of the portfolio matrices (Day, 1977; Christensen, Cooper & de Kluyver, 1981; Ansoff et al., 1982; Morrison & Wensley, 1991). Wind et al. (1983) demonstrated how variations of definitions of matrix dimensions and boundary lines lead to significantly different conclusions and how “[i]t is quite surprising … that most of the portfolio literature has focused on the selling of specific approaches and discussions of the strategic implications …. rather than on the fundamental measurement and validation issues involved. (Wind et al., 1983, p. 90). There is no consistency among critics regarding how to overcome the vagueness and ambiguity. Some scholars demand more rigorous ‘rules’, measures, and quantification (Armstrong & Brodie, 1994; Derkinderen & Crum, 1984; Wind et al., 1983), while others argue that there is an inherent vagueness in determining future strategies and propose to substitute ‘single point positioning’ of business units with ‘dispersed positioning’ based upon estimated probabilities of applied evaluation criteria (Ansoff et al., 1982).

The lack of important variables that influence the process of defining efficient frontiers or managing multi-business firms at large is frequently addressed (Wensley, 1981; Barksdale & Harris, 1982; Derkinderen & Crum, 1984; Proctor & Kitchen, 1990), yet only a few scholars propose a conceptual alternative other than modulating and sophisticating the basic scheme. Devinney and Stewart (1988) have highlighted that the products (or SBUs) in a corporate portfolio can be considered as alternative investments competing for scarce resources, very similar to financial products. However, the straight application of portfolio models and instruments that have been designed for financial market investments is limited by imperfect

measurement and trading, the need to account for managerial knowledge and control, external investment alternatives, specific production economies (especially interdependencies), and more complex risk-return relationships. The authors further emphasize that internal corporate diversification is only justified if economically positive interdependencies exist, but even in this case these synergies bear costs in terms of higher risk (Devinney & Stewart, 1988, p. 1084). They point out that products are risky assets that are not traded currently but could be traded if their external value exceeds the internal value potential. Based upon these clarifications they develop, operationalize, and conceptually test a sophisticated multi-product investment model that builds on a theory of traded and non-traded assets. In providing a theory based, comprehensive operational guide for decision making in multi-business firms, it offers a promising research direction for advancing CPM.

Criticism regarding misapplication and outcomes

Some scholarly critics of traditional CPM instruments highlight problems, deficiencies and errors associated with the application of CPM methods. They may result from (1) inadvertent or deliberate misapplication of the instrument, (2) blind implementation of the prescriptive strategies that follow from the analysis, or (3) the general inferiority of strategic conclusions from CPM matrices.

Firstly, the inadequate application of CPM instruments by corporate planning staff and executives is frequently highlighted. Particularly when applying semi-quantitative, multidimensional measures as in the case of the GE/McKinsey industry attractiveness-business strength matrix, the wide scope of interpretation regarding key elements and measurements creates many opportunities for pursuing individual interests at the cost of the overall corporate objectives (Day, 1977; Hax & Majluf, 1983b). Managers may choose just those market definitions, boundary lines and evaluation data that support their general beliefs or interests, for instance, and put the respective SBU in a more favorable (or unfavorable) position in the grid system. Seeger (1984) points out that unintended misinterpretations combined with blind adherence to normative strategy recommendations may lead to wrong decisions that can jeopardize the whole corporation, just as much as deceptive behavior by different interest groups.

Secondly, the appropriateness and feasibility of prescriptive strategies, especially concerning ‘dog businesses’ are questioned (e.g., Christensen et al., 1981). The authors argue that hasty divestments of ‘dog businesses’ may turn out to be inefficient because of interdependencies between SBUs and legal or political exit barriers which impose significant cost burdens upon the execution of such decisions. Applying PIMS data, Hambrick and MacMillan (1982) and Hambrick, MacMillan and Day, (1982) proved empirically that ‘dog businesses’ are not worthless to the corporation because they often generate unexpected positive cash flows that can nurture at least one ‘question mark business’. Overall, the empirical studies conducted by Hambrick and his colleagues supported the usefulness and predictive power of the BCG growth-share matrix and led to a better understanding of the strategic profiles of the categories.

Thirdly, a different stream of criticism claims that the even the correct and unbiased application of CPM matrices may lead to inconsistent and inferior decisions and value destruction. This argument is based on the observation that only few simplistic criteria are used to classify the SBUs into a limited number of categories for which specific strategic recommendations are then derived (Haspeslagh, 1982; Hax & Majluf, 1983a). An often-cited example is the work of Wind and colleagues (1983), who compared standardized portfolio models empirically and reported striking differences in the classification of 15 SBUs of a large Fortune 500 multinational industrial firm. They concluded that “it might be desirable to avoid using a single portfolio model and instead to integrate the various models to take advantage of their unique capabilities” (Wind et al., 1983, p. 98). Capon, Farley and Hulbert (1987) analyzed the application of formal strategic planning tools and particularly CPM matrices based upon interviews with managers from 113 Fortune 500 firms and found that the application of formal CPM tools does not lead per se to higher performance and may even be related to weak performance, as it apparently depends on an appropriate application. Assuming that portfolio planning concepts are consistent with modern finance theory, Slater and Zwirlein (1992) tested whether respective prescriptions lead to superior corporate performance by analyzing reporting data from 129 multi-business firms in a 7-year time frame. Their results show that an investment that is consistent with the normative recommendations of the industry attractiveness-business strengths matrix is not only “not positively associated with creation of shareholder value, it

appears to be associated with value destruction." (p. 729). Finally, Armstrong and Brodie (1994) conducted laboratory experiments with 1,015 subjects from several countries that provided experimental evidence that knowledge and actual application of the BCG matrix has a tendency to mislead individual decision makers to select the apparently inferior investment decision. Hence, they concluded: "Until contrary evidence is produced, we advise against using matrix methods under all circumstances." (p. 84).

