Corporate Portfolio Management:
Appraising Four Decades of Academic Research

by Michael Nippa, Ulrich Pidun, and Harald Rubner

Executive Overview
Few major corporations are single business entities; rather, they are organizations that target many product-market combinations. Although academia has shown great interest in diversification and mergers and acquisitions, the management of multi-business portfolios, also known as corporate portfolio management (CPM), has received considerably less attention since the 1980s. This raises the question of why. Reviewing the scholarly literature on CPM we investigate the reasons for this disinterest and suggest a future research agenda for management scholars in this important domain.

Despite the ongoing academic drumbeat calling for the breakup of diversified corporations, multi-business firms remain the most prevalent form of organization around the world. This is true for both mature and emerging economies (Chakrabarti, Singh, & Mahmood, 2007). The dominance of multi-business firms, however, flies in the face of theoretical models and empirical studies asserting that corporate diversification destroys value (e.g., Berger & Ofek, 1995; Lang & Stulz, 1994; Lyandres, 2007; Rajan, Servaes, & Zingales, 2000). This inconsistency pushes scholars to better understand multi-business firms and how they are managed. Rather than focusing only 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.

Corporate portfolio management (CPM)—which should not be limited to simple matrices or other instruments for managing the corporate portfolio—is at the center of corporate strategy. It comprises key corporate-level strategic decisions, such as entry into new businesses, allocation of scarce resources to different business units, and liquidation of value-destroying divisions. CPM should thus be highly relevant for executives and investors as well as for 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, Untiedt, & Nippa, 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 However, in academia, a comprehensive review reveals only a few, often outdated, studies...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 focus on related but specific issues, such as diversification strategies (David, O’Brien, Yoshikawa, & Delios, 2010; Hoskisson & Johnson, 1992), mergers and acquisitions (Chatterjee, 1992; Trautwein, 1990), or parenting advantage (Campbell & Luchs, 1992; Goold, Campbell, & Alexander, 1998).

Hence, the objectives of this paper are to address the apparent gap between the practical and theoretical importance and the ongoing academic disregard of CPM, and to subsequently derive promising fields of future research. Three motivations guided our critical appraisal of four decades of academic research: (a) the apparent need to systematically assess the intellectual ground and scholarly debate regarding CPM and CPM instruments, (b) the wish to uncover and to clarify common misbeliefs about CPM, and (c) our intention to elaborate interesting research questions that will help close the identified gaps.

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 decades. Central to the question of whether scholars acknowledge the importance and relevance of CPM is the overriding economic rationale supporting whether, and under what conditions, diversification adds value to or destroys value within the firm (i.e., whether external market coordination of businesses outperforms internal, hierarchical coordination). Hence, our review distinguishes among three interrelated research streams that mirror the scholarly debate of CPM: (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). Finally, we propose promising fields of future research.

Our research contributes to the field of strategic management research in three ways. First, it demonstrates how the understanding of CPM is influenced by academic hearsay, perpetuation, and paradigms that hamper objective analyses and methodological advancements. Second, we highlight the need for substantial theory development and lay out an agenda for future research in this important domain of corporate strategy.

The Rise and Fall of CPM in Strategic Management Thinking

Centuries ago, the Fugger banking family dynasty, which dominated Europe in the 15th and 16th centuries, and the East India Company, the powerful megacorporation that had a near-monopoly on all commerce in India and China between the 17th and 19th centuries, were aware of the need to successfully manage different business activities, such as expanding into new ventures, allocating scarce resources, closing down unprofitable branches, and 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 and Siemens. However, multi-business firms became more prevalent and a subject of major scholarly interest only in the decade after the Second World War (Rumelt, 1974, 1982). In those early days, three important paradigms emerged that shaped strategic management thinking for almost three decades and subsequently fostered corporate diversification activities.

First, firm growth was seen as the most important driver of profitability and success. The wartime economy (e.g., Liberty ships and B-24s) had proven that high-volume production offered many cost advantages, gained primarily through learning, specialization, and economies of scale. Consequently, scale growth—gaining market share through organic growth or acquisitions—became the dominant strategy. In addition, 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). This belief was based on theoretical reasoning and empirical evidence that proved corporate headquarters to be more efficient than external capital markets when it came 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 to apply in various industries and businesses (Goold & Luchs, 1993). Consequently, it was perceived that management elites should be able to successfully lead a set of different strategic business units.

