

The structure and evolution of the strategic management field: A content analysis of 26 years of strategic management research

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This paper analyses 26 years of strategic management research published in *Academy of Management Journal*, *Academy of Management Review*, *Administrative Science Quarterly* and *Strategic Management Journal*. Through a content analysis, it studies the relationships between the subfields of strategic management. A multiple correspondence analysis provides a map of keywords and authors, and a framework to track this literature over the 26-year period. A discussion of future pathways in the strategic management literature is also provided.

Introduction

The purpose of this paper is to study the evolution of the strategic management literature based on an analysis of the content of the past 26 years of strategic management research published in the leading journals in the field, namely, the *Academy of Management Journal* (AMJ), *Academy of Management Review* (AMR), *Administrative Science Quarterly* (ASQ) and the *Strategic Management Journal* (SMJ). The paper serves not only to assess the structure

and past evolution of the content of the strategic management field and its different subfields, but also presents some conjectures about further developments in this literature. By helping strategic management scholars to understand better the direction in which the field is going and where the gaps are, the paper is intended to provide a guideline for scholars in positioning their future research efforts.

We therefore focus on two questions. First, what is the content and the evolution of strategic

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management research? Second, who has published most in the literature of strategic management and what was their contribution to the evolution of the field? The first question involves a classification of articles to evaluate disciplinary evolution and to determine the *ex post facto* priorities of authors, editors and reviewers. To address the first question, we examined the content of the different subfields of the strategic management research field and their evolution over time. The second question involves the identification of the most prolific authors in the field and the evaluation of the impact of their articles. To address the second question, we counted the number of articles published per author and the number of citations these articles received. We then related the most influential papers to the different subfields of strategic management.

Our paper departs from recent studies of the structure and evolution of the strategic management field, such as Bowman *et al.* (2002), Herrman (2005), Hoskisson *et al.* (1999), Phelan *et al.* (2002) and Ramos-Rodriguez and Ruiz-Navarro (2004), on three important aspects: data, analysis and coverage. Unlike, the studies by Bowman *et al.* (2002), Herrman (2005) and Hoskisson *et al.* (1999), our analysis of the structure and evolution of the strategic management field is based on quantitative data rather than qualitative interpretation, which may reflect the subjective views of their authors. Both types of studies are valuable and complementary, and therefore our results may be used to validate or invalidate previous interpretations. Unlike, the study by Ramos-Rodriguez and Ruiz-Navarro (2004), we did not use bibliometric techniques based on citations to analyse the structure and evolution of the strategic management fields because, as these authors notice, it is impossible to distinguish the motives underlying the chosen citations. For example, a citation could be made either to enhance a theoretical framework or to criticize a document or approach. Instead, we developed a typology of keywords, which we used to classify articles. Finally, unlike the studies by Phelan *et al.* (2002) and Ramos-

Rodriguez and Ruiz-Navarro (2004), we did not focus on articles published in a single journal, but extended the scope of our study to the four leading journals in the strategic management field.

The choice of *AMJ*, *AMR*, *ASQ* and *SMJ*, as the leading representatives of the strategic management literature is straightforward. Over the 26-year period of study, these journals have attained positions as the top strategic management journals as well as the top business journals. Evidence of this comes from many sources, such as the studies published by Ian Macmillan (Macmillan 1989, 1991; Macmillan and Stern 1987) and the *Social Science Citation Index* (SSCI). Macmillan (1991) reports the results of a survey that was conducted among business policy scholars in order to rate key management journals with respect to their appropriateness as outlets for academic research in the business policy field. This study was performed in 1984, 1986, 1988 and 1990. Indeed, since 1986, it shows that these four journals are consistently positioned at the top of the list of strategic management research journals. Evidence is also available from the SSCI, now incorporated into the Web of Science Internet library source. The SSCI measures the influence of business publications based on impact factors (defined as the frequency with which articles from a journal have been cited) that are calculated for all journals. Between 1990 and 2005, *AMR*, *ASQ*, *AMJ* and *SMJ* have consistently been positioned in the top ten of the most influential business journals with impact scores larger than 1.8, which is supported by recent studies by Tahai and Meyer (1999) and Podsakoff *et al.* (2005).