Scholarly Perception of CPM Practices: Business Application and Experiences

Even fierce critics admit that inappropriate application of CPM concepts and misuse of CPM matrices is not inherent to the methods but largely the result of how they are actually applied by management. Thus, one would assume that there would be plenty of studies focusing on the formal and informal processes of managing corporate portfolios, and particularly on the practical application of the above-mentioned CPM matrices in order to verify and substantiate pitfalls and drawbacks. However, as already shown in Figure 1, there are only a few, mostly outdated survey-based investigations.

Haspeslagh (1982) conducted a survey among Fortune 1000 and selected European companies regarding the application and limitations of CPM. According to his 1979 study, 36% of Fortune 1000 and 45% of Fortune 500 companies used portfolio planning approaches to some extent. These findings are consistent with an estimation by Bettis and Hall (1981, p. 23) who stated that, in 1977, "at least 200 of the Fortune 500 companies (and probably substantially more) are using the portfolio planning concept in some manner, and informal discussions suggest a similar rate of adoption in Western Europe." Similar early adoption rates are reported by Morrison and Wensley (1991), who tried to reexamine industry use of CPM matrices in the late 1980s by questioning strategic management lecturers at UK business schools. They had to admit that their results, which indicated 24% wide use, 55% occasional or little use, and 8% no use at all, suffered from relying on the perceptions and beliefs of scholars rather than actual practitioners of corporate portfolio management. Despite an apparent lack of up-to-date surveys, it seems very doubtful that the extent of usage has decreased among multi-business firms.

The few empirically based analyses of the implementation of CPM tools within the strategic planning processes of corporations showed essentially that:

- Firms, or their strategists, apply a wide variety of concepts of CPM. While some use CPM matrices as strategic management tools only in special situations, others develop an integrated portfolio management system (Bettis & Hall, 1981; van der Velten & Ansoff, 1998).

- The type of diversification a firm is aiming for and maintaining has a significant impact on the way CPM is implemented. Portfolio management systems are widely used by dominant vertical and related diversified firms, whereas conglomerates and –rather self-evidently– single-business firms make little or no use of CPM (Bettis & Hall, 1981).

- Too little growth (i.e., performance problems), too much growth (i.e., capital constraints), and a lack of strategic thinking motivates managers to adopt CPM (Bettis & Hall, 1981; Haspeslagh, 1982).

- Defining appropriate SBUs based upon clear criteria and different perspectives (e.g., headquarter vs. business units) is a key success factor for the efficient use of CPM instruments (Bettis & Hall, 1983).

- CPM is a valuable concept and/or tool for establishing an accepted framework for strategic control and for managing the inherent tension of centralization versus decentralization within multi-business firms (Haspeslagh, 1982).

- The most important contribution that portfolio planning can add is to the management process. The essence of managing diversity is the creation in each business of a pattern of influence that corresponds to the nature of the business, its competitive position, and its strategic mission (Haspeslagh, 1982, p. 73).

- Social dynamics, especially a high degree of mutual trust among managers, play an important role in the success of CPM approaches (van der Velten & Ansoff, 1998).

- There is a need to actively seek and acquire relevant information based upon adequate organizational structures and sophisticated management processes (van der Velten & Ansoff, 1998).

Proposing a Research Agenda for Advancing CPM

Our review has uncovered a broad need for additional research for advancing corporate portfolio management. Research needs can be directly derived from criticism of existing CPM instruments, from disagreement about the relevance of corporate diversification at large, as well as from gaps in the existing theory. Finally, there is an obvious lack of studies that investigate the application of CPM methods as part of strategic management processes.

Research needs resulting from an assessment of the validity of CPM criticism

Strategic decisions, by definition, have significant consequences for the success of an organization. They can be characterized by a high degree of uncertainty, complexity, and interdependency, and have considerable long-term effects on an organization and its performance. Methods and instruments that are developed to effectively support strategic decision-making must therefore cope with the inherent uncertainty as well as with dynamism and complexity. Criticising strategic management tools such as CPM matrices because of oversimplification requires a clear distinction between instrumental simplification and misleading, logical or methodological oversimplification. Ultimately, oversimplification is more a matter of managers' application of strategic planning tools than of the tools themselves, as these managers have to decide whether additional information and evaluations are necessary to substantiate decisions (Day, 1977; van der Velten & Ansoff, 1998).