Propelled by these paradigms, diversification strategies became the norm 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, diversification into weakly and non-related conglomerate businesses came into favor soon after. In the wake of a general quest for growth, conglomerates with unrelated business units and high price/earnings multiples (such as Transamerica, ITT, and Hanson) became the darlings of the stock markets and received cheap capital that enabled them to continue to grow through the acquisition of additional businesses.

This shift toward diversifying into unrelated conglomerate businesses had a significant impact on management. Management of diversified corporations had to formulate and implement efficient corporate strategies to generate and allocate free cash flow, exploit synergies, identify new growth opportunities, and/or decide whether to sell low-performing businesses.

From a financial perspective, managing different businesses of a corporation resembles managing 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 logical.

At the time, the name most clearly attached to this emerging portfolio approach was that of Bruce D. Henderson, founder of the Boston Consulting Group (BCG). In the late 1960s he systematized and simplified a process for evaluating 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,” he wrote. “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, other management consultants, such as McKinsey (Wind, 1974) and A. D. Little (Wright, 1978), developed similar CPM matrices. These became very popular among corporate management, were used by many large companies (Bettis & Hall, 1981; Hasipeslagh, 1982), and quickly found their way into many strategic management textbooks of the time.

By the 1980s, however, the pendulum of strategic management thinking started to swing back toward more focused corporate portfolios. 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 hand) built on theories of core competencies or capabilities-oriented corporate strategy (Collis & Montgomery, 1995; Prahalad & Hamel, 1990; Stalk, Evans, & Shulman, 1992). In turn, external forces established a market for corporate control that stimulated company restructuring, corporate spin-offs, and increasingly more focused companies (Goold & Luchs, 1993). More and more economists argued that increasingly efficient fi-
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 and scholars should not squander their efforts there. The predominance of an economic paradigm that denies the pertinence of corporate diversification may be the reason for scholars’ diminishing interest 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 investigation of the status of corporate portfolio management research thus started with a question: How relevant is CPM as a key discipline of corporate strategy given the alleged economic inferiority of corporate diversification in contrast to market-based diversification? In the subsequent section we investigate the major causes of scholarly criticism of CPM and how valid they are. And finally, we provide answers to the question of to what extent scholars have systematically investigated actual CPM practices and implementation of CPM instruments.

Does Research on Diversification Eviscerate CPM?
The diversification-performance link has been intensively studied by management researchers from various disciplines since the late 1980s (e.g., Chatterjee & Wernerfelt, 1991; Goold & Luchs, 1993; Hitt, Tihan, Miller, & Connelly, 2006; Palich, Cardinal, & Miller, 2000; Ramanujam & Varadarajan, 1989). Advancing Palich et al. (2000), rationales and empirical evidence can be organized into three categories: value creation from diversification, value destruction from diversification, or an inverted U form (see Table 1). For each category one finds theoretical justifications as well as empirical support.

Theoretical Models of the Diversification-Performance Link.
Value-enhancing models propose a consistently positive relationship between diversification and corporate performance. They draw mainly on arguments from market power theory, internal capital market efficiency reasoning, transaction costs theory, portfolio theory, industry or product life cycles, and taxation advantages (Gomes & Livdan, 2004; Grant, 2010; Lubatkin & Chatterjee, 1994; Markides & Williamson, 1996). For example, significant advantages of corporate diversification are said to derive from economies of scale and scope, smart allocation of capital based on sophisticated knowledge about businesses, exploration of new business opportunities while simultaneously exploiting mature businesses, and tax benefits of profit retention. Consequently, investors should prefer diversified over less diversified multi-business firms, leading to a diversification or conglomerate premium (Palich et al., 2000).

