

Strategy-Process Research: What Have We Learned and What Is Still to Be Explored[†]

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This article attempts to reflect the current state and progress of strategy-process research. Based on a literature review, an integrative framework is developed encompassing key antecedents, process and outcome factors, and the interrelationship among them. The review reveals that strategy-process research has made considerable progress in the past, shifting the focus from strategic planning to new areas, thereby emphasizing the exposed position of the individuals involved. The authors recommend that researchers conduct more studies that explore the effects of the individuals involved in strategy processes and the phases prior to and after the actual decision making.

Keywords: strategy process; strategic decision making; literature review

Is strategy-process research really in a crisis? Some scholars claim so. Certainly, the field is characterized by an ever-increasing plurality of concepts and frameworks. Some of these are prescriptive (e.g., Andrews, 1971; Ansoff, 1965; Chandler, 1962; Farjoun, 2002; Mintzberg, 1994d), whereas others are descriptive (e.g., Bower, 1970; Lovas & Ghoshal, 2000; Mintzberg, 1978; Noda & Bower, 1996; Quinn, 1980). Some are anchored at the individual level (e.g., Hiller & Hambrick, 2005; Miller, 1993b; Nutt, 1998b), some at the group level (e.g., Golden & Zajac, 2001; Iaquinto & Fredrickson, 1997; Rindova, 1999), and some

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at the organizational level (e.g., Bower, 1970; Burgelman, 1983b; Farjoun, 2002). The result is an amazing set of partly competing, partly overlapping models.

Then again, is not pluralism the strength of the field? Different perspectives and disciplinary contributions provide far more insights into the strategy-process phenomenon than a single perspective could do. However, the proliferation of concepts and frameworks fosters a complexity in which it seems easy to get lost.

Thus, this article attempts to provide guidance on what we have learned and what is still to be explored in strategy-process research. Hence, the article is organized as follows. First, we outline our approach to identify relevant literature. Based on a careful examination of the theoretical and empirical literature, we develop an integrative framework. In doing so, we identify key antecedents and process and outcome factors, including the interrelationship among them. Second, we use this framework to review and synthesize past research. Thereby, we outline crucial findings, contradictions, and gaps in the present literature; bring together what we have learned so far; and map the current intellectual structure of strategy-process research. Finally, we uncover underexplored fields in strategy-process research and provide suggestions for future research and managerial practice.

Development of an Integrative Framework

Identification of the Literature

We chose to limit our review to articles published in journals because these can be considered validated knowledge and are likely to have the highest impact in the field (Podsakoff, MacKenzie, Bachrach, & Podsakoff, 2005). Relevant journals were identified based on a set of articles on journal quality and ranking (among others, Johnson & Podsakoff, 1994; Podsakoff et al., 2005; Tahai & Meyer, 1999). Unlike previous reviews in the field, our aim was to expand the scope of the review with regard to the broad disciplinary base of strategy-process research. Consequently, we included journals in related fields such as organizational behavior and organization theory and in more distant fields such as sociology and psychology. Because practice is the root of strategic management (Bowman, Singh, & Thomas, 2002; Pettigrew, Thomas, & Whittington, 2002), we also included practitioner-oriented journals. The resulting working list consisted of 21 journals (Table 1).

A selected set of 10 keywords was used to conduct a computerized search (Brynjolfsson, 1993; Van De Ven, 1992) of the literature in the *Business Source Premier Publications* database for the period between 1992 and April 2005. We selected 1992 as a starting point as it represents a seminal date in the history of strategy-process research. Both the summer and the winter special issues of the *Strategic Management Journal* were dedicated to strategy-process research. Furthermore, earlier work on strategy-process research was already extensively reviewed elsewhere (e.g., Huff & Reger, 1987; Rajagopalan, Rasheed, & Datta, 1993).

The database search returned 1,307 keyword hits, originating from 991 disjoint articles. We reviewed the abstracts of these articles to identify those with a major focus on strategy-process-related topics. From these, we created a working list of 294 articles. We collected copies of these articles and used them as a basis for our review. We excluded articles that did not

Table 1
Number of Keyword Hits in Abstracts of Articles in Different Journals in the *Business Source*
Premier Publications Database (January 1992 – March 2005)

| | Strategy* and Process | Strategy Process | Strategy Making | Strategy Formulation | Strategy Formation | Strategy* and Decision Making | Strategic Decision | Strategic Planning | Strategy Implementation | Strategy Realization | Total Hits by Keyword | Disjoint Articles |
|---|-----------------------------|---------------------|--------------------|-------------------------|-----------------------|-------------------------------------|-----------------------|-----------------------|----------------------------|-------------------------|-----------------------------|----------------------|
| <i>Academy of Management Executive</i> | 20 | 0 | 1 | 2 | 0 | 2 | 8 | 4 | 6 | 0 | 43 | 38 |
| <i>Academy of Management Journal</i> | 16 | 0 | 2 | 1 | 0 | 10 | 6 | 1 | 3 | 0 | 39 | 28 |
| <i>Academy of Management Review</i> | 17 | 1 | 1 | 2 | 0 | 7 | 6 | 0 | 0 | 1 | 35 | 26 |
| <i>Administrative Science Quarterly</i> | 10 | 2 | 2 | 0 | 0 | 3 | 1 | 1 | 0 | 0 | 19 | 13 |
| <i>California Management Review</i> | 32 | 1 | 3 | 3 | 0 | 5 | 2 | 4 | 4 | 0 | 54 | 43 |
| <i>Decision Science</i> | 32 | 0 | 0 | 0 | 0 | 20 | 7 | 1 | 1 | 0 | 61 | 45 |
| <i>Harvard Business Review</i> | 58 | 1 | 4 | 1 | 0 | 19 | 10 | 19 | 4 | 0 | 116 | 101 |
| <i>Human Relations</i> | 19 | 0 | 0 | 0 | 0 | 5 | 1 | 1 | 1 | 0 | 27 | 24 |
| <i>Industrial & Labor Relations Review</i> | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 5 | 5 |
| <i>Journal of Applied Psychology</i> | 6 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 11 | 10 |
| <i>Journal of International Business Studies</i> | 13 | 0 | 1 | 0 | 0 | 4 | 3 | 0 | 0 | 0 | 21 | 18 |
| <i>Journal of Management</i> | 23 | 3 | 1 | 3 | 2 | 11 | 9 | 1 | 2 | 0 | 55 | 36 |
| <i>Journal of Management Studies</i> | 51 | 2 | 5 | 3 | 2 | 19 | 15 | 5 | 8 | 0 | 110 | 80 |
| <i>Journal of Organizational Behavior</i> | 12 | 0 | 0 | 0 | 0 | 5 | 2 | 0 | 2 | 0 | 21 | 17 |
| <i>Long Range Planning</i> | 149 | 7 | 8 | 5 | 4 | 18 | 16 | 78 | 20 | 0 | 305 | 227 |
| <i>Management Science</i> | 47 | 1 | 1 | 1 | 0 | 12 | 5 | 3 | 2 | 0 | 72 | 61 |
| <i>Organizational Behavior and Human Decision Processes</i> | 15 | 0 | 0 | 0 | 0 | 25 | 4 | 0 | 0 | 0 | 44 | 37 |
| <i>Organization Science</i> | 27 | 0 | 1 | 0 | 2 | 16 | 8 | 2 | 2 | 0 | 58 | 42 |
| <i>Personnel Psychology</i> | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| <i>Research in Organizational Behavior</i> | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| <i>Strategic Management Journal</i> | 87 | 13 | 8 | 7 | 2 | 33 | 28 | 19 | 11 | 0 | 208 | 137 |
| Total | 640 | 31 | 38 | 28 | 12 | 220 | 131 | 140 | 66 | 1 | 1,307 | 991 |

Note: *was used as a variable allowing any ending like *strategy* or *strategic*.

show a focus on any strategy-process-related topic, despite an abstract that might have induced such a focus, from the subsequent literature review. The final list consisted of 227 articles.

Development of the Framework

According to Ginsberg and Venkatraman (1985), an analytical review scheme is necessary for systematically evaluating the contribution of a given body of literature. A careful analysis of the body of literature revealed three broad categories of factors relevant within strategy-process research: antecedents (A), processes (B), and outcomes (C).

Strategy processes unfold in and are shaped by environmental and organizational context (Pettigrew, 1997). Taking place in the *environmental context*, strategy processes are influenced by environmental attributes such as uncertainty, complexity, munificence, and dynamism (Dess & Beard, 1984; Sharfman & Dean, 1991) as well as by politics and regulation (Duncan, 1972). Within the environment, an organization is characterized by its *strategic context*, referring to the strategic position and moves of an organization. Strategic predisposition, however, will influence the strategy process within organizations (Ashmos, Duchon, McDaniel, & Reuben, 1998). Further influence on the strategy process can be attributed to the organizational context. This may include *static organizational characteristics* such as size (Yasai-Ardekani & Nystrom, 1996), age (Forbes, 2005), structure (Covin, Slevin, & Schultz, 1994), or technology (Molloy & Schwenk, 1995) as well as *dynamic organizational characteristics* such as routines (Baum & Wally, 2003), culture, or values (Pant & Lachman, 1998). Finally, *past performance* affects strategy processes through its influence on, for example, comprehensiveness (Fredrickson, 1985) and intensity of information search (Cyert & March, 1963). While differences in these characteristics will lead to varying strategy processes, strategy-process-specific factors are also important for explaining different patterns among organizations.

Strategy processes can be described as being composed of three main elements: the strategists, the issue, and the sequence of actions. Given the fact that decisions are made by individuals, the process by which such decisions are made and its characteristics are strongly influenced by individual-related attributes. *Strategists' static characteristics* hence refer to the group or individual involved in strategic decision making and encompass attributes such as size (Iaquinto & Fredrickson, 1997), openness (Amason & Sapienza, 1997), or heterogeneity (Ferrier, 2001). To a large extent, these attributes refer to the behavioral side of decision making. In contrast, *strategists' personal and cognitive context* explores the sources of an individual's predisposition. Strategists' cognition and personal determinants such as origin (Hitt, Dacin, Tyler, & Park, 1997) or experience (Iaquinto & Fredrickson, 1997) shape managers cognitive models. These, in turn, will exert a great influence on the strategy process through shaping strategists' environmental sensing capabilities, will influence the perception of strategic issues, and will affect the diagnosis of strategic issues (Porac & Thomas, 2002). Moreover, even within a single organization, the strategy process can vary across decisions due to *issue characteristics* such as complexity (Rindova, 1999), urgency (Dutton, 1993), or strategic relevance (Dean & Sharfman, 1993a). The aforementioned factors influence the sequence of action, which can be described according to *process characteristics*

such as degree of rationality (Priem, Rasheed, & Kotulic, 1995), comprehensiveness (Atuahene-Gima & Haiyang, 2004), or participation (Andersen, 2004). Finally, process characteristics determine *process-outcome characteristics* such as speed of decision (Baum & Wally, 2003), level of commitment (Dooley, Fryxell, & Judge, 2000), or decision quality (Amason, 1996). For the purpose of the review, issue, process, and process-outcome characteristics are used in the context of strategy formulation (F) and implementation (I) separately.

Antecedents as well as process characteristics influence economic and noneconomic outcomes. Conceptualizing strategy process as a recurring event, we find it evident that the outcome of a strategy process is also the context in which the following strategy process occurs. Therefore, with the exception of the environmental context, *outcome factors* are identical to the antecedent factors—that is, strategic context, organizational characteristics, and performance.

The factors and interrelationships identified above are displayed in the form of an integrative framework in Figure 1. The framework highlights five sets of antecedent factors: environmental context, strategic context, static organizational characteristics, dynamic organizational characteristics, and performance; five sets of strategy process factors: strategists' static characteristics, strategists' personal and cognitive context, issue characteristics, process characteristics, and process-outcome characteristics; and five sets of outcomes identical to the antecedent factors. Within this framework, research falls into two categories. The first set of studies is contained entirely within one or the other of the boxes. These box-exploring studies are concerned with describing the phenomenon, thereby delineating or developing concepts. For example, the numerous studies devoted to describing the strategic planning process of various organizations (e.g., Baker, 1992; Foo, Grinyer, & McKiernan, 1992; Frentzel, Bryson, & Crosby, 2000; Grant, 2003) are best seen as being contained within the strategy formulation box. Other examples are studies devoted to cognitive concepts such as intuition (Miller & Ireland, 2005) or script tracks (. . . Goodwin & Ziegler, 1998), which can be summarized in the strategists' personal and cognitive context box.