Some of the critics we have discussed acknowledged that ignorant or inexperienced users must be blamed for the misapplication and misuse of CPM instruments: "Followers, entranced by the imagery of the language, may easily believe its labels explain things as well as describe them. Worse: they may act on their beliefs." (Seeger, 1984, p. 93). Inappropriate application of existing CPM instruments by users is definitely a serious risk, as it is for any strategic planning tool, but this does not represent a flaw in the instrument. Rather, it can be interpreted as a call to improve strategic management education and respective (E)MBA courses. However, a few

scholars have shown that also academics frequently misunderstand these instruments and their underlying rationales and theories (Devinney, Stewart & Shocker, 1985).

Other scholars criticize that the traditional CPM matrices are based upon wrong or outdated assumptions. However, this criticism applies to other concepts and theories, too. Certainly, one has to be aware that the underlying assumptions of CPM concepts are rooted in industry characteristics and competitive environments at the time of their development, as our historical review shows. Over the last 40 years, the competitive landscape, institutions and strategic management have experienced major shifts, and corporate planning tools and CPM instruments must be adjusted to accommodate these changes. Of special interest are improvements that integrate important decision variables (e.g. risk, synergies, locus of control in capital markets) and moderators (e.g., relatedness of SBUs, industry characteristics, market institutions). On the other hand, there may be economic and competitive environments in which the original assumptions are still valid. Although external capital markets in developed countries in the last two decades have shown a high degree of efficiency, this is apparently not yet true for many emerging markets such as China and India. However, if we understand CPM more generally as an attempt to substantiate the economically optimal combination of multiple businesses under one corporate umbrella the question of efficient capital allocation is supplemented by other determinants.

Existing CPM instruments have also been criticized for giving no guidance regarding the definition of strategic business units as planning objects, and for having much ambiguity with respect to dimensions, border lines and measures. However, this rather general criticism is as right as it is wrong as one has to take differences of existing CPM instruments into account. Whereas, for instance, the growth-share matrix relies mainly on two metrics, the industry attractiveness-business strengths matrix aggregates multiple parameters. Accordingly, challenges do not question the validity of the general concept, but call for attentive application and further improvements of existing instruments. Moreover, some critics have highlighted the advantage of not trying to ‘calculate’ uncertainties inherent in strategic decision making and claim that vagueness is a distinct advantage of CPM matrices: “Indeed, the danger would be greatest if we employed some standardized approach to derive market share and therefore avoided directly assessing the alternative interpretations” (Wensley, 1982, p. 155). Instead of ‘throwing out the

baby with the bath water', future research should focus on both the development of instruments that support decision makers in better defining markets, scales, and multiple mapping in order to reduce ambiguity and arbitrariness, as well as on providing managers with guidelines on important contingencies that impact the appropriateness and applicability of these measures.

Some confusion stems from the inappropriate application of CPM matrices to derive strategic prescriptions or norm strategies. Portfolio analysis and the resulting positioning of SBUs should be considered a helpful diagnostic technique that must be combined with other qualitative and quantitative analyses, inspires questions and debates among managers, and has to be "used with care and discipline" (Morrison & Wensley, 1991, p. 127). Critics often forget that the basic intention of CPM matrices was to help ask the right questions, rather than to provide deterministic answers. They offer rough guidelines rather than strict rules and do not entrench norm strategies. In other words, CPM is meant to support strategic thinking, but not to replace it.

Finally, a closer look at the two main studies that are frequently cited as proofs of value destruction as a consequence of applying CPM matrices (Slater & Zwirlein, 1992; Armstrong & Brodie, 1994) reveals some important limits of their conclusions. Slater and Zwirlein (1992) studied whether an investment strategy that is in line with recommendations derived from the industry attractiveness-business strengths matrix leads to excess shareholder returns. The authors highlight a major limitation of their methodology with regard to its validity: "There is no evidence that the companies in the sample actually use portfolio planning to make resource allocation decisions" (p. 720) thereby "limiting the ability to generalize [their] findings" (p. 730). Other critics are less skeptical of the validity and reliability of their findings (Armstrong & Brodie, 1994a; 1994b), but are challenged by another researcher (Wensley, 1994) who raises serious questions about the specific design, methodology and conclusions. Moreover, doubts have been cast on the generalizability of results derived from laboratory experiments with students (Levitt and List, 2007). Yet, independently of the validity of the studies mentioned, there is an apparent need for empirical research on the link between CPM application and a firm's performance.

The synopsis of our re-evaluation of important criticisms of traditional CPM tools (see Table 3) demonstrates that there is no reason to demonize and abolish CPM matrices. Equally, there is no reason to neglect justified criticism and to continue teaching and applying 40-year-old instruments. Rather, there is a need to improve the CPM instruments.

In addition to the advancement of CPM instruments, our review and critical discussion of the current state of scholarly knowledge regarding CPM and CPM instruments point to three important and fertile fields for future research. (a) Although empirical evidence supports the ongoing relevance of multi-business portfolios and CPM, future research may foster or challenge this view. (b) There is an apparent need for advancing existing theories and developing new theories that improve CPM. (c) Because the success of CPM concepts and instruments relies on adequate implementation and application, researchers should systematically analyze current practices and derive best practice recommendations.