Advocates of value-destroying models refer predominantly to internal transaction costs and principal-agent reasoning, and argue that the cost of increasing bureaucracy and subsequent coordination and governance costs exceed the economic benefits of diversification, such as exploiting economies of scope (Denis, Denis, & Sarin, 1997; Jones & Hill, 1988; Lu & Beamish, 2004), leading to a decrease in 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. Empirical findings showing that conglomerates trade at a discount, relative to a portfolio of comparable stand-alone firms, reinforced researchers’ belief that diversification destroys value (Gomes & Livdan, 2004).

Authors advocating inverted-U models argue that there is an optimal level of diversification—that is, that moderately diversified firms outperform both single-business firms and limited diversifiers on one hand and highly diversified corporations on the other. In particular, some argue 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 in profitability compared to focused firms and limited diversifiers (Lu-
These businesses also may be able to explore and 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; Singh, Gaur, & Schmid, 2010; Tallman & Li, 1996).

### Empirical Evidence for These Models

Our focused review reveals that there is no clear empirical proof of an unconditional economic disadvantage of corporate diversification. 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 (Hoskisson & Hitt, 1990; Table 1).

### Table 1

**Generic Models and Empirical Evidence of the Diversification-Performance Link**

<table>
<thead>
<tr>
<th>Value-Enhancing Models</th>
<th>Inverted-U Models</th>
<th>Value-Destroying Models</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>THEORETICAL RATIONALE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Market power advantages such as cross-subsidization</td>
<td>• Synergies and parenting advantage can be exploited to only a certain degree of diversification</td>
<td>• Internal power struggles increase influence costs</td>
</tr>
<tr>
<td>• Economies of scale and scope regarding multiple-use resources</td>
<td>• Competitive advantages restricted to related diversification</td>
<td>• Inefficient internal capital markets</td>
</tr>
<tr>
<td>• Capital market advantages and more efficient allocation</td>
<td>• The less related the diversification the more costs outlast benefits</td>
<td>• Inappropriate expansion due to agency problems</td>
</tr>
<tr>
<td>• Corporate diversification reduces risk, or volatility in rates of return</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>EMPIRICAL EVIDENCE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Profitability increase</td>
<td>≠-Shape run of profitability</td>
<td>Profitability decrease</td>
</tr>
<tr>
<td>• Palich and colleagues (2000)</td>
<td>• Palich and colleagues (2000)†</td>
<td></td>
</tr>
<tr>
<td>Diversification premium</td>
<td>Contingent market value</td>
<td>Diversification discount</td>
</tr>
<tr>
<td>• Yan (2006)†</td>
<td>• Palich and colleagues (2000)†</td>
<td>• Berger and Ofek (1995)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Denis, Denis, and Yost (2002)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Best, Hodges, and Lin (2004)</td>
</tr>
</tbody>
</table>

Substantially modified from Palich and colleagues (2000).

Key: *selection; †meta-analysis; ‡for costly external capital markets only.

batkin & Chatterjee, 1994).
Palich et al., 2000; Rumelt, 1974; Santalo & Becerra, 2008; Singh et al., 2010). There is ample evidence that corporate diversification pays as long as the benefits deriving from factors predominately subsumed under relatedness are not over-compensated by escalating internal coordination costs.

After more than 40 years of research, there is thus no clear understanding of whether corporate diversification adds or destroys value. Several authors have pointed out that comparisons and conclusions are impeded by the 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 questions may be how diversification can increase the value of a company and how a corporation should manage its diversified portfolio.

**What Are the Major Causes of Scholarly Criticism of CPM, and How Valid Are They?**

As mentioned above, CPM frameworks and instruments have been developed to help executives of diversified corporations make strategic decisions. Whereas the original BCG growth-share matrix quantifies market attractiveness and competitive position based on single proxies (market growth in contrast to relative market share), frameworks such as the GE/McKinsey industry attractiveness-business strength matrix aggregate multiple parameters (Bettis & Hall, 1981; Wind & Mahajan, 1981). Although some traditional corporate portfolio instruments consider different variables, they ultimately modify only two dimensions: market conditions (the “attractiveness” dimension) and company potential relative to competitors (the “competitive position” dimension; Hambrick & MacMillan, 1982, p. 85).