The second set of studies explores one or more of the linkages identified in Figure 1. These linkage-exploring studies have mostly explored simple bivariate contingency relationships. The linkages explored are displayed in Figure 2. Juxtaposing the elements of our framework, we developed the review matrix, in which rows represent the independent elements and columns represent the dependent elements (impact of . . . on . . .). We used a three-digit key (001-122, alphabetical order) to code the studies. Every study that addressed a linkage was written into the specific linkage of the matrix.

Table 2 is intended to provide summaries of the major research questions pursued (linkages), information about the sample (industry, characteristics, region, sample size, and methodology), and the key findings of the studies.

Thus, the framework provides a basis for what Pettigrew (1997, p. 340) calls the irreducible purpose of processual analysis: to account for the what, why, and how of the links between antecedents, process, and outcomes. In our review, we refer to this as research streams. Research Stream 1 thereby is concerned with the influence of antecedent factors on the strategy process. Research Stream 2 pertains to the relationship between antecedent factors and outcomes. Studies in Research Stream 3 have explored the interrelationship of strategy-process factors among each other. Finally, Research Stream 4 encompasses work on the relationship of strategy-process factors and outcomes.

(text continued on p. 693)

Figure 1
Strategy Process: An Integrative Framework

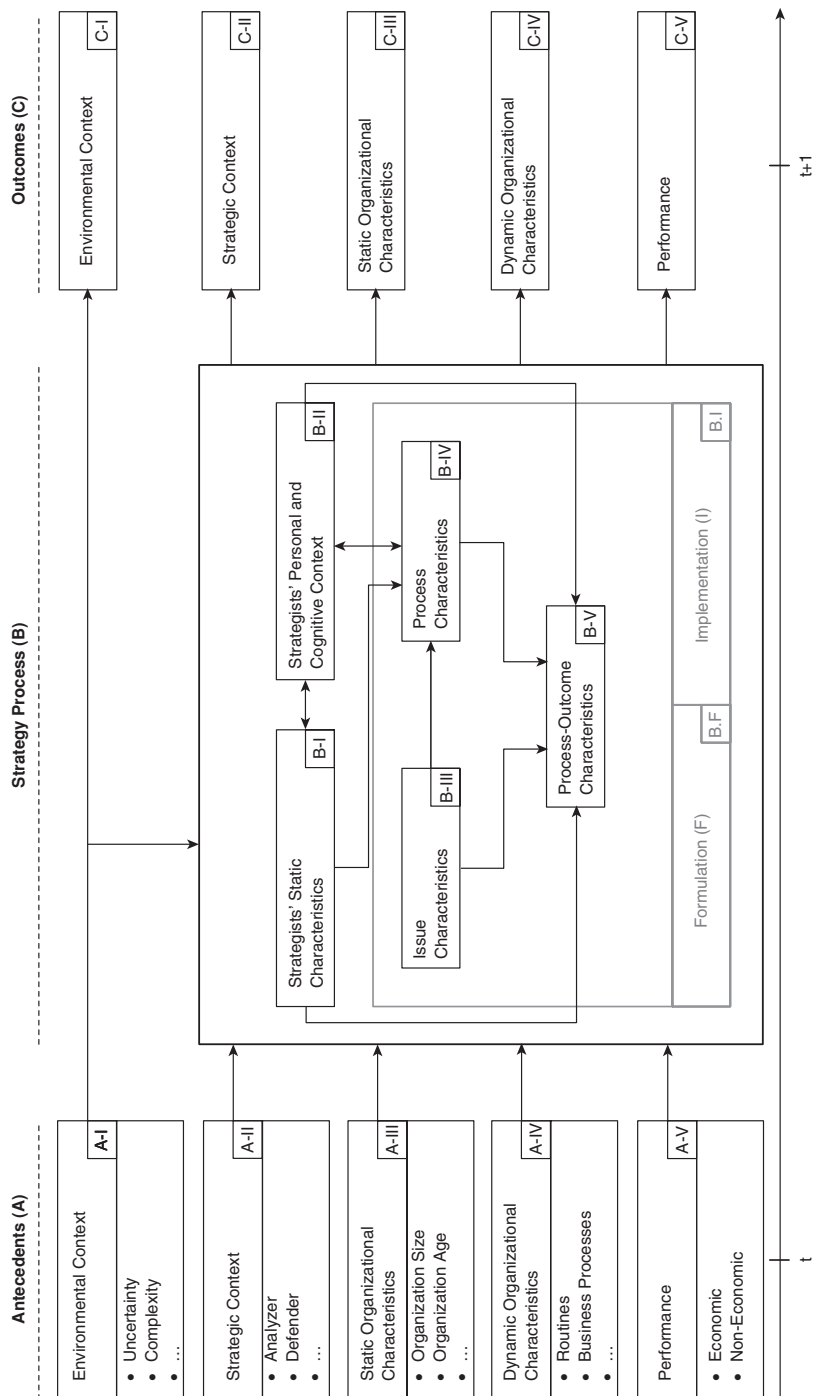


Figure 2
Linkage-Exploring Review Matrix

| | B-I | B-II | B-III (F) | B-IV (F) | B-V (F) | B-III (I) | B-IV (I) | B-V (I) | C-I | C-II | C-III | C-IV | C-V |
|--|--|--------------------|-----------|--|--|-----------|---|--------------------|-----|---------------------------------------|-------|------|---|
| A-I | 101 | 062 | | 012, 026, 036, 055, 058, 061, 070, 100, 107, 122 | | | | 017 | | 016, 038, 045, 076, 110, 118 | | | 012, 053 |
| A-II | | | | 007, 039, 055, 066, 115, 122 | | | 039 | 115 | | 115, 118 | | | 023, 029, 038, 067, 121 |
| A-III | | 006, 063 | | 012, 013, 015, 034, 055, 079, 117 058, 061, 080, 093, 098, 104, 122 | | | | | | 038, 080, 120 | | | 005, 012, 023, 058 |
| A-IV | | | | 006, 012, 034 | | | 011 | | | 097 | | | 012 |
| A-V | 076 | 006, 076 | 096 | 006, 034, 061, 083, 098 | | | | | | 038, 076 | 083 | | 003 |
| B-I | | 002, 019, 043, 062 | | 009, 019, 022, 042, 061, 082, 098, 105, 111 | 043 | | 017, 039 | 028 | | 038, 048, 076, 089 | 082 | | 040, 052, 101 |
| B-II | 043 | | | 006, 009, 022, 041, 042, 047, 054, 056, 058, 061, 082, 075, 080, 084, 088, 090, 117 096, 105, 113, 119 | 001, 031, 043, 044, 057, 059, 073, 079, 090, 117 | | 089 | 089 | | 037, 048, 054, 065, 076, 089, 110 | | | 047, 054, 062 |
| B-III (F) | | | | 007, 026, 034, 087, 088, 098, 105 | 033, 044, 079, 091 | | | | 025 | | | | |
| B-IV (F) | | 024, 068, 074, 087 | | | 015, 021, 027, 032, 033, 044, 046, 060, 064, 071, 072, 073, 074, 079, 087, 092, 093, 094, 095, 099 | | 116 | 032, 050, 051, 086 | | 048 | 083 | | 004, 005, 008, 010, 012, 013, 014, 018, 023, 029, 035, 041, 049, 053, 058, 061, 064, 067, 069, 070, 071, 074, 077, 078, 081, 083, 085, 100, 102, 103, 106, 108, 109, 114, 115 |
| B-V (F) | | | | | | | | 032 | | | | | 012 |
| B-III (I) | | | | | | | | 017 | | | | | |
| B-IV (I) | | | | | | | | 017, 020, 112 | | | | | 030 |
| B-V (I) | | | | | | | | | | | | | |
| Identical notation for A (Antecedents) and C (Outcomes); (F): Formulation, (I): Implementation | | | | | | | | | | | | | |
| A-I: Environmental context | A-III: Static organizational characteristics | | | A-V: Performance | | | B-II: Strategists' personal & cognitive characteristics | | | B-IV: Process characteristics | | | |
| A-II: Strategic context | A-IV: Dynamic organizational characteristics | | | B-I: Strategists' static characteristics | | | B-III: Issue characteristics | | | B-V: Process outcomes characteristics | | | |

Table 2
Linkage-Exploring Studies

| No. | Author(s) | Industry Firm Characteristic Region | Sample Size Method | Linkage(s) | Key Findings |
|-----|---|---|--|---|--|
| 001 | Amason (1996) | Food processing, furniture Small and midsized U.S. | 48 TMT / 5 TMT Q, I | B-II – B-V (F) | Cognitive conflict can improve decision quality, commitment, and consensus. |
| 002 | Amason & Sapientza (1997) | Food processing — — | 48 TMT Q, I | B-I – B-II | Cognitive and affective conflicts in a TMT are affected by its size, the openness of its interactions, and its level of mutuality. |
| 003 | Amatucci & Grant (1993) | Oil Large, multinational U.S. | 1 CS | A-V – C-V | Inertia and political processes due to past success can stifle innovation and thus lead to future failure. |
| 004 | Andersen (2000) | Food and household, computer, banking — — | 97 firms / 96 firms / 45 firms Q | B-IV (F) – C-V | Strategic planning has positive performance effects across industries and exists in tandem with autonomous actions. |
| 005 | Andersen (2004) | Food and household, computer — North America | 185 firms Q | A-III – C-V B-IV (F) – C-V | Distributed decision authority has a significant positive relationship to economic performance in dynamic environments. Strategic planning processes are positively associated with economic performance across industrial environments. |
| 006 | Ashmos, Duchon, McDaniel, & Reuben (1998) | Hospitals Nonacademic U.S. | 55 hospitals Q | A-III – B-II A-IV – B-IV (F) A-V – B-II A-V – B-IV (F) B-II – B-IV (F) A-II – B-IV (F) B-III (F) – B-IV (F) | Rule orientation has a negative impact on participation in strategic decision making and leads to interpretation of issues as threats. Past performance does not influence issue interpretation but is positively related to participation in strategic decision making. |
| 007 | Ashmos & McDaniel (1996) | Hospitals Medium sized U.S. | 10 hospitals CS | | Participation of critical task specialists in strategic decision making depends on the strategy position of the organization. Participation depends on decision content. |
| 008 | Atuahene-Gima & Haiyang (2004) | Technology New ventures China | 373 firms Q | B-IV (F) – C-V | The effects of strategic-decision comprehensiveness on new product performance vary with environmental uncertainty. |

| | | | | | |
|-----|---|--|--------------------------------------|---|--|
| 009 | Bacharach, Bamberger, & Mundell (1995) | Government — U.S. | 962 managers Q | B-I – B-IV (F) B-II – B-IV (F) | Managers' demographic characteristics affect the decision criteria used. Personal and role-related characteristics do not fully explain the justification approach used by managers. The completion of strategic planning is positively associated with a firm's profitability. |
| 010 | Baker, Addams, & Davis (1993) | Heterogeneous Small, high growth U.S. | 194 firms Q | B-IV (F) – C-V | There is a (nondirectional) relationship between organizational culture and manufacturing strategy implementation. |
| 011 | Bates, Amundson, Schroeder, & Morris (1995) | Transportation, electronics, machinery U.S., Japanese owned U.S. | 822 respondents in 41 plants Q | A-IV – B-IV (I) | |
| 012 | Baum & Wally (2003) | Heterogeneous Industrial companies U.S. | 318 CEOs Q | A-I – B-IV (F) A-I – C-V A-III- B-IV (F) A-III – C-V A-IV- B-IV (F) A-IV – C-V B-IV (F) – C-V A-III – B-IV (F) B-IV (F) – C-V | Fast strategic decision making predicts subsequent firm growth and profit. It also mediates the relation of environmental and organizational factors with firm performance. |
| 013 | Berry (1998) | High technology Small U.K. | 257 firms Q, 1 | | During the early stage of the company's life, strategic planning does not need to be a highly formalized process. Companies that employ strategic planning processes exhibit enhanced corporate performance. The planning-performance relationship is moderated by planning duration but not moderated by the environment. |
| 014 | Brews & Hunt (1999) | Heterogeneous Heterogeneous Heterogeneous Service, manufacturing Small The Netherlands | 656 firms Q | B-IV (F) – C-V | |
| 015 | Brouters, Andriessen, & Nicolaes (1998) | Financial services — The Netherlands | 80 firms Q | A-III – B-IV (F) B-IV (F) – B-V (F) | Small firm managers tend to be rational in information gathering but rely on intuition in strategic decision making. Strategic-decision quality can be improved by increasing process rationality. |
| 016 | Brouters, & Werner (2000) | Financial services — The Netherlands | 42 firms Q | A-I – C-II | The relationship between environmental factors and strategic aggressiveness is moderated by managerial characteristics. |
| 017 | Bryson & Bromiley (1993) | — — — | 68 cases SD | A-I – B-V (I) B-I – B-IV (I) B-III (I) – B-V (I) B-IV (I) – B-V (I) | Contextual factors influence implementation process and thereby implementation outcomes. |