Table 3: Re-evaluating criticism of common CPM instruments

Criticism	Selected **Authors**	**"Validity"?**	**Refutation and Recommendation**
Oversimplification of strategic decision-making	Ansoff et al. ('82) Seeger ('84)	Doubtful	Simplification is inherent to any strategic management tool and theory. Additional analyses and managerial judgment needed.
Wrong assumptions (e.g. internal cash flow balance; relative market share; focus on growth)	Wensley ('81) Hax/Majluf ('83) Armstrong/Green ('07)	Doubtful	Assumptions inherent in any concept and theory. Relevant CPM tools have different assumptions. Test consistency of assumptions with situational determinants and changing competitive environment.
Lack of consideration of important variables (e.g., risk; corporate capabilities)	Wensley ('82) Devinney/Stewart ('88)	True	Traditional CPM instruments have to be advanced. Prove possible integration with related concepts such as parenting advantage.
Lack of clear definitions, criteria and measurements (e.g., relevant markets; SBUs; scales)	Day ('77) Wind et al. ('83) Morrison/Wensley ('91)	True, but not CPM-specific	General problem of most strategic management instruments. This 'flexibility' is also seen as a benefit. Need for careful and well-considered definition and decision process.
Inappropriate implementation and application (e.g., interest driven)	Day ('77) MacMillan et al. ('82)	True, but not CPM-specific	Inherent risk for any decision support tool that has to cope with uncertainties. Awareness, training and governance needed.
Rigid adherence to normative strategy recommendations	Christensen et al. ('81) Seeger ('84) Derkinderen et al. ('84)	Doubtful	Understanding results derived from CPM matrices as strategic prescriptions or norm strategies is a misinterpretation. Has to be supplemented with other qualitative and quantitative analyses.
Empirical 'proof' of inferior performance resulting from applying CPM matrices	Slater/Zwirlein ('92) Armstrong/Brodie ('94)	Doubtful	Studies do not provide a scientific 'proof' that applying CPM matrices leads to value destruction due to significant limitations regarding generalizability. Need for further research.

Further probing the relevance of CPM research

With the exception of perfect markets based upon perfect information about all actors, there is no theoretical evidence that market diversification generally outperforms corporate diversification. Even in developed countries, multi-business firms prevail. Empirical evidence supports the assumption that related diversification offers economic advantages over single-business firms. Furthermore, a recent global survey on the CPM practices of leading corporations, which we conducted in response to the lack of such studies, reveals that CPM concepts and instruments are still widely applied and considered as highly relevant (Pidun et al., 2011). Adequate scholarly coverage of CPM issues appears to be mandatory, even if only for the purpose of challenging these findings.

It might be of academic interest to further investigate the reasons for the enduring ambiguity and discrepancies in the results of studies of the diversification-performance link, although one may also conclude that this would be a rather unproductive endeavor. Instead, future research on diversification strategies may focus on important contingencies already highlighted by some studies of the diversification-performance link, such as different forms of relatedness, market conditions, or industry characteristics (Santalo & Becerra, 2008). This may also contribute to answering one of the key questions of strategic management: What type and degree of diversification is adequate under which circumstances? The advancement of concepts like synergies, parenting advantage, and additional moderators (e.g., ownership structure) can add important building blocks.

Need for theory development

The most striking gap we found with regard to the scholarly debate about CPM is the lack of conceptual approaches, theory-based advancements, and the development of specific theories in this important field of corporate strategy.

If corporate diversification mainly pays off for related diversification, the concept of synergies or frameworks of corporate ownership, such as the parenting advantage approach (Campbell, Goold & Alexander, 1995; Campbell & Luchs, 1992), should play a more prominent role in advancing our understanding of CPM.

Exploring ways to utilize real options reasoning in this special field of corporate strategy is another area for further theory development. Assessing and quantifying growth options or holding options, for example, may help to better capture the strategic value of single business units as part of the corporate portfolio.

Recently, Kale and Singh (2009) emphasized that managing strategic alliances as a portfolio is a conceptual approach that is promising but unexplored, because the scholarly literature predominantly addressed single alliances and their underlying motives, success factors and required capabilities. However, selecting and maintaining a portfolio of strategic alliances requires on the one hand different management skills than managing a single alliance, and on the other hand probably needs other methods and measures than those required for managing a traditional corporate portfolio.

Theoretical models of the portfolio problem based upon risk and return reasoning (e.g., Devinney & Stewart, 1988), may offer a promising starting point for developing concepts that integrate corporate risk management and corporate strategic planning (for an early attempt see Cardozo & Wind, 1985). However, they have to account for significant differences between financial and corporate portfolio characteristics (Devinney et al. 1985). Investments in businesses are structurally different from financial market investments, leading to technical limitations of applying financial portfolio techniques—especially the capital asset pricing model (Devinney & Stewart 1988). Financial markets define risk as the systematic deviation of returns. Arbitraging unsystematic risks is a fundamental assumption of efficient investment strategies in financial markets, but cannot be directly applied to the variance of accounting-based return metrics. Moreover, the risk of a business investment varies with the product-life cycle, which is not featured by current financial portfolio techniques. These challenges and open questions offer interesting future research opportunities.