While practitioners perceive CPM matrices as useful and intelligible tools for corporate planning and particularly resource allocation (Day, 1977; Hax & Majluf, 1983a; Hedley, 1977; Pidun et al., 2011; Seeger, 1984), reception and assessment by academia have been overwhelmingly negative. However, a closer look reveals some interesting patterns over time (see Figure 1). Research-oriented journals rarely published articles that explained and demonstrated 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 the 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 around the world, research interest seems to have vanished after the mid-1980s, apart from some rare exceptions in the 1990s. This raises an interesting question: what causes this apparent scholarly neglect in light of CPM’s ongoing practical use? The first thought is that the academic assessment and fierce criticism of CPM matrices (Day, 1977; Wensley, 1981; Wind, Mahajan, & Swire, 1983) led researchers to claim their general inferiority and/or potential harm to the firm from CPM.

Before detailing the criticism, however, we will elaborate on important aspects and streams of criticism. As there is not one single CPM matrix but different, partly competing ones (Wind et al., 1983), scholars need 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 centers on the traditional BCG growth-share matrix—probably because of its widespread use, success, and pictorial labeling—some authors (e.g., Slater & Zwirlein, 1992) address other matrices 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 on 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, in contrast to Wensley, 1994). The following review of the criticism of CPM instruments makes use of broad categories that show up in the overall picture: on 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 (see Table 2).

Criticism Regarding the Basic Concept and Operationalization of CPM Matrices. Many authors question whether CPM matrices are appropriate models for strategy formulation and decision making at the corporate level. Some question whether management within multi-business firms can make reliable decisions based on just two variables and a single objective—that is, cash flow balance (Ansoff, Kirsch, & Roventa, 1982; Seeger, 1984; Wensley, 1981, 1982)—while others emphasize the virtue of this simplicity (Day, 1977; Derkinderen & Crum, 1984; Wensley, 1994). Other approaches, such as the industry attractiveness-business strength 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 (Hax & Majluf, 1983b; Wensley, 1981; Wind et al., 1983). Accordingly, CPM matrices are frequently marked as oversimplified methods that will most likely lead to inferior strategic decisions (Armstrong & Brodie, 1994a; Seeger, 1984; Slater & Zwirlein, 1992).

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 and Majluf (1983a), who argued that exter-
## Table 2
### Important Scholarly Criticism Regarding CPM Matrices

<table>
<thead>
<tr>
<th></th>
<th>Author(s)</th>
<th>Journal</th>
<th>Category of Criticism</th>
<th>Primary Foundation</th>
<th>Criticism/Proposals for Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Day (1977)</td>
<td>Journal of Marketing</td>
<td>F M A O</td>
<td>✓ Conceptual</td>
<td>Wrong assumptions regarding generalizability of market share profitability link; other firm objectives than cash balance; measures; unanticipated consequences.</td>
</tr>
<tr>
<td>2</td>
<td>Christensen and colleagues (1981)</td>
<td>Academy of Management Proceedings</td>
<td>F M A O</td>
<td>✓ Empirical</td>
<td>Inappropriateness of strategic prescriptions for corporate “dog” divisions; invalid or too narrow assumptions that need careful verification in a particular context.</td>
</tr>
<tr>
<td>3</td>
<td>Wensley (1981)</td>
<td>Journal of Marketing</td>
<td>F M A O</td>
<td>✓ Empirical</td>
<td>Preference for high market growth (e.g., faster payoff) and cash balance (e.g., disregard of external capital market and risk) empirically and theoretically not justified.</td>
</tr>
<tr>
<td>7</td>
<td>Ansoff and colleagues (1982)</td>
<td>Industrial Marketing Management</td>
<td>F M A O</td>
<td>✓ Empirical</td>
<td>Challenge “point hypothesis,” i.e., determination of a certain location of each SBU; formulate a need for “area hypothesis” and propose dispersed positioning of SBUs.</td>
</tr>
<tr>
<td>8</td>
<td>Wensley (1982)</td>
<td>Strategic Management Journal</td>
<td>F M A O</td>
<td>✓ Empirical</td>
<td>Criticizes very unrealistic competitive responses and overemphasis of economics and cost advantages; questions link between market share and growth and profitability.</td>
</tr>
<tr>
<td>9</td>
<td>Barksdale and Harris (1982)</td>
<td>Long Range Planning</td>
<td>F M A O</td>
<td>✓ Conceptual</td>
<td>Definitional problems (e.g., SBUs or product/market groups; standardized market growth rates); incompleteness (pioneering products, negative growth); offer own model.</td>
</tr>
<tr>
<td>10</td>
<td>Bettis and Hall (1983)</td>
<td>Long Range Planning</td>
<td>F M A O</td>
<td>✓ Conceptual</td>
<td>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).</td>
</tr>
<tr>
<td>11</td>
<td>Hax and Majluf (1983a, 1983b)</td>
<td>Interfaces</td>
<td>F M A O</td>
<td>✓ Conceptual</td>
<td>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.</td>
</tr>
</tbody>
</table>
nal 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 strategic business units (SBUs) are therefore needed.