The perspective developed here is important for several reasons. First, established influential journals such as *AMJ*, *AMR*, *ASQ* and *SMJ* tend to shape ongoing theoretical and empirical work by setting new horizons for inquiry within their frame of reference. As a consequence, it is important to identify and understand the current evolution in research presented in these journals and the underlying

causes of this evolution. Second, these developments may also provide insights about the future of the strategic management literature by illuminating the nature and evolution of the current debates in the area of strategy and, more broadly, in organization science. They may also indicate the presence of new challenges and themes in the field.

To achieve this aim, the paper is structured as follows. First, a brief overview of the development of strategic management is provided, and this is followed by a description of the methods employed in the study. Second, the results of the analysis of the content of the strategic management literature and its evolution over time are presented. The analysis of the literature involves a classification of articles that allows an evaluation of disciplinary trends. Third, the most published authors and the most cited papers in the strategic management field are examined and assessed. Finally, the conclusions offer a discussion about the future of the strategic management literature and provide some insights into the possible future development of the field.

Development of Strategic Management: An Overview

In order to understand the future of strategic management research, it is important to provide a historical perspective on the origins of the observed changes and evolutions in the development of the field. Therefore, it is important to present a broad but non-exhaustive overview of the field's development. Numerous textbooks (e.g. Grant 1991a; Hitt *et al.* 1999; Johnson *et al.* 2004; McGee *et al.* 2005) have also synthesized the field's development as well as influential research-oriented volumes such as Rumelt *et al.* (1994) and Pettigrew *et al.* (2002). The brief overview here is based on three of these studies which are: Richard Rumelt, Dan Schendel and David Teece's 'Fundamental issues in strategy' (1994); Robert Hoskisson, Michael Hitt, William Wan and Daphne Yiu's 'Theory and research in strategic management: swings of a pendulum' (1999);

and Edward Bowman, Harbir Singh and Howard Thomas's 'The domain of strategic management: history and evolution' (2002).

First, we present the historical development of strategic management until 1980. Following Rumelt *et al.* (1994), we divided this development into three periods: (1) the precursors; (2) birth in the 1960s; and (3) transition towards a research orientation in the 1970s. The 'prehistory' of strategic management as an academic field lies in studies of economic organization and bureaucracy (Rumelt *et al.* 1994). Among the numerous writers who started to investigate the role of management and possibilities for strategic choice, the most famous are Taylor (1947), who initiated a 'science of work', Barnard (1938), who studied the roles of managers, Simon (1947), who developed a framework to analyse administration, and Selznick (1957), who introduced the idea of 'distinctive competence.' An important contribution of these authors is their linkage of the study of organization with economic ideas.

However, the birth of the field of strategic management in the 1960s can be traced to the following three works: Alfred Chandler's *Strategy and Structure* (1962); Igor Ansoff's *Corporate Strategy* (1965); and the Harvard textbook *Business Policy: Text and Cases* (Learned *et al.* 1965), the text of which is attributed to Kenneth Andrews and was later rewritten in a separate book *The Concept of Corporate Strategy* (1971) (Rumelt *et al.* 1994). With these authors, research shifts from a deterministic one-best-way approach to a more contingent perspective where organizations need to adapt to their external environment. However, these studies were managerially oriented, with an emphasis on normative prescription rather than on analysis. Based mainly on in-depth case studies of single firms or industries, the results of these studies are hardly generalizable.

In response to this issue of generalizability, during the 1970s, a transition started towards a research orientation. This period can be characterized by the development of a dichotomy

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between two sets of research based on very different ontological and epistemological perspectives. One view pursued a 'process approach', which consisted essentially of descriptive studies of how strategies were formed and implemented. This research based on the observation of actual organizational decision-making led to more realistic conceptions of process, in which strategies were arrived at indirectly and, to some degree, unintentionally. Quinn's (1980) 'logical incrementalism' and Mintzberg and Waters's (1978, 1985) 'emergent strategy' are examples of such studies.