(continued)

Table 2 (continued)

| No. | Author(s) | Industry Firm Characteristic Region | Sample Size Method | Linkage(s) | Key Findings |
|-----|-----------------------------------|---|--|---|--|
| 018 | Capon, Farley, & Hulbert (1994) | Manufacturing — U.S. | 113 firms Q, I | B-IV (F) – C-V | Strategic planning can improve performance, whereas a focus on pure financial matters and budgets does not improve performance. |
| 019 | Carpenter & Westphal (2001) | Industrial and service firms — U.S. | 228 CEOs, 492 outside directors Q | B-I – B-II B-I – B-IV (F) | Related appointments are positively associated with directors' perceptions of their ability to contribute to board discussions in stable environments. Monitoring and advising behavior of directors depends on the strategic perspective and base of expertise provided by their appointments to other boards. |
| 020 | Chesley & Wenger (1999) | Government — U.S. | 1 CS | B-IV (I) – B-V (I) | A recursive adaptation is required to successfully develop and implement a strategy-management process. A strategic conversation is central to this process. |
| 021 | Collier, Fishwick, & Floyd (2004) | Heterogeneous Heterogeneous | 6,394 managers 601 organizations Q | B-IV (F) – B-V (F) | Involvement is positively related to strategy process improvement for most organizations. |
| 022 | Corner, Kinicki, & Keats (1994) | — — — | — — — | B-I – B-IV (F) B-II – B-IV (F) | Decisions are emergent outcomes of complex, multilevel information processing. |
| 023 | Covin, Slevin, & Schultz (1994) | Heterogeneous Nondiversified U.S. | 91 firms Q | A-II – C-V A-III – C-V B-IV (F) – C-V | Decisions are not rationally or consciously constructed. Strategic mission moderates the effectiveness of specific strategic and structural choices |
| 024 | T. K. Das & Teng (1999) | — — — | — — — | B-IV (F) – B-II | The prevalence of cognitive biases is contingent on the nature of the strategic decision-making process. |
| 025 | S. S. Das & Van De Ven (2000) | Electronics, medical — — | 4 firms SD | B-III (F) – C-II | Product and market characteristics influence the strategy that firms use to get their new product technology accepted by the market. |
| 026 | Dean & Sharfman (1993a) | Manufacturing Heterogeneous U.S. | 57 decisions 24 firms I | A-I – B-IV (F) B-III (F) – B-IV (F) | Environmental, organizational, and issue characteristics jointly affect the level of procedural rationality. |

| | | | | | |
|-----|----------------------------------|--|--------------------------------|---|--|
| 027 | Dean & Sharfman (1996) | Manufacturing Heterogeneous U.S. | 52 decisions 24 firms I | B-IV (F) – B-V (F) | The success of strategic decisions is influenced by the process used to make the strategic decisions. |
| 028 | Denis, Lamothe, & Langley (2003) | Hospitals U.S. | 5 hospitals I | B-I – B-V (I) | The creation of a collective leadership group in which members play a complementary role is critical in achieving change. |
| 029 | Dess, Lumpkin, & Covin (1997) | Heterogeneous Nondiversified U.S. | 32 firms 96 executives I | A-II – C-V B-IV (F) – C-V | Entrepreneurial strategy making is strongly associated with performance when combined with both appropriate strategy and environmental conditions. |
| 030 | Dobni & Luffman (2003) | High technology — | 210 single informants | B-IV (I) – C-V | Strategy implementation and performance in organizations are influenced by their market orientations. |
| 031 | Dooley & Fryxell (1999) | Hospitals U.S. | 86 teams Q | B-II – B-V (F) | Perception of loyalty within teams and within-team competence have an effect on the relationship between dissent and decision quality and commitment. |
| 032 | Dooley, Fryxell, & Judge (2000) | Hospitals — U.S. | 68 teams Q | B-IV (F) – B-V (F) B-IV (F) – B-V (I) B-V (F) – B-V (I) | Decision consensus results in subsequently higher levels of commitment to the strategic decision among the members of the decision-making team and is positively related to successful decision implementation. |
| 033 | Durand (2003) | Manufacturing Small and mid-sized France | 785 firms DB | B-III (F) – B-V (F) B-IV (F) – B-V (F) | A firm's forecasting ability is biased by its illusion of control and attention. |
| 034 | Dutton (1993) | — — — | — — — | A-III – B-IV (F) A-IV – B-IV (F) A-V – B-IV (F) B-III (F) – B-IV (F) B-IV (F) – C-V | Organizational and issue characteristics can put decision makers on automatic in their interpretation of strategic issues. A top-down approach is a better solution for managing strategic integration in a high-commitment, high-turbulence context than a bottom-up approach. |
| 035 | Eisenmann & Bower (2000) | Media — — | 3 firms CS | A-I – B-IV (F) | Uncertainty in the environmental sectors is positively associated with the use of personal and external modes of scanning among Bulgarian managers. |
| 036 | Elenkov (1997) | Manufacturing, sales Medium sized Bulgaria | 141 firms I | B-II – C-II | Similarity judgments are an important and distinct aspect of strategy formation. |
| 037 | Farjoun & Lai (1997) | — — — | — — — | | |

(continued)

Table 2 (continued)

| No. | Author(s) | Industry | | Sample Size Method | Linkage(s) | Key Findings |
|-----|-------------------------------------|---|--------|---|--|--|
| | | Firm Characteristic | Region | | | |
| 038 | Ferrier (2001) | Heterogeneous Nondiversified U.S. | | 224 observations SD | A-I – C-II A-II – C-V A-III – C-II A-V – C-II B-I – C-II A-II – B-IV (F) A-II – B-IV (I) B-I – B-IV (I) | The sequence of a firm's competitive actions is influenced by past performance and environmental, organizational, and TMT characteristics. |
| 039 | Floyd & Wooldridge (1992) | Heterogeneous Heterogeneous — | | 259 middle managers, 25 organizations Q | B-I – C-II A-II – B-IV (F) A-II – B-IV (I) B-I – B-IV (I) | Middle managers in Prospectors report significantly higher levels of strategic involvement than those in Analyzers and Defenders. Also, broader middle-management involvement will influence the quality of strategy implementation. |
| 040 | Floyd & Wooldridge (1994) | — — — | | — — — | B-I – C-V | There is a strong relationship between the roles of middle managers and performance. |
| 041 | Floyd & Wooldridge (1997) | Heterogeneous Heterogeneous — | | 259 middle managers, 25 organizations Q | B-II – B-IV (F) B-IV (F) – C-V | Middle managers do have a strategic influence, and organizational performance depends on the form of influence middle managers do exert. |
| 042 | Forbes (2005) | Internet New venture U.S. | | 98 firms Q | B-I – B-IV (F) B-II – B-IV (F) | Firms make faster decisions when being managed by older entrepreneurs and by those with prior entrepreneurial experience. |
| 043 | Forbes & Milliken (1999) | — — — | | — — — | B-I – B-II B-I – B-V (F) B-II – B-I B-II – B-V (F) | Boards of directors are large, elite, and episodic decision-making groups and have to be involved in strategic decisions. |
| 044 | Ford & Gioia (2000) | — Different sized U.S. | | 51 managers 153 decisions I | B-II – B-V (F) B-III (F) – B-V (F) B-IV (F) – B-V (F) A-I – C-II | Decision outcome depends on the composition of the decision-making team and is positively influenced by issue importance. |
| 045 | Frooman (1999) | — — — | | — — — | | Stakeholders as part of the environment use different strategies to influence firm strategy. |
| 046 | Gerbing, Hamilton, & Freeman (1994) | Insurance — U.S. | | 13 firms 308 managers Q | B-IV (F) – B-V (F) | Management participation in the strategy formulation process is positively related to process effectiveness. |

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|-----|---|---|-----------------------------------|--|--|
| 047 | Glazer, Steckel, & Winer (1992) | — | 20 teams 42 MBAs SIM | B-II – B-IV (F) B-II – C-V | Information accessibility results in a disposition to focus on those components of decision making most clearly addressed by the information and may have negative performance effects. Board characteristics do play an important role in the extent to which a board is likely to promote strategic change. |
| 048 | Golden & Zajac (2001) | Hospitals U.S. | 3,198 hospitals Q, SD | B-I – C-II B-II – C-II B-IV (F) – C-II B-IV (F) – C-V | The relationship between rationality in decision making and organizational performance is moderated by environmental munificence and dynamism. Implementation success depends on the content characteristics of the plan. |
| 049 | Goll & Rasheed (1997) | Manufacturing Single businesses U.S. | 62 firms Q | B-IV (F) – B-V (I) | Strategic planning can be used to successfully implement change. |
| 050 | Gottschalk (1999) | — | 151 firms Q | B-IV (F) – B-V (I) | Overboarded directors are an important source of knowledge and enhance acquisition performance. |
| 051 | Grundy & King (1992) | Norway Telecommunication | 1 firm CS | B-IV (F) – B-V (I) | Firms with high strategy-making process capabilities outperform single-mode or less-process-capable organizations. |
| 052 | Harris & Shimizu (2004) | U.K. | 143 M&As SD | B-I – C-V | CEOs' core self-evaluation has an impact on strategic decision processes, strategic choices, and organizational performance. |
| 053 | Hart & Banbury (1994) | Heterogeneous Heterogeneous U.S. | 720 firms Q | A-I – C-V B-IV (F) – C-V | Political strategy formulation is affected by environmental, strategic, and organizational characteristics. |
| 054 | Hiller & Hambrick (2005) | — | — | B-II – B-IV (F) B-II – C-II B-II – C-V | Executives from Korea and the United States employ different criteria, with Korean executives emphasizing industry attractiveness, sales, and market share and with U.S. executives emphasizing projected demand, discounted cash flow, and return on investment. |
| 055 | Hillman & Hitt (1999) | — | — | A-I – B-IV (F) A-II – B-IV (F) A-III – B-IV (F) | Cognitive mapping provides an effective means of limiting the negative impact of framing bias on strategic decisions. |
| 056 | Hitt, Dacin, Tyler, & Park (1997) | Manufacturing, service Heterogeneous U.S., Korea | 65 and 120 firms Q | B-II – B-IV (F) | |
| 057 | Hodgkinson, Bown, Maule, Glaister, & Pearman (1999) | — | 88 students 52 managers SIM | B-II – B-V (F) | |

(continued)

Table 2 (continued)

| No. | Author(s) | Industry | | Sample Size Method | Linkage(s) | Key Findings |
|-----|----------------------------------|--------------------------------|--------------|--|---|--|
| | | Firm Characteristic | Region | | | |
| 058 | Hopkins & Hopkins (1997) | Banking | — | 112 banks Q | A-I – B-IV (F) A-III – B-IV (F) A-III – C-V B-II – B-IV (F) B-IV (F) – C-V B-II – B-V (F) | For banks, the strategic-planning intensity has a positive effect on performance. It also mediates the effects of managerial and organizational characteristics on performance. |
| 059 | Hough & Ogilvie (2005) | Heterogeneous Heterogeneous | — | 749 managers SIM | — | Perceptual processes moderate the relationship between judgment processes and decision quality. |
| 060 | Hough & White (2003) | — | — | 400 decisions 54 executive teams SIM | B-IV (F) – B-V (F) | The relationship between rational-comprehensive, strategic decision making and decision quality is moderated by environmental dynamism. |
| 061 | Iaquinto & Fredrickson (1997) | Paint and coating, forest | — | 65 firms Q | A-I – B-IV (F) A-III – B-IV (F) A-V – B-IV (F) B-I – B-IV (F) B-II – B-IV (F) B-IV (F) – C-V | Past performance and environmental and organizational characteristics influence TMT agreement about the strategic decision process. TMT agreement is positively related to firm performance. |
| 062 | Isabella & Waddock (1994) | Banking | — | 36 teams 174 participants SIM | A-I – B-II B-I – B-II B-II – B-IV (F) B-II – C-V A-III – B-II | Environmental and TMT characteristics influence TMT certainty. Certainty again is positively related to performance and decision-making speed. |
| 063 | Itami & Numagami (1992) | — | — | — | — | Cognitive processes are affected by the technology used in a firm. |
| 064 | Judge & Douglas (1998) | Heterogeneous | — | 196 firms Q | B-IV (F) – B-V (F) B-IV (F) – C-V | Integration of environmental issues into the strategic planning process is positively related to organizational performance. |
| 065 | Katz & Niehoff (1998) | Food Medium to large | U.S. U.S. | 145 firms DB, SD | B-II – C-II | Owners and managers perceive risks affecting the firm differently. Strategy-setting decisions affecting the performance of the firm are made based on the potential for personal gain. |