As a heuristic regarding the cash flow of a product

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### Table 2 (Continued)

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Journal</th>
<th>Category of Criticism</th>
<th>Primary Foundation</th>
<th>Criticism/Proposals for Improvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Wind and colleagues (1983)</td>
<td>Journal of Marketing</td>
<td>F M A O</td>
<td>conceptual</td>
<td>Inconsistencies with respect to classification of SBUs within portfolio due to equivocal operational definitions and weightings of variables, division rules applied, and model used.</td>
</tr>
<tr>
<td>13 Derkinderen and Crum (1984)</td>
<td>Long Range Planning</td>
<td>F M A</td>
<td>✓</td>
<td>Share/growth portfolio techniques disregard subtle but strategically important situational characteristics, and therefore can lead to problematic recommendations.</td>
</tr>
<tr>
<td>14 Seeger (1984)</td>
<td>Strategic Management</td>
<td>F M A</td>
<td>✓</td>
<td>Problem of oversimplification and stereotyping leading to wrong decisions by naive users; dangerous misapplication if model seen as a prescription of norm strategies.</td>
</tr>
<tr>
<td>15 Devinney and Stewart (1988)</td>
<td>Management Science</td>
<td>F M A</td>
<td>✓</td>
<td>Referring to limitations of traditional CPM and project selection models, an advanced model is proposed that accounts for different forms of risk, interdependencies, etc.</td>
</tr>
<tr>
<td>16 Proctor and Kitchen (1990)</td>
<td>Marketing Intelligence and Planning</td>
<td>F M A</td>
<td>✓</td>
<td>Mainly repetition of what is already known, e.g., univariate measures (market growth and share); high growth markets may be in attractive; disregard of capabilities.</td>
</tr>
<tr>
<td>17 Morrison and Wensley (1991)</td>
<td>Journal of Marketing</td>
<td>F M A</td>
<td>✓</td>
<td>Review of the history of the BCG matrix and further advancements; systematization of established criticism (e.g., focus, assumptions, definitions, politicking, implementation).</td>
</tr>
<tr>
<td>18 Slater and Zvirlein (1992)</td>
<td>Journal of Management</td>
<td>F M A</td>
<td>✓</td>
<td>Investment decisions based on prescriptions from GE-/McK industry attractiveness — competitive position matrix may lead to value destruction instead of value creation.</td>
</tr>
<tr>
<td>19 Armstrong and Brodie (1994a)</td>
<td>International Journal of Research in Marketing</td>
<td>F M A</td>
<td>✓</td>
<td>Laboratory experiments with 1,000 + subjects (not specified) showed that those who knew or used the BCG matrix were misled and chose an inferior investment decision.</td>
</tr>
<tr>
<td>20 Armstrong and Green (2007)</td>
<td>International Journal of Business</td>
<td>F M A</td>
<td>✓</td>
<td>Paper does not focus on CPM, but on competitor and market share orientation (key for CPM matrices); result: competitor-oriented objectives especially market share are harmful.</td>
</tr>
</tbody>
</table>

F = Fundamental  
M = Model  
A = Application  
O = Outcome  
● = Issue is central to the paper  
○ = Issue mentioned, but not major focus of paper
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 such as technology and sourcing moderate the relationship of market share and profitability; thus, firms that make increasing relative market share a strategic priority may neglect other important drivers of profitability (Hax & Majluf, 1983a). More generally, Armstrong and Green (2007) reviewed and summarized studies that proved, 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.