At the same time, a stream of research seeking to understand the relationship between strategy and performance also started to develop. Departing from the analysis of case studies of a single firm or industry, this deductive and large-scale statistical research developed and tested hypotheses based on models abstracted from the structure–conduct–performance (S–C–P) paradigm (Bain 1956, 1964; Mason 1939, 1949) dominant in the literature of industrial organization (IO) economics (Porter 1981). Porter (e.g. 1979, 1980, 1985) has made the most influential contributions to the field. Using a structural approach, Porter (1980) outlines a framework that can be used in understanding the structure of an industry and is a useful analytical tool for assessing an industry's attractiveness and facilitating competitor analysis. In this manner, the primary focus of strategic management during this period was on the environment and its relationship with a firm.

However, from the 1980s onwards, strategy research started to change its direction once more. Studies switched their focus from industry structure as a unit of analysis to that of the firm's internal structure, resources and capabilities. Because of their focus on firms' internal organization, two streams of research in organizational economics have attracted the interest of researchers in strategic management: transaction costs economics (TCE) (Williamson 1975, 1985) and agency theory (Fama 1980; Jensen and Meckling 1976). The

initial purpose of TCE was to seek to explain why firms exist (Williamson 1975, 1985). In strategic management, TCE's contribution has been mainly in three directions: TCE provided a theoretical rationale for the adoption of the multidivisional structure by large diversified firms and highlighted the relationship between the multidivisional structure and firm's performance (e.g. Hoskisson *et al.* 1991). Transaction costs economics has also been used to explain the functioning of hybrid forms of organization (i.e. strategic alliances and joint ventures) as an intermediate form between markets and hierarchies (Hennart 1988; Kogut 1988; Williamson 1991). Finally, TCE has more recently been applied to explain the choice of international modes of market entry (e.g. Hennart and Park 1983). Drawing from the property rights literature (e.g. Alchian and Demsetz 1972) and TCE, agency theory explains that in modern corporations characterized by separation of ownership and control, the interests of shareholders and managers may diverge. In this context, managers will seek to maximize their own interests at the expense of shareholders (Eisenhardt 1989a). Agency theory has been applied to a variety of strategic management topics such as innovation, corporate governance and diversification.

In parallel, a resource-based theory of competitive advantage was also developed. The focus of the resource-based approach is on the relationship between firm resources and performance. According to Wernerfelt (1984), a resource can be thought of as a strength or weakness of a given firm. Following the seminal work of Penrose (1959), the resource-based view conceptualizes a firm as a bundle of productive resources with different firms possessing unique bundles of these resources. The resource-based theory includes the resource-based view of the firm (Wernerfelt 1984), dynamic capabilities (Stuart and Podolny 1996; Teece *et al.* 1997), and a knowledge-based approach (Grant 1996; Powell and Dent-Micallef 1997; Spender 1996; Szulanski 1996). Important theoretical developments

have also come from Barney (1991) and Grant (1991b). This new emphasis in the strategic management has even been seen as a paradigm shift (Rouse and Daellenbach 1999). The research focus shifted from the S–C–P paradigm (Bain 1964; Mason 1939, 1949; Porter 1980), where competitive advantage is primarily determined by environmental factors, to the resource-based theory, which highlights how the possession of valuable, rare, inimitable and non-substitutable resources may result in sustained superior performance (Barney 1991; Mahoney and Pandian 1992).

Two related streams have been developed in parallel to the resource-based theory of competitive advantage (Barney and Arian 2001), namely, the theory of invisible assets (Itami 1987) and work on competence-based theories of corporate diversification (Prahalad and Bettis 1986; Prahalad and Hamel 1990). Itami (1987) argues that information-based invisible assets, such as technology, customer trust, brand image, corporate culture and management skills, are the real sources of competitive advantage because they are hard and time-consuming to accumulate, can be used in multiple ways simultaneously, and are both inputs and outputs of business activities. With respect to competence-based theories of corporate diversification, Prahalad and his colleagues (Prahalad and Bettis 1986; Prahalad and Hamel 1990) developed an approach to corporate diversification, which emphasizes the potential importance of sharing less tangible assets across businesses and the role that this sharing could play in creating value through diversification.