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| 066 | Ketchen, Snow, & Street (2004) | — — — | — — — | A-II – B-IV (F) | Strategy-making processes have to match a firm's strategic context to have a positive effect on firm performance. |
| 067 | Ketchen, Thomas, & McDaniel (1996) | Hospitals | 156 hospitals Q | A-II – C-V B-IV (F) – C-V | In a dynamic environment, both domain-offense strategy and pursuing new opportunities, as well as information usage, are positively related to firm performance. |
| 068 | Ketokivi & Castaner (2004) | U.S. Automotive, machinery, electronics Medium to large Germany, Italy, Japan, U.K., U.S. | 164 firms Q | B-IV (F) – B-II | Participation in the strategic planning process and communication of the resulting priorities jointly reduce position bias. |
| 069 | Ketola (1998) | Oil | 2 firms CS | B-IV (F) – C-V | A bottom-up approach in environmental strategic planning leads to better environmental performance than does a top-down approach. |
| 070 | Khatri & Ng (2000) | Banking, utility, computer | 281 individuals from 221 firms Q | A-I – B-IV (F) B-IV (F) – C-V | Intuitive synthesis is an important factor used by managers in the strategic decision-making process and is positively associated with firm performance in an unstable environment but negatively so in a stable environment. |
| 071 | Kim & Mauborgne (1993a) | U.S. Heterogeneous Multinational North America, Europe | 19 firms Q | B-IV (F) – B-V (F) B-IV (F) – C-V | Procedural justice is a means for multinationals to conceive and execute effective worldwide strategies. |
| 072 | Kim & Mauborgne (1993b) | Heterogeneous Multinational North America, Europe | 19 firms 119 respondents Q | B-IV (F) – B-V (F) | Procedural justice and the attitudes of commitment, trust, and outcome satisfaction exercise positive effects on subsidiary top-management compliance with multinationals' corporate decisions. |
| 073 | Kim & Mauborgne (1995) | Heterogeneous Multinational North America, Europe | 19 firms 63 subsidiaries Q | B-II – B-V (F) B-IV (F) – B-V (F) | The exercise of procedural justice in the global strategy-making process will lead to the design of effective global strategies. |
| 074 | Kim & Mauborgne (1998) | — | — | B-IV (F) – B-II B-IV (F) – B-V (F) B-IV (F) – C-V | Procedural justice in strategic-decision processes is associated with a high level of voluntary cooperation of people based on their attitudes of trust and commitment. |
| 075 | Kuvaas (2002) | Newspaper — Norway | 73 firms Q | B-II – B-IV (F) | Information-processing capacity is positively associated with perceived control and manageability and negatively related to data search in issue interpretation. |

(continued)

Table 2 (continued)

| No. | Author(s) | Industry Firm Characteristic Region | Sample Size Method | Linkage(s) | Key Findings |
|-----|---|--|--------------------------------|--|---|
| 076 | Lant, Miliken, & Batra (1992) | Furniture, software — — | 80 firms DB, SD | A-I – C-II A-V – B-I A-V – B-II A-V – C-II B-I – C-II B-II – C-II B-IV (F) – C-V | Past performance and environmental and TMT characteristics influence the likelihood of strategic reorientation. |
| 077 | Love, Priem, & Lumpkin (2002) | Manufacturing Nondiversified U.S. | 95 firms Q | | Strategy explicitness demonstrates a curvilinear relationship with performance. |
| 078 | Lumpkin & Dess (1995) | Heterogeneous Nondiversified — | 32 firms 96 executives I | B-IV (F) – C-V | Simple approaches to strategy making can be effective during the early stages of an organization's growth but may have negative effects in later stages. |
| 079 | Maitlis & Lawrence (2003) | Orchestra — U.K. | 1 orchestra CS | A-III – B-V (F) B-II – B-V (F) B-III (F) – B-V (F) B-IV (F) – B-V (F) | The interplay of certain elements of organizational discourse and specific kinds of political behavior leads to failure in organizational strategizing. |
| 080 | Marginson (2002) | Telecommunication — U.K. | 1 CS | A-III – B-IV (F) A-III – C-II B-II – B-IV (F) B-IV (F) – C-V | Strategy process is affected by the use of management-control systems. Environmental strategies lead to improved stakeholder relations and performance. |
| 081 | Maxwell, Rothenberg, Briscoe, & Marcus (1997) | Automotive, consumer goods, technology Heterogeneous — | 3 CS | | |
| 082 | Miller (1993b) | Large U.S. | 36 firms SD | B-I – B-IV (F) B-I – C-III | CEO succession is associated with change in a wide variety of organizational dimensions. |
| 083 | Miller (1993a) | — — — | — — — | A-V – B-IV (F) A-V – C-IV B-IV (F) – C-IV B-IV (F) – C-V | Past success is likely to influence firms such that they become simpler over time and focus more narrowly on a single theme, activity, or issue at the expense of all others. |

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| 084 | Miller, Burke, & Glick (1998) | Heterogeneous, hospitals, heterogeneous Nondiversified U.S. | 38 firms, 106 hospitals, 85 SBUs Q | B-II - B-IV (F) | Executive diversity inhibits comprehensiveness and extensiveness in strategic decision making and strategic planning. |
| 085 | Miller & Cardinal (1994) | — | 26 previously published studies | B-IV (F) - C-V | Strategic planning is positively associated with firm performance. |
| 086 | Miller, Wilson, & Hickson (2004) | — | 55 decisions in 14 organizations I | B-IV (F) - B-V (I) | Strategic planning facilitates successful implementation. |
| 087 | Molloy & Schwenk (1995) | Heterogeneous U.K. | 8 decisions CS | B-III (F) - B-IV (F) B-IV (F) - B-II B-IV (F) - B-V (F) | The use of IT improves decision-making efficiency and effectiveness at each stage of the strategic decision process. |
| 088 | Mosakowski (1997) | Computer Recent IPO | 122 firms SD | B-II - B-IV (F) B-III (F) - B-IV (F) | Causal ambiguity shifts attention away from making the right decision toward managing the strategy-making process. |
| 089 | Nahavandi & Malekzadeh (1993) | — | — | B-I - C-II B-II - B-IV (I) B-II - B-V (I) B-II - C-II | Environmental and organizational characteristics moderate the leader's impact on strategy. |
| 090 | Nutt (1993) | Heterogeneous U.S., Canada | 168 decisions I | B-II - B-V (F) | Managers use different tactics to identify solutions in the strategic decision-making process, leading to differing results. |
| 091 | Nutt (1998a) | Heterogeneous Medium to large U.S., Canada | 352 decisions I | B-III (F) - B-V (F) | Claim type in strategic decision making does influence decision success whereas claim origin does not. |
| 092 | Nutt (1998b) | Heterogeneous Medium to large U.S., Canada | 317 decisions I | B-IV (F) - B-V (F) | Evaluation tactics used in strategic decision making influences decision success. |
| 093 | Nutt (2000) | Heterogeneous Medium to large U.S., Canada | 376 decisions I | A-III - B-IV (F) B-IV (F) - B-V (F) | Practices used to uncover alternatives in strategic decision making vary by sector, with success of practices used depending on the sector an organization is in. |
| 094 | Nutt (2002) | Heterogeneous Medium to large U.S., Canada | 315 decisions I | B-IV (F) - B-V (F) | Selecting a decision approach by following Thompson's prescription is feasible and desirable. |

(continued)

Table 2 (continued)

| No. | Author(s) | Industry Firm Characteristic Region | Sample Size Method | Linkage(s) | Key Findings |
|-----|--|--|--------------------------------------|--|--|
| 095 | Nutt (2004) | — | — | B-IV (F) – B-V (F) | Search during strategic decision making should be expanded as decisions arising from multiple options are more apt to be successful. |
| 096 | Pablo, Sitkin, & Jemison (1996) | — | — | A-V – B-III (F) B-II – B-IV (F) | Decision makers' risk perception and risk propensity as well as an acquisition candidate's past performance influence the acquisition-decision process. |
| 097 | Pant & Lachman (1998) | — | — | A-IV – C-II | Organizational culture influences a firm's strategic context. |
| 098 | Papadakis, Lioukas, & Chambers (1998) | Manufacturing — Greece | 70 decisions 38 firms I, Q, SD | A-III – B-IV (F) A-V – B-IV (F) B-I – B-IV (F) B-III (F) – B-IV (F) B-IV (F) – B-V (F) | A multiplicity of factors shape strategic decision processes, with decision-specific characteristics having the most important influence on the strategic decision-making process. |
| 099 | Papke-Shields, Malhotra, & Grover (2002) | Manufacturing Medium to large U.S. | 193 BU Q | | The success of the planning process is influenced by the process by which the strategy is developed. |
| 100 | Peel & Bridge (1998) | Manufacturing Small and mid-sized U.K. | 150 firms Q | A-I – B-IV (F) B-IV (F) – C-V | Strategic planning is a key component of performance enhancement with the level of detail being influenced by environmental characteristics. |
| 101 | Pegels & Song (2000) | Airline — U.S. | 22 airlines SD | A-I – B-I B-I – C-V | TMT characteristics are homogeneous within a specific competitive interaction group, with performance being associated with TMT characteristics. |
| 102 | Powell (1992) | Furniture, clothing Single business U.S. | 113 firms Q | B-IV (F) – C-V | From a resource perspective, strategic planning is not a source for competitive advantage. However, it may produce economic value in industries with strategic-planning-factor market imperfections. |
| 103 | Priem, Rasheed, & Kotulic (1995) | Manufacturing Nondiversified U.S. | 101 firms Q | B-IV (F) – C-V | There is a positive rationality-performance relationship for firms facing dynamic environments but no such relationship for firms facing stable environments. |
| 104 | Regné (2003) | — Multinational Sweden | 4 firms CS | A-III – B-IV (F) | The organizational context determines whether strategy making is inductive or deductive. |

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| 105 | Rindova (1999) | — | — | B-I – B-IV (F) B-II – B-IV (F) B-III (F) – B-IV (F) B-IV (F) – C-V | Directors make their contributions to strategic decision making by performing along with a firm's managers a set of tasks such as scanning, interpretation, and choice. The relationship between strategic planning and performance is moderated by the strategic context. |
| 106 | Rogers, Miller, & Judge (1999) | Banking | 157 firms Q | — | The use of different modes of decision making depends on the turbulence and texture of the environment. |
| 107 | Schoemaker (1993) | U.S. | — | A-I – B-IV (F) | Organizational and environmental characteristics influence the relationship between planned and emergent strategy and performance. |
| 108 | Slevin & Covin (1997) | Manufacturing | 112 firms Q | B-IV (F) – C-V | Very young firms using strategic planning will tend to perform better than those who follow a more visionary or reactive approach. |
| 109 | Smith (1998) | U.S. Manufacturing / service Very young Scotland | 17 firms I, Q | B-IV (F) – C-V | Managers do consider competitive effects differently when formulating strategy, with cultural and business environment differences strongly influencing managerial perception and decision. |
| 110 | Song, Calantone, & di Benedetto (2002) | — Medium to large U.S., Japan | 316 managers (U.S.), 459 (Japan) Q | A-I – C-II B-II – C-II | The board influences the boundaries of strategic action by establishing the business definition, gatekeeping, selecting directors, and confidence building. |
| 111 | Stiles (2001) | — — U.K. | 51 directors, 121 secretaries, 4 firms CS, I, Q 1 firm CS | B-I – B-IV (F) B-IV (I) – B-V (I) | Hoshin Kanrih is an efficient strategy-deployment process to reinforce the link between the corporate strategy and the annual planning cycle. |
| 112 | Tennant & Roberts (2001) | Automotive | — | B-II – B-IV (F) | Top executive characteristics affect their assessments regarding the attractiveness of technological collaborative opportunities. |
| 113 | Tyler & Steensma (1995) | Heterogeneous | 93 firms Q | B-IV (F) – C-V | Anticipatory and hindsight orientations through strategic planning optimize the firm's short-run performance as well as its long-term prospects. |
| 114 | Veliyath (1992) | U.S. | 38 academics 36 managers Q | — | |