Of special interest is the seemingly simple question: What constitutes a good corporate portfolio? Should a good portfolio be balanced with regard to certain factors (e.g., cash-flows, as implied in the original growth-share matrix; or exploitation vs. exploration of corporate capabilities), or is there a target function that should be maximized (as implied in the industry attractiveness-business strengths matrix)? It may turn out that it is not an ‘either/or’ decision but

that the answer is related to distinct contingencies. Determining different forms of balance and respective measures may complement this research field.

Understanding and improving CPM implementation

Although misapplication of CPM instruments has been frequently criticized, scholarly knowledge about CPM implementation and related strategic decision-making processes has been proven to be meager and outdated. It is clearly necessary to conduct empirical studies that analyze how managers of multi-business firms manage their corporate portfolio. Such studies should investigate how satisfied decision-makers are with their approaches to CPM and what is needed to fill apparent deficiencies and gaps, including new challenges to CPM that are not covered by existing concepts and instruments. Additionally, analyzing possible biases introduced by applying certain CPM tools as well as highlighting important contingencies may help to develop more appropriate methods.

In order to distinguish good CPM practices from less effective ones, future research may compare the CPM approaches and processes of successful multi-business firms with those of their less successful peers. Such research initiatives should be able to identify important key success factors for applying corporate portfolio management.

Future research should also focus on organizational capabilities and management skills that are required for effectively implementing CPM, including those that have to be embedded within the business units to create value for the corporation at large. For example, the field may benefit strongly from studies that address organizational ambidexterity, in order to better understand the positive impact on the corporate portfolio of balancing businesses that exploit existing capabilities with others that explore new opportunities.

Conclusion

Objectives of this paper were to appraise the present research status of corporate portfolio management as a major strategic management task of multi-business firms, to prove and challenge its value for practitioners and scholars, as well as to direct future research and theory development.

Although this paper is not primarily focusing on corporate diversification, it provides evidence that – at the aggregate level – corporate diversification is at best neutral in terms of value addition. On average means, however, that while there are many under-performing corporate diversifiers other multi-business firms do well in terms of profitability and market valuation – a fact proven by various studies. Hence, the research question arises which factors separate successful diversifiers from their less successful peers. Findings will have an impact on subsequent research for developing improved CPM instruments, too. A related research stream may analyze reasons that led corporate managers to overestimate diversification benefits and the role different CPM instruments play in this respect.

Based upon manifold examples from the corporate world one might further argue that diversification through acquisition most commonly destroys value due to information asymmetries, transaction costs, and takeover premiums. Accordingly, another promising avenue for diversification research may focus on studying to what extent the mode of diversification, i.e. acquisition versus organic growth, influences decision-making processes and outcomes. Again, CPM instruments may be of special interest regarding the question whether they effectively support the one or the other mode and regarding the question how to further advance them in order to match different contexts.

Overall, we conclude that, paradoxically, strategic management research offers only few insights into methods for effectively organizing and managing multi-business portfolios, which is of vital relevance for almost any medium-sized or large corporation. Academic research has not kept up with the realities and needs of the corporate world and in particular with CPM practices, thereby largely leaving the field to consultancies. While quite willing to criticize the approaches developed by these consultants, scholars have done a rather poor job of creating alternatives for what is clearly a critical corporate need. Future research should accept the challenge and start by

better understanding which structures, processes, and instruments of CPM are applied by multi-business firms. This will be the basis for developing the theoretical and methodological approaches that advance current CPM concepts and instruments in order to address the important gaps and shortcomings both in terms of strategic management theory and management practice.

References

Ansoff, H.I., Kirsch, W., & Roventa, P. (1982). Dispersed positioning in portfolio analysis. *Industrial Marketing Management*, 11: 237-252.

Armstrong, J.S. & Brodie, R.J. (1994a). Effects of portfolio planning methods on decision making: Experimental results. International Journal of Research in Marketing, 11: 73-84.

Armstrong, J.S. & Brodie, R.J. (1994b). Portfolio planning methods: Faulty approach or faulty research? A rejoinder to "Making better decisions" by Wensley. International Journal of Research in Marketing, 11: 91-93.

Armstrong, J.S. & Green, K.C. (2007). Competitor-oriented objectives: The myth of market share. International Journal of Business, 12(1): 116-134.

Barksdale, H.C. & Harris Jr., C.E. (1982) Portfolio analysis and the product life cycle. Long Range Planning, 15(6): 74-83.

Berger, P.G. & Ofek, E. (1995). Diversification's effect on firm value. Journal of Financial Economics, 37(1): 39-65.

Best, R.W., Hodges, C.W., & Lin, B.-X. (2004). Does information asymmetry explain the diversification discount? The Journal of Financial Research, 27(2): 235-249.

Bettis, R.A. & Hall, W.K. (1981). Strategic portfolio management in the multibusiness firm. California Management Review, 24(1): 23-38.

Bettis, R.A. & Hall, W.K. (1983). The business portfolio approach – Where it falls down in practice. Long Range Planning, 16(2): 95-104.

Campa, J.M., & Kedia, S. (2002). Explaining the diversification discount. Journal of Finance, 57(4): 1731-1762.

Campbell, A., Goold, M., & Alexander, M. (1995). Corporate strategy: The quest for parenting advantage. Harvard Business Review, 73(2): 120-132.

Campbell, A. & Luchs, K. (1992). Strategic synergy. London: Butterworth.