This overview demonstrates how research in strategic management grew from rather simple concepts of strategy intended to give practical advice to managers to a rigorous search from a positivist perspective for intellectual foundations with explanatory and predictive power. Four leading journals, *AMJ*, *AMR*, *ASQ* and *SMJ* have been crucial in setting the academic tone for the field. A detailed study of their developments over the 26-year horizon from 1980 to 2005 is now provided.

Method

To examine the content of the strategic management literature, trace its evolution and identify main streams of research, a content analysis was first performed of the papers focusing on strategic management published in *AMJ*, *AMR*, *ASQ* and *SMJ*. A content analysis provides a means for the objective, systematic and quantitative consideration of published articles. It also allows for an interpretation of the direction in which journal editors, reviewers and authors are taking the field as it reflects the evolution of their priorities over time.

The first step in our analysis was to select the articles to be analysed. Because of its specific focus on strategic management, we selected every article published between 1980 and 2005 in *SMJ*, with the exception of a few articles written by editors as well as introductions to special issues. For *AMJ*, *AMR* and *ASQ*, whose focus is broader than strategic management, we selected only those articles which were explicitly on strategic management topics by examining the content of each title and abstract. A total of 2125 articles were identified and selected. Table 1 shows the number of articles per journal and per year. *SMJ* is the dominant source of articles in strategic management with a share around 65%.

Coding

In order to code and analyse the content of the articles, a list of 26 major themes of research or keywords was developed. The creation of this list was necessary because of the large number of idiosyncratic keywords provided by the authors and journal databases. Indeed, among the near 1000 keywords retrieved from authors and databases such as ABI/Informs, a majority (more than 65%) were used only once. Such a number is too large to be analysed, and the fact that a large number of these keywords were used only once would have reduced the reliability of the analysis. Therefore, we first developed an initial list of major

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Table 1. Output per journal per year

Year	AMJ	AMR	ASQ	SMJ	Total
1980	10	10	4	24	48
1981	8	15	6	28	57
1982	17	14	4	30	65
1983	8	11	6	28	53
1984	15	17	7	26	65
1985	12	12	10	23	57
1986	7	15	4	35	61
1987	12	16	10	44	82
1988	13	11	6	58	88
1989	11	5	10	52	78
1990	11	13	8	54	86
1991	10	5	7	66	88
1992	9	5	5	62	81
1993	12	5	4	59	80
1994	12	5	5	62	84
1995	10	4	7	50	71
1996	12	11	5	68	96
1997	11	13	8	65	97
1998	4	12	5	70	91
1999	7	13	3	63	86
2000	16	12	6	70	104
2001	22	3	4	62	91
2002	24	7	9	71	111
2003	15	11	5	78	109
2004	14	10	4	67	95
2005	18	11	5	67	101
Total	320	266	157	1382	2125

keywords by iteratively sorting the individual keywords and regrouping them into coherent categories (Rugg and McGeorge 1997); then independent strategic management experts at academic institutions reviewed this initial list. After several rounds of discussion with these experts, a final list of 26 major keywords was obtained. These major keywords and the individual keywords they contain are shown in Appendix 1.

Previous studies of journal content have generally classified articles in only one primary category (Bingham and Bowen 1994; Helgeson *et al.* 1984; Inkpen and Beamish 1994; Yale and Gilly 1988). But, as noted by Inkpen and Beamish (1994), using only one category fails to acknowledge the cross-functional and interdisciplinary nature of an academic field such as strategic management; consequently, we decided to allocate articles across one or more keywords.

Each article was examined by two coders, who reviewed all 2125 selected articles. To ensure that all articles were properly allocated, a two-step procedure was used. First, the articles were allocated independently by both coders into the themes based on a detailed examination of the abstracts. Second, the two coders solved their disagreements through discussion. If disagreement persisted between the coders, a detailed examination of the full-text of the article was made. The inter-rater reliability was assessed using Perreault and Leigh's (1989) index. We obtained a value of 0.89, which is satisfactory. For each of the 26 keywords, we coded a dichotomous variable: 1 if the paper was allocated into the keyword and 0 otherwise.