(continued)

Table 2 (continued)

| No. | Author(s) | Industry Firm Characteristic Region | Sample Size Method | Linkage(s) | Key Findings |
|-----|---------------------------------|--|-----------------------------|--|---|
| 115 | Veliyath & Shortell (1993) | Hospital — U.S. | 139 hospitals I, Q | A-II – B-IV (F) A-II – B-V (I) A-II – C-II B-IV (F) – C-V B-IV (F) – B-IV(I) | Past performance and strategic context influence strategic-planning characteristics. |
| 116 | Waldersee & Sheather (1996) | — — — | 35 managers SIM | | Characteristics of the strategy managers are implementing influence the implementation actions that managers adopt. |
| 117 | Wally & Baum (1994) | Heterogeneous Heterogeneous U.S. | 151 firms Q | A-III – B-V (F) B-II – B-V (F) | Organizational and TMT characteristics influence strategic decision-making speed. |
| 118 | Washington & Ventresca (2004) | Education — U.S. | 3 sports SD | A-I – C-II A-II – C-II | The adoption of strategies is influenced by environmental and organizational characteristics. |
| 119 | Watson (2003) | Music — U.S. | 1 firm EF | B-II – B-IV (F) | Strategists bring their own personalities into the strategy-making process. |
| 120 | Withane (1997) | Government — U.S. | 8 regulatory agencies CS | A-III – C-II | Organizations tend to adopt different strategies with the passage of their life stages. |
| 121 | Wright & Goodwin (2002) | Heterogeneous — South Africa | 31 firms SD | A-II – C-V | Corporate divestment of South African business units is associated with negative excess returns, providing some evidence that these divestments have been motivated by self-interest of managers. |
| 122 | Yasai-Ardekani & Nystrom (1996) | Manufacturing, service — North America | 179 firms Q | A-I – B-IV (F) A-II – B-IV (F) A-III – B-IV (F) | Organizations with effective scanning systems tend to align their scanning designs with the requirements of environmental, organizational, and strategic context. |

Note: CS = case study; DB = database; EF = ethnographic fiction; I = interview; Q = questionnaire; SD = secondary data; SIM = simulation; TMT = top management team.

In the following section, we first review the articles that fall into the different research streams. We then review those studies that are contained with one or another box. Thereby, we outline the crucial findings, contradictions, and gaps in the present literature and bring together what we have learned from strategy-process research so far.

Review of the Literature

Linkage-Exploring Studies

Stream 1: Antecedents' influence on strategy process. Various studies have shown that strategy-process characteristics are the results of internal and external forces that act on the process.

With regard to internal forces, current research (Hopkins & Hopkins, 1997; Iaquinto & Fredrickson, 1997; Papadakis, Lioukas, & Chambers, 1998) contradicts common wisdom that organizations move toward more procedural and formalized strategy processes as they grow and become more structurally complex (Mintzberg, 1973). In fact, increasing size and the associated creation of specialized units seem to make it more difficult to develop and maintain a consistent understanding of the process among organizational members. In addition, place of origin accounts for different process characteristics. Distance to the actual market development forces headquarters in an organization to a deductive formal approach, whereas the periphery uses an inductive approach based on externally oriented and explorative activities (Regnér, 2003).

External forces were explored with regard to the environmental and strategic context. Organizations facing uncertain environments tend to have a modest margin for error. Thus, rather than engaging in time-consuming comprehensive research and discovery, strategists enhance decision-making speed (Baum & Wally, 2003), thereby relying, for example, on intuition (Khatri & Ng, 2000) or personal sources of information (Elenkov, 1997). Hence, involvement in the strategy process is contingent on the organization's strategy. Contradictory findings, though being convincingly derived from theory and data, however, may indicate the necessity to consider a broader strategic context when further exploring this relationship (Ashmos & McDaniel, 1996; Veliyath & Shortell, 1993).

Studies on past performance revealed the path dependency of process characteristics. The merit of those studies is to point out the possible downside of good past performance. Although desirable, good past performance may come along with the threat of ignorance (Dutton, 1993), simplicity (Miller, 1993a), and increase in politics and conflicts (Papadakis et al., 1998).

The influence of antecedent factors on strategists' personal and cognitive context has been the subject of a limited number of studies only. Although diverse with regard to the specific research question, the central conclusion of these studies is that antecedent factors such as environmental volatility (Isabella & Waddock, 1994), past performance (Lant, Milliken, & Batra, 1992), or technology (Itami & Numagami, 1992) have an effect, whether it be stimulating or hindering, on strategists' cognition. Although this finding may seem trivial at first glance, its relevance becomes obvious when considering the further strategy process. If antecedent factors influence a strategist's cognition, then it becomes important to consider them when trying to understand a strategist's choice.

Only four studies (Bates, Amundson, Schroeder, & Morris, 1995; Bryson & Bromiley, 1993; Floyd & Wooldridge, 1992; Veliyath & Shortell, 1993) within this stream were concerned with implementation characteristics. However, these studies revealed that the ability to acquire implementation skills depends on the strategic orientations. Thus, it seems that implementation skills can be learned and are somewhat contingent on the dynamics of the organization's environment.

Many of the studies in the *antecedents'-influence-on-strategy-process* research stream are noteworthy for their contribution of new and sometimes counterintuitive findings. Being convinced that strategy process is a person-driven phenomenon, we especially applaud those studies that link antecedents to strategists' personal and cognitive characteristics. However, in this regard, we feel it is important to extend research in this area to the effect of the perception of antecedents on strategists' personal and cognitive characteristics. After all, it is not objective antecedent characteristics such as environmental complexity but the respective perception of them that is decisive for subsequent decisions. Nevertheless, the research stream as a whole can still be criticized for its one-sidedness. The small set of studies exploring implementation issues points to a strong disequilibrium concerning strategy-process research. It seems that research on implementation issues is seen as inferior compared with research on formulation issues. This is all the more incomprehensible because strategy implementation is a significant phase of the strategy process.

Stream 2: Antecedents' influence on outcomes. Work in this area has concentrated on the effect of antecedents on strategic context and performance. Those exploring the influence of the environment on the strategic context (Brouthers, Brouthers, & Werner, 2000; Ferrier, 2001; Lant et al., 1992; Song, Calantone, & di Benedetto, 2002) reported findings somewhat consistent with the structure-conduct-performance paradigm. Hence, competitive aggressiveness, strategic positioning, and likelihood of strategic reorientation can be explained, at least to a certain degree, by an organization's environment. Moreover, studies in this area point to the path dependency of the strategic context (Veliyath & Shortell, 1993; Washington & Ventresca, 2004). Organizations develop a dominant logic that summarizes their orientation toward change and innovation opportunities leading to the establishment of a local meaning framework. This dominant logic then increases the likelihood that a related strategy is incorporated in the future.

Further influence on an organization's strategic context was attributed to organizational characteristics. These studies can be commended for providing insights on the influence on an organization's strategic context that go beyond those offered by the structure-conduct-performance paradigm. Thus, not only the competitive environment but also different organizational characteristics such as slack resources (Ferrier, 2001), life stage (Withane, 1997), management-control systems (Marginson, 2002), and culture (Pant & Lachman, 1998) as well as past performance (Ferrier, 2001; Lant et al., 1992) exert influence on an organization's strategic context.

The effect of antecedent factors on an organization's performance was mainly explored with regard to the strategic context and static organizational characteristics. Some of these studies claim that a diverse set of variables such as strategic attack characteristics (Ferrier, 2001), strategic posture (Covin et al., 1994), or organizational size (Hopkins & Hopkins, 1997)

results in good performance. However, contradictory findings, for example, on the effect of centralization on performance (Andersen, 2004; Baum & Wally, 2003), raise doubts that the mere presence of specific variables is enough to explain differences in performance. Rather, it seems that as suggested by Miller (1988) and others, a configurational framework incorporating strategic, organizational, and environmental characteristics should be used to explain organizational performance.

The remaining research in this linkage proposed that past success would contribute to the formation of monolithic cultures and that processes would become tailored to a narrower set of tasks. These findings are in accordance with the well-known notion of "success breeds failure," which has been reported in other studies (Audia, Locke, & Smith, 2000; Miller & Chen, 1994; Starbuck & Milliken, 1988).

Although some of the issues being explored in the *antecedents'-influence-on-outcomes* research stream have also been covered, for example, in the structure-performance paradigm in economics, the work of strategy-process researchers has provided new insights. Hence, an organization's conduct is influenced not only by its environment but also by its characteristics. From a theoretical point of view, the study of Dess, Lumpkin, and Covin (1997) is worthy of note. Instead of relying solely on a contingency approach, the authors used a configurational framework. The benefit of configurational research may be seen in its potential to offer more useful and complete explanations of complex phenomenon such as strategy processes than that provided by simple bivariate descriptions. Therefore, we anticipate future work to rely more heavily on configurational theory and research.

Stream 3: Strategy process's influence on strategy process. In their review, Rajagopalan et al. (1993) bemoaned the limited research relating top management team (TMT) characteristics to strategic decision processes. However, interest in this issue has surged in the meantime. Recent research has explored the effects of the strategists' characteristics on process characteristics as well as on process outcomes.

In this regard, strategy-process characteristics such as agreement or comprehensiveness were found to be contingent, to a large degree, on group characteristics such as size (Jaquinto & Fredrickson, 1997) or involvement (Rindova, 1999). Other studies exploring the individual level linked a strategist's idiosyncrasies, represented through personal and demographic characteristics, to strategy-process characteristics. Thus, strategic choices are not the result of the evaluation of objective information but reflect the cognitive model of the strategist. Cognitive models, in turn, are shaped by a variety of factors such as cultural heritage (Hitt et al., 1997), age (Forbes, 2005), or expertise (Hopkins & Hopkins, 1997).

The link between strategists' personal and cognitive context and process-outcome characteristics was explored by several studies. Thereby, different concepts such as cognitive diversity (Amason, 1996; Forbes & Milliken, 1999), trust (Ford & Gioia, 2000), or perceived loyalty and competence (Dooley & Fryxell, 1999) were used. Although diverse in nature, the results of these studies indicate that a strong socialization among strategists within an organization has a positive effect on process-outcome characteristics such as quality, speed, or creativity. Thus, these findings somewhat support the arguments of authors (Falcione & Wilson, 1988) who contend that organizations exhibiting strong socialization outperform those with weak socialization.

The largest set of work in this research stream has linked process-formulation characteristics to process outcomes. However, this set can be divided into two broad categories of issue-related, "hard-fact" research and individual-related, "soft-fact" research. Those studies exploring issue-related hard facts confirmed common knowledge that rationality and comprehensiveness were positively related to decision success, at least in stable environments (Hough & White, 2003; Nutt, 2004). The majority of studies, however, took a different approach. Exploring individual-related soft facts such as involvement (Collier, Fishwick, & Floyd, 2004; Gerbing, Hamilton, & Freeman, 1994), consensus (Dooley et al., 2000), and procedural justice (Kim & Mauborgne, 1993a, 1993b, 1995, 1998), these studies focused on the individuals involved. The shared view in those studies is that process outcomes such as quality and commitment are positively related to the feeling of the strategists that the decision-making process was fair and that a consensus was achieved. Kim and Mauborgne (1998) even argue that individuals reciprocate when dealt with in a fair and trusting way. This reciprocation is the basis for willing knowledge sharing, which otherwise may not have been shared.

Previous studies (Jackson & Dutton, 1988; Mintzberg, Raisinghani, & Theoret, 1976) have shown that the labeling and categorization of issues in the early stage of the strategy process influence subsequent stages. However, the relationship between issue-specific characteristics and strategy-process characteristics has received limited attention. Moreover, research in this area is fragmented, using issue characteristics such as crisis decision (Molloy & Schwenk, 1995), complexity (Dutton, 1993; Rindova, 1999), or importance (Dean & Sharfman, 1993a) to explore the impact on strategy-process characteristics. The most sophisticated study (Papadakis et al., 1998) in this area used 16 issue-specific characteristics and found that issue-specific characteristics had a dominant role in determining strategy processes. However, although issue-specific characteristics seem to have an important impact on strategy-process characteristics, to date, no generalizable conclusions with regard to the degree and extent can be drawn.