Capon, N., Farley, J.U., & Hulbert, J.L. (1987). Corporate strategic planning. New York, NY: Columbia University.

Cardozo, R., & Wind, J. (1985). Risk return approach to product portfolio strategy. Long Range Planning, 18(2): 77-85.

Chakrabarti, A., Singh, K., & Mahmood, I. (2007). Diversification and performance: Evidence from East Asian firms. Strategic Management Journal, 28(2): 101-120.

Chatterjee, S. (1992). Sources of value in takeovers: Synergy or restructuring - implications for target and bidder firms. Strategic Management Journal, 13(4): 267-286.

Chatterjee, S. & Wemerfelt, B. (1991). The link between resources and type of diversification: Theory and evidence. Strategic Management Journal, 12(1): 33-48.

Christensen, H., Cooper, A., & de Kluyver, C. (1981). The "dog" business: A reexamination. Academy of Management Proceedings: 26-30.

Collis, D.J. & Montgomery, C.A. (1995). Competing on resources: Strategy in the 1990s. Harvard Business Review, 73(4): 118-128.

David, P., O'Brien, J.P., Yoshikawa, T., & Delios, A. (2010). Do shareholders or stakeholders appropriate the rents from corporate diversification? The influence of ownership structure. Academy of Management Journal, 53(3): 636–654.

Davis, J. & Devinney, T. (1997). The Essence of Corporate Strategy. Sydney: Allen & Unwin.

Day, D. (1977). Diagnosing the product portfolio. Journal of Marketing, 41: 29-38.

Denis, D.J., Denis, D.K. & Yost, K. (2002). Global diversification, industrial diversification and firm value. Journal of Finance, 57(5): 1951-1971.

Denis, D.J., Denis, D.K. & Sarin, A. (1997). Agency problems, equity ownership and corporate diversification. Journal of Finance, 52(1): 135-160.

Derkinderen, F., & Crum, R. (1984). Pitfalls in using portfolio techniques: Assessing risk and potential. Long Range Planning, 17(2): 189-193.

Devinney, T.M. & Stewart, D.W. (1988). Rethinking the product portfolio: A generalized investment model. Management Science, 34(9): 1080-1095.

Devinney, T.M., Stewart, D.W. & Shocker, A.O. (1985). A Note on the Application of Portfolio Theory: A Comment on Cardozo and Smith. Journal of Marketing; 49(4): 107-111.

Drucker, P. (1954). The Practice of Management. New York, NY: Harper and Row.

Fauver, L., Houston, J., & Naranjo, A. (1999). Capital market development, legal systems and the value of corporate diversification: A cross-country analysis. CIBER Working paper, 02-10, University of Florida.

Galbraith, J.K. (1952). American capitalism: Concept of countervailing power. Boston, MA: Houghton Mifflin.

Gomes, J. & Livdan, D. (2004). Optimal diversification: Reconciling theory and evidence. Journal of Finance, 59(2): 507-535.

Gomes, R., & Knowles, P. (1997). The customer value/mission (CV/M) matrix and an application process for all portfolio planning. The Joumal of Marketing Management, 7(2): 24-43.

Goold, M., Campbell, A., Alexander, M. (1994). Corporate Level Strategy: Creating Value in the Multibusiness Company. New York: John Wiley & Sons.

Goold, M., Campbell, A., & Alexander, M. (1998). Corporate strategy and parenting theory. Long Range Planning, 31(2): 308-314.

Goold, M. & Luchs, K. (1993). Why diversify? Four decades of management thinking. Academy of Management Executive, 7(3): 7-25.

Grant, R.M. (2010). Contemporary Strategy Analysis. 7th ed. Malden, MA: Blackwell.

Grant, R.M., Jammine, A.P., & Thomas, H. (1988). 'Diversity, diversification, and profitability among British manufacturing companies.' Academy of Management Journal, 31(4): 771–801.

Hambrick, D., & MacMillan, I. (1982). The product portfolio and man's best friend. California Management Review, 25(1): 84-95.

Hambrick, D.C, MacMillan, I.C., & Day, D.L. (1982). Strategic attributes and performance in the BCG matrix—A PIMS-based analysis of industrial product businesses. Academy of Management Journal, 25(3): 510-531.

Haspeslagh, P. (1982). Portfolio planning: Uses and limits. Harvard Business Review, 60(2): 58-73.

Hax, A., & Majluf, N. (1982). Competitive cost dynamics: The experience curve. Interfaces, 12(5), 50-61.

Hax, A., Majluf, N. (1983a). The use of the growth-share matrix in strategic planning. Interfaces, 13(1): 46-60.

Hax, A., Majluf, N. (1983b). The use of the industry attractiveness-business strength matrix in strategic planning. Interfaces, 13(2): 54-71.

Hedley, B. (1977). Strategy and the "business portfolio". Long Range Planning, 10: 9-15.

Henderson, B.D. (1970). The product portfolio. Boston, MA: The Boston Consulting Group.

Henderson, B.D. (1973). The experience curve reviewed IV:The growth share matrix or the product portfolio. Perspectives, No. 135. Boston, MA: The Boston Consulting Group.

Hitt, M.A., Tihany, L., Miller, T., & Conelly, B. (2006). International diversification: Antecedents, outcomes, and moderators. Journal of Management, 32(6): 831-867.