The final challenge, the superiority of investments in industry growth, was addressed by Hax and Majluf (1983a, p. 56) when they asked: "Is industry growth really the only variable that fully explains growth opportunities?" This is particularly relevant to the BCG growth-share matrix with its emphasis on industry and business growth. Wensley (1981) 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 toward high-growth markets appears to be unfounded.

Besides challenging these assumptions, scholars frequently criticized the lack of clear definitions, criteria, and metrics, particularly with regard to the definition of the relevant markets and SBUs or the scales and dividing lines of the portfolio matrices (Ansoff et al., 1982; Christensen, Cooper, & de Kluyver, 1981; Day, 1977; Morrison & Wensley, 1991). Wind and colleagues (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, 1994a; Derkinderen & Crum, 1984; Wind et al., 1983), while others argue that there is an inherent vagueness in determining future strategies and propose replacing "single-point positioning" of business units with "dispersed positioning" based on 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 (Barksdale & Harris, 1982; Derkinderen & Crum, 1984; Proctor & Kitchen, 1993; Wensley, 1981), yet only a few scholars propose a conceptual alternative other than modulating and sophisticating the basic scheme. Devinney and Stewart (1988) pointed out that the products (or SBUs) in a corporate portfolio can be considered as alternative investments competing for scarce resources, much like 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 emphasized that internal corporate diversification is justified only 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 pointed out that products are risky assets that are not traded currently but could be traded if their external value exceeded the internal value potential. Based on these clarifications they developed, operationalized, and conceptually tested a sophisticated multi-product investment model that built on a theory of traded and non-traded assets. This theory-based comprehensive operational guide for decision making in multi-
business firms offers a promising research direction for advancing CPM.

**Criticism Regarding Misapplication and Outcomes.** Criticism of traditional CPM instruments highlights problems, deficiencies, and errors associated with the application of CPM methods resulting from (a) inadvertent or deliberate misapplication of the instrument, (b) blind implementation of the prescriptive strategies that follow from the analysis, or (c) the general inferiority of strategic conclusions from CPM matrices.

First, critics often cite the inadequate application of CPM instruments. 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 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, resulting in a more favorable (or unfavorable) position of the respective SBU in the grid system.

Second, some critics question whether prescriptive strategies, especially concerning “dog businesses,” are appropriate and feasible (e.g., Christensen et al., 1981). Applying Profit Impact of Market Strategy (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.” Among others, Seeger (1984) pointed out that unintended misinterpretations combined with blind adherence to normative strategy recommendations lead to wrong decisions that can jeopardize the whole corporation, just as much as deceptive behavior by different interest groups.

Third, a different stream of criticism claims that even the correct and unbiased application of CPM matrices may lead to inferior decisions and value destruction because SBUs are classified into a limited number of categories with specific strategic recommendations based on only few simplistic criteria (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).

Assuming that portfolio planning concepts are consistent with modern finance theory, Slater and Zvirlein (1992) tested whether respective prescriptions lead to superior corporate performance by analyzing reporting data from 129 multi-business firms in a seven-year time frame. Their results showed 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 (1994b) 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 into selecting the apparently inferior investment decision. Hence, they concluded: “Until contrary evidence is produced, we advise against using matrix methods under all circumstances” (p. 84).

**Have Scholars Systematically Investigated Actual CPM Practices and Implementation?**

Many, even fierce critics of CPM, admit that inappropriate application of CPM concepts and misuse of its matrices is not inherent to the methods, but 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 to verify and substantiate pitfalls and draw-
backs. However, there are relatively few studies, and these are mostly outdated survey-based investigations.