Comparable to Research Stream 1, research on the topic of strategy implementation received only limited attention. Diverse issues such as planning (Gottschalk, 1999; Grundy & King, 1992), planning staff and power (Waldersee & Sheather, 1996), or middle-management involvement (Floyd & Wooldridge, 1992) were explored. If any conclusion can be drawn with regard to the small set of studies and the diverse issues being explored, then it is that planning may facilitate implementation (Gottschalk, 1999; Grundy & King, 1992). However, planning is not sufficient for implementation success. The behavioral side of implementation appears to matter a great deal. In this regard, it was shown that successful implementation is contingent on strategic decision commitment (Dooley et al., 2000), learning (Miller, Wilson, & Hickson, 2004), and involvement of key persons (Floyd & Wooldridge, 1992).

In sum, studies in the *strategy-process's-influence-on-strategy-process* research stream have impressively argued the exposed position of the individual. In this sense, they have somewhat "humanized" the field. Thus, personal characteristics were shown to have a direct impact on process characteristics as well as on process outcomes. Furthermore, it was shown that process characteristics such as involvement and procedural justice had an impact on process outcomes through their effect on the individuals involved. The limited set of studies

exploring the impact of issue characteristics point out that the long-established artificial divide between process and content research has still not been overcome. However, results show that it is vital to integrate the question of what to decide on, with the question of how to decide in future studies.

Stream 4: Strategy process's influence on outcomes. Because the linkage of strategy to performance is "the heart of the matter" (Schendel, 1992, p. 3), it is obvious that this last research stream is clearly dominated by studies exploring performance as a dependent variable. Far fewer studies are concerned with the relationship between strategists' characteristics and strategy context and performance, respectively.

Despite the long history of research on the planning-performance link (see, e.g., Armstrong, 1982; Pearce, Freeman, & Robinson, 1987; Shrader, Taylor, & Dalton, 1984), this relationship is still one of the most addressed research questions in strategy process. Findings in recent studies in this area (Andersen, 2000, 2004; Baker, Addams, & Davis, 1993; Berry, 1998; Hopkins & Hopkins, 1997; Miller & Cardinal, 1994) indicate a positive relationship between strategic planning and performance. At the same time, however, studies show that current strategic planning has little in common with the highly bureaucratized, top-down processes of the 1960s and 1970s. Rather, strategic planning is seen as a device that is able to enhance internal communication, integrate different capabilities, and coordinate organizational activities across functional areas. This argument is supported by findings that strategic planning is no longer the primary decision path for making strategy (Grant, 2003). Thus, the contribution of strategic planning is not to be found in itself but in its integrative achievement. The informational aspect may also help to explain that the planning-performance relationship varies with regard to the environmental (Priem et al., 1995) and strategic context (Rogers, Miller, & Judge, 1999). Where more information is needed, for example, in turbulent environments, the strategic-planning-performance relationship will be stronger because it provides the information needed to align an organization's strategy and structure to its environment.

According to the upper-echelon perspective (Hambrick & Mason, 1984), strategists' characteristics have important impacts on organizational outcomes as they are authorized to make strategic decisions. Based on this logic, a set of studies explored the effect of strategists' characteristics on performance and strategic context, respectively. With regard to the performance implications, a strong influence was found to be exerted by different characteristics such as certainty (Isabella & Waddock, 1994) or core self-evaluation (Hiller & Hambrick, 2005). However, no general conclusion can be drawn with regard to the extent and direction of the impact of different characteristics on performance. This may best be reflected in the proposition made by Hiller and Hambrick (2005) that the greater a CEO's core self-evaluation, the more extreme the organization's performance—be it positive or negative. Other studies (Ferrier, 2001; Lant et al., 1992) have linked strategists' characteristics to strategic context. A few of them explored the effects of size (Golden & Zajac, 2001) and heterogeneity (Lant et al., 1992) on strategic change. Noteworthy about these studies is that although characteristics such as size were explored, the underlying rationale was of cognitive nature. Size and functional heterogeneity were used to indicate cognitive capacity and ability. Other studies (Farjoun & Lai, 1997; Hiller & Hambrick, 2005; Song et al., 2002)

directly explored the effect of cognitive characteristics on strategic context. Again, a significant impact was found. Similar to Hitt et al. (1997), Song et al. (2002) showed the influence of cultural heritage. In this regard, U.S. managers were identified as preferring differentiation strategies, whereas Japanese managers preferred cost-leadership strategies.

In sum, the overall contribution of the *strategy-process's-influence-on-outcomes* research stream is twofold. First, as studies on the planning-performance link have shown, the meaning and role of strategic concepts may change over time. Although this finding in itself may not be astonishing, it has implications for research. On one hand, consistency of concept operationalization is needed. Inconsistencies make it difficult to adequately compare studies, draw conclusions, and make normative statements. On the other hand, strategic concepts have to be reviewed with regard to their timeliness. Otherwise, it may happen—as in the case of strategic planning—that developments in practice overtake research. Second, these studies show that because strategists make decisions consistent with their cognitive models, which are a function of their characteristics, these characteristics are associated with organizational outcomes. Thus, strategists' characteristics provide an important source in explaining how strategists and, consequently, organizations behave.

Box-Exploring Studies

Although strategic management, and hence strategy-process research, is dominated by linkage-exploring studies (Boyd & Reuning-Elliott, 1998; Venkatraman & Grant, 1986), a considerable number of studies were contained entirely within one or the other of the boxes. Studies in this category were concerned with describing the phenomenon thereby delineating or developing concepts. Table 3 shows the boxes taken from the framework that were used to classify the studies, namely, strategy process (B), strategists' characteristics, personal and cognitive context (B-I and B-II), strategy formulation (B.F), and strategy implementation (B.I).

Strategy process. Research in this category is heavily influenced by studies providing conceptualizations of strategy process such as evolutionary process (Burgelman, 1994, 1996, 2002), iterated process of resource allocation (Noda & Bower, 1996), guided evolution (Lovas & Ghoshal, 2000), organic perspective (Farjoun, 2002), or shaping conversations (Liedtka & Rosenblum, 1996). Although diverse in nature and details, these concepts jointly challenge the design approach to strategy process. The dichotomy of strategy formulation and strategy implementation and the concepts of discrete time and discrete flow are rejected. Rather, the new concepts of strategy call for a reconceptualization of the traditional balkanized strategy concept (Liedtka & Rosenblum, 1996). Hence, these concepts have introduced more dynamic and eclectic views of key constructs, argued against rational unitary-actor models, and portrayed a more complex view of causality. Moreover, they have shifted the focus from strategic choice to strategic change and provide a much more realistic picture of the actual strategy process in organizations. Studies (e.g., Burgelman, 1996) even provide evidence that strategic change can take place before it is recognized or acknowledged as such by the TMT. From a methodological point of view, these concepts require longitudinal

Table 3
Box-Exploring Studies

| Theme | Studies | |
|--|---|--|
| | Conceptual | Empirical |
| Strategy process | Melin (1992); Idenberg (1993); Stacey (1993, 1995); Liedtka & Rosenblum (1996); Campbell & Alexander (1997); Christensen (1997); Heene (1997); Ocasio (1997); Noy (1998); Moncrieff (1999); Hendry (2000); Khanna, Gulati, & Nohria (2000); Gadish & Gilbert (2001); Farjoun (2002) | Burgelman (1994, 1996, 2002); Noda & Bower (1996); Lovas & Ghoshal (2000); Jarzabkowski & Wilson (2002); Montealegre (2002) |
| Strategists' characteristics, personal and cognitive context | Bamberger & Fiegenbaum (1996); Hodgkinson, Maule, Bown, Pearman, & Glaister (2002); Wright & Goodwin (2002); Miller & Ireland (2005) | Reger & Huff (1993); Carpenter & Golden (1997); ... Goodwin & Ziegler (1998); Thakur (1998) |
| Strategy formulation | Asch (1992); Eden (1992); Mintzberg (1993, 1994a, 1994b, 1994c); Simon (1993); Zahra & Chaples (1993); Ansoff (1994); Hosmer (1994); Wilson (1994, 1998); Alexander (1995); Ilimitch & Schaltegger (1995); Taylor (1995, 1997); Gilmore & Camillus (1996); Hamel (1996); Jose (1996); Mulligan, Hatten, & Miller (1996); Courtney, Kirkland, & Vigueirie (1997); Eisenhardt, Kahwajy, & Bourgeois (1997); Ginsberg (1997); Muralidharan (1997); Pawar & Sharda (1997); Safizadeh (1997); Schlange & Juttner (1997); Cool (1998); Heracleous (1998); Kuwada (1998); Shaw, Brown, & Bromiley (1998); Simpson (1998a, 1998b); Drew (1999); Liedtka (2000); ... Goodwin & Wright (2001); Szulanski & Amin (2001); Kim & Mauborgne (2002); Shimizu & Hitt (2004) | ... Baker (1992); Foo, Grinyer, & McKiernan (1992); Nakahara & Isono (1992); Dean & Sharfman (1993b); Koufopoulos & Morgan (1994); Nosowski (1994); Kukalis & Jungemann (1995); Bonn & Christodoulou (1996); Bowman & Kakabadse (1997); Boyd & Reuning-Elliott (1998); Glaister & Falshaw (1999); Werder (1999); Frentzel, Bryson, & Crosby (2000); Jennings (2000); Lewis & Harvey (2001); Grant (2003); Mankins (2004) |
| Strategy implementation | Francis (1992); Barney & Zajac (1994); Beer & Eisenstat (2004); Pelleggrinelli & Bowman (1994); Banfield, Jennings, & Beaver (1996); Mentzas (1997); Lorange (1998); Chesley & Wenger (1999) | Beer & Eisenstat (1996) |
| Integrative and methodological work | Chakravarthy & Doz (1992); Eisenhardt & Zbaracki (1992); Hart (1992); Pettigrew (1992); Priem (1992); Schendel (1992); Van De Ven (1992); Rajagopalan, Rasheed, & Datta (1993); Schwenk (1995); Langley (1999); ... Johnson, Melin, & Whittington (2003) | |

research, action science, sequence modeling, ethnographic approach, and case histories (Stacey, 1995). In this regard, the reductionist approach of testing hypotheses, commonly used in linkage-exploring studies, however, is not suitable. The exploration of complex systems such as organizations or strategy processes unfolding within an organizational context as a whole cannot be studied using linear or approximated linear systems. For such systems, it is extremely difficult to find the specific causes of specific effects. Hence, instead of looking for causes and effects, it is necessary to look for patterns and their systematic implications. Thus, we assume future research should conduct further field studies in different settings to validate the models presented.

Strategists' characteristics and personal and cognitive context. These studies were mainly concerned with the exploration of cognitive concepts such as reference points (Bamberger & Fiegenbaum, 1996), intuition (Miller & Ireland, 2005), or scripts tracks (Goodwin & Ziegler, 1998) and their respective determinants. Overall, these studies revealed that cognition is subject to influence on multiple levels. First, on a personal level, some studies showed that cognition is shaped by characteristics such as locus of control (Carpenter & Golden, 1997) or work experience (Goodwin & Ziegler, 1998). Second, context characteristics such as strategic groups (Reger & Huff, 1993) influence managerial cognition. Third, some studies found that issue-related characteristics such as issue familiarity (Goodwin & Ziegler, 1998) influence cognition. Findings of this set of studies are especially interesting for research in the upper-echelon and strategic choice tradition, as they provide some explanation for managerial behavior. In this regard, they also provide some further explanations for managers' varied responses to similar events. In addition, two studies (Hodgkinson, Maule, Bown, Pearman, & Glaister, 2002; Wright & Goodwin, 2002) explored concepts confronting a well-known cognitive bias, the framing bias. Although they disagree with regard to the appropriate approach, the common finding is that the framing bias can be overcome. Thus, managerial cognition is not an uncontrollable phenomenon but can, at least to a certain degree, purposefully be influenced. We anticipate researchers will build on the present knowledge of managerial cognition and further examine cognitive concepts and their effects on organizational outcomes.