Hoskisson, R.E., & Johnson, R.A. (1992). Corporate restructuring and strategic change: The effect on diversification strategy and R&D intensity. Strategic Management Journal, 13(8): 625-634.

Hoskisson, R.E., & Hitt, M.A. (1990). Antecedents and performance outcomes of diversification: A review and critique of theoretical perspectives. Journal of Management, 16(2): 461-509.

Itami, H., Kagono, T., Yoshihara, H. & Sakuma, S. (1982). Diversification strategies and economic performance. Japanese Economic Studies, 11(1): 78-110.

Jandik, T., & Makhija, A.K. (2005). Can diversification create value? Evidence from the electric utility industry. Financial Management, 34(1): 61–93.

Jensen, M.C. (1989). The eclipse of the public corporation. Harvard Business Review, 67(5): 61-74.

Jones, G.R. & Hill, C.W. (1988). Transaction cost analysis of strategy-structure choice. Strategic Management Journal, 9(2): 159-172.

Kale, P., & Singh, H. (2009). Managing strategic alliances: What do we know now, and where do go from here? Academy of Management Perspectives, 23(3): 45-62.

Kim, W.C., Hwang, P.; Burgers, W.P. (1989). Global diversification strategy and corporate profit performance. Strategic Management Journal, 10(1): 45-57.

Kim, W.C., Hwang, P.; & Burgers, W.P. (1993). Multinationals' diversification and the risk-return trade-off. Strategic Management Journal, 14(4): 275-286.

Lang, L.H., & Stulz, R.M. (1994). Tobin's Q, corporate diversification, and firm performance. Journal of Political Economy, 102(6): 1248-1280.

Lu, J.W. & Beamish, P.W. (2004). International diversification and firm performance: The S-curve hypothesis. Academy of Management Journal, 47(4): 598-609.

Lubatkin, M. & Chatterjee, S. (1994). Extending modern portfolio theory into the domain of corporate diversification: Does it apply? Academy of Management Journal, 37(1): 109-136.

Lyandres, E. (2007). Strategic cost of diversification. Review of Financial Studies, 20(6): 1901-1940.

MacMillan, I.C., Hambrick, D.C., & Day, D.L. (1982). The product portfolio and profitability: A PIMS-based analysis of industrial-product businesses. Academy of Management Journal, 25 (4): 733-755.

Maksimovic, V., & Phillips, G. (2002). Do conglomerate firms allocate resources inefficiently across industries? Theory and evidence. Journal of Finance, 57(2), 721–767.

Mansi, S.A., & Reeb, D.M. (2002). Corporate diversification: What gets discounted? Journal of Finance, 57(5): 2176-2183.

Markides, C.C. (1995). Diversification, restructuring and economic performance. Strategic Management Review, 16(2): 101-118.

Markides, C.C., & Williamson, P.J. (1996). Corporate Diversification and Organizational Structure: A Resource-Based View. Academy of Management Journal, 39(2): 340-367.

Markowitz, H. (1952). Portfolio selection. Journal of Finance, 7(21), 77–91.

Mathur, I., Singh, M. & Gleason, K.C. (2004). Multinational diversification and corporate performance: Evidence from European firms. European Financial Management, 10(3): 439–464.

Miller, D.J. (2006). Technological diversity, related diversification, and firm performance. Strategic Management Journal, 27(7): 601–619.

Morrison, A., & Wensley, R. (1991). Boxing up or boxed in? A short history of the Boston Consulting Group share/growth matrix. Journal of Marketing Management, 7: 105-129.

Nayyar, P. (1992). The measurement of corporate diversification strategy: Evidence from large U.S. service firms. Strategic Management Journal, 13(3): 219-235.

Palich, L.E., Cardinal, L.B., & Miller, C.C. (2000). Curvilinearity in the diversification–performance linkage: An examination of over three decades of research. Strategic Management Journal, 21(2): 155-174.

Pidun, U., Rubner, H., Kruehler, M., Nippa, M., & Untiedt, R. (2011). Corporate portfolio management: theory and practice. Journal of Applied Corporate Finance, 23(1): 63-76.

Prahalad, C.K. & Bettis, R.A. (1986). The dominant logic: a new linkage between diversity and performance. Strategic Management Journal, 7: 485-502.

Prahalad, C.K. & Hamel, G. (1990). The core competence of the corporation. Harvard Business Review, 68(3): 79-91.

Proctor, R.A., & Kitchen, P.J. (1993). Strategic planning: An overview of product portfolio models. Marketing Intelligence & Planning, 8(7): 4-10.

Rajan, R., Servaes, H., & Zingales, L. (2000). The cost of diversification: The diversification discount and inefficient investment. Journal of Finance, 55(1), 35–80.

Ramanujam, V., Varadarajan, P. (1989). Research on corporate diversification: A synthesis. Strategic Management Journal, 10(6): 523-551.

Robins, J.A. & Wiersema, M.F. (2003). The measurement of corporate portfolio strategy: Analysis of the content validity of related diversification indexes. Strategic Management Journal, 24(1): 39-59.

Rumelt, R.P. (1974). Strategy, structure, and economic performance. Cambridge, MA: Harvard University Press.