The few empirically based analyses of how CPM tools are used within the strategic planning processes of corporations (see Figure 1) 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 motivate managers to adopt CPM (Bettis & Hall, 1981; Haspeslagh, 1982).
- Defining appropriate SBUs based on clear criteria and different perspectives (e.g., headquarters versus 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 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 on 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. Future research on CPM should examine a rich set of issues. First, we need to address criticism of existing CPM instruments, from disagreement about the relevance of corporate diversification at large as well as from gaps in the existing theory. Additionally, we need to 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 are widely believed to have significant impact on the potential success of an organization. Methods and instruments employed by firms to support strategic decision making need to consider the inherent uncertainty, dynamism, and complexity of the strategic setting. Criticizing 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 how managers apply strategic planning tools than the tools themselves, as these managers have to decide whether additional information is necessary to substantiate decisions (Day, 1977; van der Velten & Ansoff, 1998). Therefore, scholars need to develop more sophisticated CPM methods 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) to generate greater insight.

In addition, scholars need to explore whether CPM relevance differs around the world. Today, the economic and competitive environments of

2011 Nippa, Pidun, and Rubner
emergent economies may in fact reflect the original assumptions about CPM. In contrast, the external capital markets in developed countries in the last two decades have shown a high degree of efficiency and call for different CPM approaches. 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. Therefore, there is the need to understand the impact of CPM in different institutional settings.

Existing CPM instruments have also been criticized for giving no guidance regarding the definition of strategic business units as planning objects, and their 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 bathwater, future research should focus on two things: (a) developing instruments that support decision makers in better defining markets, scales, and multiple mapping to reduce ambiguity and arbitrariness and (b) providing managers with guidelines on important contingencies that affect the appropriateness and applicability of these measures.

Further Probing the Relevance of CPM Research

Our review of the diversification literature did not produce unanimous 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). As a result, scholars should investigate the reasons for the enduring ambiguity and discrepancies in the results of studies of the diversification-performance link. Future research on diversification strategies should specifically 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). Suitable studies will 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 such as 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 development of specific theories in this important field of corporate strategy. If corporate diversification pays off mainly 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 use 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.
Another key issue within theory development was highlighted by Kale and Singh (2009), who argued that managing strategic alliances as a portfolio is a conceptual approach that is promising but unexplored. Specifically, scholars predominantly addressed single alliances and their underlying motives, success factors, and required capabilities. However, selecting and maintaining a portfolio of strategic alliances requires on one hand different management skills than managing a single alliance and on the other hand other methods and measures than those required for managing a traditional corporate portfolio.

Theoretical models of the portfolio problem based on risk and return reasoning (e.g., Devinney & Stewart, 1988) 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, Stewart, & Shocker, 1985). More specifically, investments in businesses are structurally different from investments in financial markets, 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 in current financial portfolio techniques. These challenges and open questions offer interesting future research opportunities.

Scholars should also focus on the following questions: 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 versus exploration of corporate capabilities), or is there a target function that should be maximized (as implied in the industry attractiveness-business strength matrix)? It may turn out that it is not an either/or decision but rather an issue of 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 portfolios. 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. In addition, analyzing possible biases introduced by applying certain CPM tools as well as highlighting important contingencies may help to develop more appropriate methods. 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 to effectively implement 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, to better understand the positive impact on the corporate portfolio of balancing businesses that exploit existing capabilities with others that explore new opportunities.

Conclusions

The objectives of this paper were to appraise the current state of research into corporate portfolio management as a major strategic management task of multi-business firms, to prove and challenge its value for practitioners and scholars,
and to direct future research and theory development.

For the most part, inappropriate applications of CPM matrices stem from the mistaken belief that they lead to definite strategic prescriptions or norm strategies. Portfolio analysis and the resulting positioning of SBUs should be considered a helpful diagnostic technique that inspires questions and debates among managers. They should also be “used with care and discipline” (Morrison & Wensley, 1991, p. 127) and combined with other qualitative and quantitative analyses. Critics often forget that the basic intention of CPM matrices was to help managers ask the right questions, not to provide deterministic answers and prescriptions of normative strategies (Morrison & Wensley, 1991; Proctor & Kitchen, 1993). They offer rough guidelines rather than strict rules and do not entrench strategies. In other words, CPM is meant to support strategic thinking, not to replace it.

Paradoxically, strategic management research offers 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 consultants. 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 to address the important gaps and shortcomings both in terms of strategic management theory and management practice.

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References