Strategy formulation. This topic was clearly dominated by studies addressing strategic planning. Over the review period, these studies show the aforementioned transmutation of strategic planning—in theory as well as in practice. Starting from an understanding that strategy is the result of strategic planning (Mintzberg, 1993, 1994b, 1994c), the concept has considerably advanced. Recent studies (e.g., Grant, 2003) show that strategic decisions are made outside the plan in response to upcoming opportunities and threats and are subsequently incorporated into the strategic plan. Thus, the long-running debate on strategic planning seems to be based on differing understandings and conceptions of strategic planning. Therefore, we applaud the work of Boyd and Reuning-Elliott (1998). It is the only study that provides a multi-indicator measure for the operationalization of strategic planning. With this, it provides a construct that can be used in future research and may help to adequately compare and generalize results across studies. In this regard, the debate on strategic planning points out that past studies have overemphasized substantive research at the expense of

construct-validation research. Hence, we repeat the call of Fredrickson (1983, p. 572) that “*investigators should place greater emphasis on evolving concepts into constructs and developing measures of those constructs.*”

Other studies in this box provide descriptions of how organizations use different approaches such as drawing a strategy canvas (Kim & Mauborgne, 2002) or strategic stories (Shaw, Brown, & Bromiley, 1998) for strategy formulation. Based on experiences from practice, these studies show the attempt of organizations to combine discipline and imagination for strategy making (Szulanski & Amin, 2001). We believe that it will be one challenge of future research to theoretically explore such attempts already in use in practice.

Strategy implementation. Once again, the very limited set of studies points to the strong disequilibrium in strategy-process research. Implementation seems to be seen as a matter of operational detail and tactical adjustments. The potential of implementation as an important lever in strategy-process effectiveness, however, has largely been overlooked. Nevertheless, from a resource-based perspective, strategy-implementation skills can be interpreted as one potential source of competitive advantage (Barney & Zajac, 1994). The development of such skills, in turn, is not an easy task. As the studies show, implementing strategy means managing change. Change, however, may lead to unease among organizational members, thereby hindering the effectiveness of strategy implementation. Thus, integrating those organizational members affected by strategy implementation is essential for successful implementation (Beer & Eisenstat, 1996). Whether the integration results from strategic discussions (Beer & Eisenstat, 1996, 2004; Chesley & Wenger, 1999) or project teams (Pellegrinelli & Bowman, 1994) is not relevant. However, it is relevant that organizational members do respond to being treated fairly. Only then do they show commitment to strategy formulation and implementation, even if these decisions affect them negatively (Cool, 1998).

An Overall Evaluation

Almost 20 years have passed since Huff and Reger’s (1987) comprehensive review. Ever since, the field has made considerable progress. Today, we witness a shift in focus. At that time, research was clearly dominated by planning-related topics, especially planning prescriptions (Huff & Reger, 1987, p. 214). Although strategic planning has remained a prominent topic, the focus today lies in the planning-performance link and the description of planning practices in organizations, which helped to uncover its transmutation over time. Even more striking is the example of research on cognition and perception. An almost negligible research stream in the 1980s, it is today one of the cornerstones of strategy-process research.

The impetus for this shift in focus may be found in the future research agenda of former reviews (e.g., Eisenhardt & Zbaracki, 1992; Huff & Reger, 1987; Rajagopalan et al., 1993). It seems that past research has seized those suggestions and thus ensured the advancement of the discipline.

With regard to *methodology*, the field has greatly benefited from the import of concepts and research from other areas such as cognitive science or biology. Moreover, we have seen a wide range of research methods from large-scale surveys that still dominate the field to

in-depth case studies, multiple-case studies, simulation, and even ethnographic fiction. In this regard, real-time longitudinal research gains more and more momentum offering a better understanding of causal relationships.

From a *content* point of view, past research has also seized on the suggestions provided. The pursuit of the suggestions provided by former reviews has influenced the development of the field within the past two decades. Based on our review, we have identified six main perspectives of strategy-process research representing the current intellectual structure of the field: *rational-mechanistic perspective*, *cognitive perspective*, *upper-echelon perspective*, *middle-management perspective*, *organic perspective*, and *micro perspective*.

The rational-mechanistic perspective stands in the tradition of the classical models (e.g., Andrews, 1971; Ansoff, 1965). In this deterministic understanding, strategy process represents a sequential, rational, and analytical activity in which managers must analyze both their external and their internal environments. Strategy is then the alignment of internal strengths or weaknesses with external opportunities or threats. Other research takes a somewhat mechanistic perspective thereby totally ignoring the salient role of individuals within this process. Despite the untenability of some of the normative assumptions of the classical models, this perspective still accounts for a large amount of research output. The descriptive nature of some recent research, however, has displayed a more realistic view of this perspective.

In contrast, the cognitive perspective acknowledges the bounded rationality of individuals. Interest in this theoretical approach has dramatically increased in the past, reflected in the growing number of journal articles (for a review, see Walsh, 1995) and several special issues dedicated to cognitive themes (e.g., *Journal of Management Studies*, July 1989, May 1992, November 1997; *Organization Science*, August 1994). Building on insights of cognitive psychology, this perspective explores the determinants and consequences of cognitive models. It is the merit of this perspective to point to the path dependency of decision making. Decisions are no longer the result of rational considerations but reflect the cognitive model of the decision maker that was developed over time and is subject to change. Thus, the cognitive perspective of strategy process emphasizes the context-specific nature of decisions and provides a basis to explain individual and, by that, organizational behavior.

Closely related is the upper-echelon perspective. Building on Hambrick and Mason (1984), research in this perspective has attempted to understand the role of top executives in strategic choice, organizational design, and performance (Finkelstein & Hambrick, 1996). Due to their access to organizational resources, top executives' decisions are seen as especially important for organizational outcomes. In contrast to the deterministic view of the rational-mechanistic perspective, however, this perspective considers the fact that decisions depend on the prior processes of perception and evaluation, which, in turn, may well have other important referents apart from purely economic ones (Child, 1972). Thus, the upper-echelon perspective integrates cognitive as well as behavioral research to explain the behavior of organizations through the behavior of their top executives.

The burgeoning literature of the middle-management perspective (Floyd & Wooldridge, 1992, 1994, 1997), in contrast, argues that organizational outcomes are heavily influenced by what happens in the middle of organizations rather than at the top. Middle managers are seen as key strategic actors, participating in the thinking and doing of an organization's strategy.

Due to their vicinity to the market, middle managers know which strategic issues require attention. Thus, middle managers use their upward influence to champion issues and communicate information (Dutton & Ashford, 1993). Moreover, middle managers play a pivotal role in strategy implementation. Due to their intermediate position between the top executives and frontline managers, middle managers exert downward influence through interpreting and translating strategy into action.

The organic perspective adds a view of strategy process as dialectic, involving rationalization and structuring through upper-echelon and strategic initiatives of lower levels within the organization (Farjoun, 2002). Inherent in these models is that history matters. They seek to explain an organization's success and failure by looking at historical developments, thereby observing the pace and path of change (Barnett & Burgelman, 1996). Thus, this perspective has shifted the focus from strategic choice to strategic change, highlighting the interaction and multiple and mutual influences on the strategy process. Based on numerous in-depth longitudinal case studies, this research has provided a more dynamic and eclectic view of strategy processes and uncovered the messy side of reality.

Many institutional indications attest the relevance of the micro perspective. In addition to conference tracks and a special journal issue (*Journal of Management Studies*, January 2003), we are even witnessing the growth of an online community dedicated to this perspective (<http://www.strategy-as-practice.org>). Based on the assumption that value lies increasingly in the micro activities of organizational members, this perspective conceptualizes strategy as a social action (Whittington, 1996). Thus, it endeavors to understand the myriad micro activities that make up strategy and strategizing in practice (Johnson, Melin, & Whittington, 2003) and uncovers what the various actors involved in the strategy process really do and what techniques and tools they use. Consequently, the micro perspective is concerned with the effectiveness of strategists rather than organizations, the work of strategists, and how strategists learn to do it.

All of the perspectives mentioned are noteworthy for their valuable contribution. Building on varying base disciplines and underlying assumptions, each perspective offers somewhat different insights into the strategy-process phenomenon. However, to further stimulate accumulation of knowledge, it seems to be time to move the perspectives closer together and to urge cross-fertilization between different perspectives.

Suggestions for Future Research

Over the years, strategy-process research has produced an incredibly vast body of literature. However, there is certainly no lack of process topics deserving future research attention. Hence, we have identified several underexplored fields in strategy-process research that we believe deserve particular attention. Thus, we first outline the pressing issues that we consider to have high value potential within each research stream and box and indicate what we think would be the most promising perspective(s) to do so. These research opportunities are summarized in Table 4. Second, we discuss high-potential research opportunities that cut across streams and perspectives.

Table 4
Research Opportunities Within Each Research Stream and Box

| Research Stream | Perspective | Opportunities |
|---|-------------|--|
| Antecedents' influence on strategy processes | RM | Explore the effects of antecedents on issue characteristics |
| | RM | Discover if and how antecedents influence strategy implementation |
| | COG, UE | Studies that research the influence of antecedents on cognitive context |
| | RM | Determine the role of antecedents in the development of dynamic organizational characteristics |
| Antecedents' influence on outcomes | All | Use configurational constructs |
| | COG, UE, MM | Link personal characteristics to issue characteristics |
| Strategy processes' influence on strategy processes | RM | Study the relationship between implementation characteristics and outcomes |
| | ORG, UE | Explore the characteristics of decisions made ex post to implementation |
| Strategy processes' influence on outcomes | COG, UE | Extend research on personal characteristics beyond the effect on strategic context |
| | COG, MIC | Explore the effect of personality in contrast to governance on outcomes |
| | RM | Conduct studies on the effect of implementation on performance |
| | RM | Uncover issue-specific, best-practice strategy processes |
| Strategists' context | COG, MIC | Develop and provide tools and techniques to encounter cognitive biases |
| | | |
| Strategy process | ORG | Conduct studies involving larger number of studies |
| | ORG, MIC | Operationalize key constructs |

Note: RM = rational mechanistic; COG = cognitive; UE = upper echelon; MM = middle management; MIC = micro; ORG = organic.

Research Opportunities Within Each Stream

Antecedents' influence on strategy processes. Findings agree that issue characteristics play an important role in strategy processes. However, issues remain largely anonymous to date. A logical new frontier for research is therefore to quarry out of this anonymity. Taking a rational-mechanistic perspective, research is needed to explore how strategic issues can be characterized and how those characteristics are shaped by context. In a first step, it would thus be useful to develop and agree on a multidimensional construct of strategic-issue characteristics. For instance, what dimensions can be used to objectively describe strategic issues? At this point, individual perception should not yet be considered. To extend this research, it would be interesting in a second step to explore the contextual forces that act on issue characteristics. Do environmental or organizational elements exert influence on the same issue characteristics?

Using the same perspective, future research should also address implementation issues. To date, almost all extant studies in this research stream are concerned with the effects of

antecedents on strategy-formulation characteristics. Comparable studies dealing with strategy-implementation issues are still missing. Traditional formulation characteristics, however, such as rationality or comprehensiveness are suitable to only a limited extent for implementation issues. Thus, we need research to develop specific implementation characteristics. Such characteristics could, for instance, include assigned priority and resource involvement. Subsequent studies should then explore the contextual effects on this new set of characteristics. Among others, it would be useful to learn what contextual elements are the main drivers of the level of resource involvement. Applying longitudinal research studies could show whether and how implementation characteristics change due to changing contextual factors, thereby providing a dynamic view of strategy implementation.

Also, this research stream would benefit from more research on the contextual influence on the strategist. Longitudinal studies in the tradition of the cognitive and upper-echelon perspectives are needed that uncover how the cognitive models of the strategists develop because of environmental and organizational changes. For instance, how do those models change when the institutional environment is substantially changed, as in the case of China and the former Eastern bloc countries? Moreover, research including different organizational settings could help to shed light on the organization's influence on the strategist. Does a strategist's cognitive model change with an organization's life cycle? Does it change with the organization's size? Then again, what happens in case the cognitive model does not adapt? What are the effects of cognitive model rigidity? Thus, future work should try to build a model that links major contextual factors to the cognitive models of strategists, thereby exploring the main drivers of model adaptation and rigidity.

Antecedents' influence on outcomes. One promising area for further inquiry is that of the interrelationship between contextual factors and dynamic organizational characteristics. For instance, future studies should explore whether and how organizational culture is affected through context. As a system of shared meaning (Shrivastava, 1985; Smircich, 1983), organizational culture is a critical variable for effective strategy processes. Thus, in a rational-mechanistic perspective, it would be interesting to know to what degree organizational culture is determined by contextual factors as opposed to the personal factors of the people involved. In this regard, it would also be useful to learn about the most influential antecedents. Do organizations with similar strategic orientation exhibit a similar organizational culture? Do organizations within similar environments also exhibit a similar organizational culture? Understanding the interrelationship between contextual factors and organizational culture may enable us to further understand strategic choices made by organizations.