Rumelt, R.P. (1982). Diversification strategy and profitability. Strategic Management Journal, 3(4): 359-369.

Santalo, J. & Becerra, M. (2008). Competition from specialized firms and the diversification–performance linkage. Journal of Finance, 63(2): 851–883.

Schoar, A. (2002). Effect of corporate diversification on productivity. Journal of Finance, 57(6): 2379–2403.

Seeger, J.A. (1984). Reversing the images of BCG's growth share matrix. Strategic Management Journal, 5(1): 93-97.

Servaes, H. (1996). The value of diversification during the conglomerate merger wave. Journal of Finance, 51(4): 1201-1225.

Sharpe, W.F. (1963). A simplified model for portfolio analysis. Management Science 9(2): 277–293.

Shleifer, A. & Vishny, R.W. (1991). Takeovers in the '60s and the '80s: Evidence and implications. Strategic Management Journal, 12(1): 51-59.

Singh, D.A., Gaur, A.S., & Schmid, F.P. (2010). Corporate diversification, TMT xxperience, and performance. Management International Review, 50(1): 35-56.

Slater, S.F. & Zwirlein, T.J. (1992). Shareholder value and investment strategy using the general portfolio model. Journal of Management, 18(4): 717-732.

Stalk, G., Evans, P., & Shulman, L.E. (1992). Competing on capabilities: The new rules of corporate strategy. Harvard Business Review. 70(Mar-Apr): 57-69.

Tallman, S. & Li, J. (1996). Effects of international diversity and product diversity on the performance of multinational firms. Academy of Management Journal, 39(1): 179-196.

Trautwein, F. (1990). Merger motives and merger prescriptions. Strategic Management Journal, 11(4): 283-295.

van der Velten, T. & Ansoff, I. (1998). Managing business portfolios in German companies. Long Range Planning, 31(6): 879-885.

Villalonga, B. (2004). Diversification discount or premium? New evidence from the business information tracking series. Journal of Finance, 59(2): 479-506.

Wensley, R. (1981). Strategic marketing: Betas, boxes or basics. Journal of Marketing, 45: 173-183.

Wensley, R. (1982). PIMS and BCG: New horizons or false dawn? Strategic Management Journal, 3(2): 147-158.

Wensley, R. (1994). Making better decisions: The challenge of marketing strategy techniques. A comment on "Effects of portfolio planning methods on decision making: Experimental results" by Armstrong and Brodie. International Journal of Research in Marketing, 11: 85-90.

Wernerfelt, B., & Montgomery, C.A. (1988). Tobin's Q and the importance of focus in firm performance. The American Economic Review, 78(1): 246-250.

Williamson, O.E. (1975). Markets and hierarchies: Analysis and antitrust implications. New York, NY: Free Press.

Wind, Y. (1974). Product portfolio: A new approach to the product mix decision. In Ronald C. Curhan, (Ed.) Combined Proceedings, (pp. 460-464). Chicago, IL: American Marketing Association.

Wind, Y., & Mahajan, V. (1981). Designing product and business portfolios. Harvard Business Review, 59(1): 155-165.

Wind, Y., Mahajan, V., & Swire D.J. (1983). An empirical comparison of standardized portfolio models. Journal of Marketing, 47(2): 89-99.

Wright, R.V. (1978). A system for managing diversity. In S.H. Britt and H.W. Boyd, Jr. (Eds.) Marketing management and administrative action (pp. 46-60). New York, NY: McGraw-Hill.

Yan, A. (2006). Value of conglomerates and capital market conditions. Financial Management 35(4): 5-30.

[1] It is important to note that the term conglomerate is not used consistently in the relevant literature. Whereas some authors define conglomerates more narrowly as firms that are diversified in unrelated businesses (e.g., Servaes, 1996) others use the term more widely with regard to any diversification, whether related or unrelated (e.g., Gomes & Livdan, 2004). Henceforth, we will follow the first, i.e. narrow, definition.

[2] Studies probing the diversification-performance link frequently apply different profitability indicators such as return on capital, return on equity, and return on assets (Rumelt, 1974 and 1982; Itami, Kagono, Yoshihara, & Sakuma, 1982; Markides, 1995; Chatterjee & Wernerfelt, 1991). Other studies use growth measures like the growth rates of sales or earnings (Itami et al., 1982; Kim, Hwang, & Burgers, 1989) or risk (Itami et al., 1982). Beside these accounting-based indicators, the diversification-performance link is also tested based on market value (e.g., Wernerfelt & Montgomery, 1988; Fauver, Houston, & Naranjo, 1999; Villalonga, 2004). Additionally, it is noteworthy that the validity and comparability of respective studies are impacted by the way diversification is operationalized and measured (Robins & Wiersema, 2003). For the specific purpose of this study, however, we abstain from elaborating on these conceptual problems and only distinguish two major categories of the dependent variable, i.e. profitability and market valuation.

[3] In the case of the 'Linear Model' the positive impact of diversification – whether related or unrelated– is continuous, while the 'Intermediate Model' assumes that increases diminish with higher levels of diversification.

[4] Some researchers even doubt the existence of any causality between diversification and market value (Campa & Kedia, 2002; Mansi & Reeb, 2002).

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