There is also a need for studies using configurational approaches across all perspectives. Contradictory findings, for instance, with regard to centralization on performance, raise doubts that the mere presence of specific variables is enough to explain differences in performance. Rather, it seems to be time to consolidate past insights from contingency theory. As suggested by Miller (1988) and Meyer, Tsui, and Hinings (1993), among others, configurational frameworks synthesizing strategic, organizational, and environmental characteristics should be used to explain organizational performance. Reality is too complex to be explained by simple bivariate relationships. In contrast, incorporating configurational frameworks in empirical research could increase the variance explained.

Strategy processes' influence on strategy processes. A logical new frontier to research in this stream is to use the cognitive, upper-echelon, and middle-management perspectives to explore the interrelationship between the strategists and the issue characteristics. After all, decisions are not made based on objective but perceived characteristics. The ultimate objective of such research, therefore, should be to predict how strategists perceive specific issues based on the strategists' static, personal, and cognitive context. Combined with the framework of objective issue characteristics outlined above, such research would contribute to the effort to integrate strategy-content and -process research. It would also be useful to learn how different decision issues such as internationalization, diversification, or acquisition are likely to be perceived by members of either the TMT or the middle management. To extend this approach, it would be interesting to see if different decision issues account for different strategy-process characteristics.

Although researchers have extensively explored strategy formulation, little attention has focused on the implementation side. This is odd because a decision without respective implementation is unlikely to have any effect. At this point, we see future research in the rational-mechanistic perspective to be twofold.

First, research needs to link implementation characteristics to outcomes. This kind of research will offer insights that are extremely valuable to both academics and practitioners. For example, research could uncover whether there is an optimal level of resource commitment to implementation. Moreover, how should implementation be organized? Are project designs more effective than other forms of implementation? After countless formulation taxonomies, it is time to move on and develop such taxonomies for implementation issues.

Second, studies need to establish a link between formulation and implementation. Therefore, we need research to develop criteria to measure the success of a decision based on its implementation and adoption. This will allow us to answer questions such as the following: Do strategy formulation characteristics matter with regard to strategy implementation? Do different strategy-formulation styles affect strategy implementation? Is strategy implementation responsible for the discrepancy between intended and realized strategy? At the end of this research, we should be able to give recommendations with regard to what combination of formulation and implementation characteristics will provide the best results.

As Burgelman (1983a, 1983b) has shown, implementation sometimes precedes formulation—that is, formal decision making by the top management. However, to date, we know little about such autonomous strategic initiatives. To build on this organic perspective, it would be useful to examine the specific characteristics of such strategic initiatives. Also, from an upper-echelon perspective, it would be interesting to learn what the crucial factors are that prompt top managers to rationalize and justify those initiatives *ex post*? What happens to strategic initiatives when top management declines acceptance? What are the organizational consequences?

Strategy processes' influence on outcomes. The recent trend to apply the cognitive and upper-echelon perspectives to examine the influence of personal characteristics on outcomes should be extended. A promising area for further inquiry is that of organizational characteristics. Anecdotal evidence suggests that the ego of the strategist can be as important as economic arguments in strategic decision making. Consequently, studies are needed that explore

whether and what personal characteristics account, for example, for different organizational structures. Does hypercore self-evaluation of strategists (Hiller & Hambrick, 2005) lead to the creation of centralized organizations? Does megalomania account for economically absurd mergers and acquisitions? It remains to future research to clarify the impact of personal characteristics on organizational characteristics.

In addition, applying the cognitive and micro perspectives, future research should try to explore the effect of personality in contrast to governance on process outcomes. For instance, how are strategists motivated in their day-to-day activities? What are the contextual elements that affect motivation and commitment and thus have a direct impact on process outcomes? In this regard, it would be interesting to learn whether an outstanding personality is more appropriate for unleashing motivation and commitment than are reward systems.

In addition, once well-grounded conceptualizations of implementation characteristics are developed, researchers should examine the link to performance. For example, it may be interesting to know what effect implementation speed has in dynamic environments. Fast decision making was found to be positively related to performance in such environments (Eisenhardt, 1989). Fast and rigid implementation, however, may result in ignoring major changes in the environment during the tedious implementation of strategic projects. Does this, in turn, mean that slow and flexible implementation is to be favored in dynamic environments? Moreover, such research, taking the rational-mechanistic perspective, could help uncover successful configurations of implementation characteristics and would thus be extremely valuable for practitioners.

Traditionally, process research has linked process characteristics, whereas content research has linked different issues to outcomes. It is time, however, to break new ground. Combining process and content research could lead to exploring best practices for strategy-process-issue combinations. Therefore, building on a sound framework of issue characteristics, studies need to explore strategy processes dealing with comparable issues. Linking those strategy-process-issue combinations to outcomes such as performance may allow us to uncover superior strategy processes for different issues. In this regard, it would be interesting to learn whether there are best-practice strategy processes, for example, for issues such as diversification or internationalization. Thereafter, such development of normative theory could inductively lead to more interesting research questions worthy of inquiry.

Strategists' characteristics. The strategy-process literature has developed an extensive list of cognitive simplification processes (e.g., Schwenk, 1984). According to this, strategists are subject to various biases during decision making such as framing bias, illusion of control, or reasoning by analogy. Although knowledge of such biases may help to understand specific behavior, it provides only limited help to overcome such biases. Thus, more studies comparable to those offered by Hodgkinson, Bown, Maule, Glaister, and Pearman (1999) or Wright and Goodwin (2002) are needed that provide insights into how strategists can overcome such biases. The ultimate goal of such research should be to provide intervention techniques and tools than can be applied by strategists during decision making. For instance, what tools can strategists use to encounter the framing bias? What techniques may be appropriate for group decision making? To provide such techniques and tools would mean to increase the relevance of strategy research for practitioners.

Strategy process. Several studies such as those by Burgelman (1996), Lovas and Ghoshal (2000), and Montealegre (2002) have provided us with profound insights into the actual strategy process in organizations, thereby offering an organic perspective. Descriptive generalizations based on a single case, however, need to be treated with caution. Thus, what is needed are multiple-case design studies. With regard to practicability, such studies should concentrate on specific aspects of the strategy process. It may also be useful to try to operationalize key constructs. For instance, what lies behind such key constructs as strategic context (Burgelman, 1983a)? What measures do middle managers take to provide such a strategic context?

Research Opportunities Across Streams

Strategic agenda building and initiation of strategy processes. A vast body of literature exists, exploring contextual effects like environmental, organizational, or TMT characteristics on strategy processes and the impact of strategy-process characteristics on outcomes. However, we found that most studies were concerned with the phase of decision making, thereby confirming the popular view that strategic decision making is central to strategy-process research (Eisenhardt & Zbaracki, 1992). Thus, an implicit assumption underlying this research is that the decision object is already specified—that is, how to find the best solution for a given issue has been explored. Existing concepts in strategy-process research do not raise the question of how an issue gains decision makers' attention (Dutton, 1988). It is evident, however, that what decision makers do depends on what issues their attention is drawn toward (Hambrick, 1981; Ocasio, 1997). In other words, current research falls short in addressing the question of how decision makers decide on what to decide and how decision makers' attention is channeled and distributed within an organization. In the words of Kingdon (1993, p. 40), "we're talking, here, not about how issues get decided, nor about how decisions are implemented and what impacts they have, but rather how issues come to be issues in the first place."

Due to the implicit assumption of a predefined decision object, research on strategic decision making is not suited to answering the question of how issues come to be issues for an organization. However, we strongly believe that strategy-process research would greatly benefit from exploring this question. We see the necessity to integrate multiple perspectives such as TMT, middle management, and micro perspectives to ensure a complete understanding of the organizational agenda setting and initiation of strategy-process phenomena. Addressing questions such as, Why do firms attend to some issues but not to others? Why do issues get attention in some firms but not in others? How do firms determine when, why, and how to respond to issues? What role does a strategic agenda play within this process? What are the forces that shape a firm's strategic agenda? and How are strategy processes initiated once an issue is placed on a firm's strategic agenda? could help us in explaining one of the fundamental issues in strategy: how firms behave (Dutton, 1988, 1997; Ocasio, 1997). Moreover, this kind of research would contribute to the much-claimed integration of strategy-process and -content research. We may learn from this inquiry what forces restrict the possible

set of issues that are relevant for an organization. Thus, what issues are *ex ante* excluded? Why are those issues excluded?

Strategy process as dynamic capability. The concept of dynamic capabilities, defined as “the firm’s ability to integrate, build, and reconfigure internal and external competences” (Teece, Pisano, & Shuen, 1997, p. 516), has received broad recognition among strategy-content researchers. In contrast, process research has hardly witnessed any application of this concept. This is odd because we believe that this is at the heart of strategy processes. Strategic decisions are made to address changing environments, thereby altering the resource base of an organization. However, in recent years, the relevance of physical and financial resources has decreased in favor of intangible resources such as know-how, intellectual assets, and competencies.

Thus, in today’s knowledge economy, the long-term success of an organization is increasingly based on knowledge accumulation and sharing. Skills, personality, and character of organizational members and the informal networks and practices linking those together are becoming increasingly important. Thus, we believe that strategy processes that are designed to leverage the potential of the human capital accumulated within an organization are the key for competitive advantage. In other words, effective strategy processes are one kind of dynamic capabilities. Key issues for future research, therefore, include how strategy processes should be designed to leverage human capital—that is, what are the basic conditions of such a process? For instance, who should be involved in strategic decisions, how should these be communicated, and how should reward systems be designed? If organizational members are expected to share their knowledge to display a high level of cooperation and commitment to strategy formulation and implementation, they have to feel that they are being treated fairly. Only then will organizational members support strategic decisions, even if these decisions affect them negatively. It remains for future research, however, to develop and empirically validate such a strategic-process construct. Research is needed that explores the broader context of strategic decision making. For instance, what is the role of the strategist, and what activities do they perform after the decision was made? The value of such a construct is largely based on the fact that it is—as far as possible—uncoupled from the actual strategic issue. Thus, such a construct could be readily applied to changing conditions and issues.

Implications for Managerial Practice

Three insights derived from research on strategy processes may be of particular interest to practicing managers and can directly be incorporated into managerial practice. First, top managers have to acknowledge the organic nature of strategy processes. Examples such as Intel have shown that initiatives stemming from lower levels of the organization can be the source of future success. Thus, top managers should mindfully watch initiatives developing within their organizations. Moreover, they may even encourage their employees to think about new strategic opportunities by providing an environment where such activities are encouraged rather than penalized.

Second, managers have to consider the importance of cognitive processes in strategy processes. On one hand, managers need to be aware of their own cognitive biases. This knowledge may help them to consciously take measures to overcome such biases. On the other hand, insights provided by the cognitive and upper-echelon perspectives suggest that it may be useful to analyze competitors' TMTs with regard to their cultural, educational, and functional backgrounds. In doing so, managers may be able to somewhat understand and predict strategic moves of competitors.

Third, managers can leverage strategy processes through adequate design. Numerous studies have highlighted the exposed position of the individuals involved in the process. It is, therefore, the challenge of managers to design strategy processes in a way that people are willing to devote their full potential to the process. Although designing and implementing such a process may not be an easy task, its outcomes will more than justify the efforts.

Conclusion

We opened the article asking whether strategy-process research is in a crisis. Concluding the article, we are sure that it is *not*. Given the vast body of literature dedicated to strategy-process research, any claim of completeness would be clearly foolhardy. However, using a structured approach to identify literature and integrating 227 studies into our review, we do feel confident that our review is representative for the current state and progress of the field. Hence, our review shows that strategy-process research has achieved substantial progress. Building on past theoretical and empirical work and seizing on suggestions provided by former reviews, the field has developed into its present state. The current intellectual landscape can be described along six perspectives: rational mechanistic, cognitive, upper echelon, middle management, organic, and micro. Although this multitude of perspectives certainly increases complexity, it nevertheless ensures a more thorough understanding of strategy-process issues than a single perspective could ever provide.

Future research should be directed to further develop insights within each perspective. Moreover, although integration of different perspectives may not be feasible, cross-fertilization of perspectives should be aimed for. Thus, we hope that the review provided in this article and the areas identified for future research will enable researchers to build on existing literature more meaningfully and will advance our understanding of strategy processes.

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