Among the 2125 articles, 62 (2.9%) were allocated into only one keyword, 360 (17.0%) into two, 684 (32.2%) into three, 584 (27.5%) into four, 284 (13.3%) into five, 104 (4.9%) into six, 40 (1.9%) into seven, 4 (0.2%) into eight, and 3 (0.1%) into nine. The overall mean is 3.6 keywords per articles, which is significantly larger than 1, and thus a multivariate approach to data analysis is likely to be more meaningful and valid than univariate analyses (Hair *et al.* 1998).

The column headed 'Total' in Table 2 presents the number of papers allocated into each of the keywords. Performance is the most frequent keyword with 777 papers, followed by environmental modelling (534), capabilities (518), organization (492), methodologies (386) and international (378). The three most frequent keywords include 24.2% of the occurrences, the top eight include 49.6%, and the top 15 include 76.2%. An important aim of corporate strategy is to enable a firm to improve or maintain its performance (Barney 1997, 29), and so it is not surprising to find performance at the top of this list. What is surprising, however, is that performance is not even more salient, as many scholars when asked for a definition of strategic management will refer to performance.¹ The next three keywords represent the three major paradigms in strategic management: the resource-based theory (capabilities)

Table 2. Number of papers per keywords and time periods

	1980–1985		1986–1990		1991–1995		1996–2000		2001–2005		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No. of articles	345		395		404		474		507		2125	
Performance	98	28.4	164	41.5	133	32.9	162	34.2	220	43.4	777	36.6
Environment	114	33.0	101	25.6	102	25.2	102	21.5	115	22.7	534	25.1
Capabilities	31	9.0	45	11.4	87	21.5	161	34.0	194	38.3	518	24.4
Organization	79	22.9	103	26.1	95	23.5	87	18.4	128	25.2	492	23.2
Methodologies	97	28.1	60	15.2	71	17.6	82	17.3	76	15.0	386	18.2
International	25	7.2	30	7.6	72	17.8	103	21.7	148	29.2	378	17.8
Alliances	17	4.9	42	10.6	58	14.4	104	21.9	117	23.1	338	15.9
Corporate	41	11.9	60	15.2	44	10.9	77	16.2	101	19.9	323	15.2
Competition	21	6.1	64	16.2	62	15.3	79	16.7	88	17.4	314	14.8
Financial	27	7.8	49	12.4	78	19.3	77	16.2	82	16.2	313	14.7
Mission	94	27.2	64	16.2	49	12.1	45	9.5	52	10.3	304	14.3
Innovation	17	4.9	36	9.1	46	11.4	74	15.6	116	22.9	289	13.6
Growth	39	11.3	53	13.4	61	15.1	54	11.4	61	12.0	268	12.6
Top Management	39	11.3	41	10.4	42	10.4	72	15.2	73	14.4	267	12.6
Industry	39	11.3	36	9.1	58	14.4	66	13.9	58	11.4	257	12.1
Planning	92	26.7	62	15.7	42	10.4	37	7.8	16	3.2	249	11.7
Diversification	31	9.0	57	14.4	51	12.6	45	9.5	44	8.7	228	10.7
Decision	65	18.8	40	10.1	24	5.9	30	6.3	39	7.7	198	9.3
Restructuring	14	4.1	39	9.9	55	13.6	45	9.5	40	7.9	193	9.1
Fit	49	14.2	43	10.9	29	7.2	12	2.5	20	3.9	153	7.2
Typologies	24	7.0	49	12.4	29	7.2	28	5.9	20	3.9	150	7.1
Functional	21	6.1	27	6.8	24	5.9	35	7.4	38	7.5	145	6.8
Cognitive	21	6.1	18	4.6	27	6.7	44	9.3	30	5.9	140	6.6
Entrepreneurship	13	3.8	19	4.8	12	3.0	29	6.1	41	8.1	114	5.4
Leadership	24	7.0	19	4.8	24	5.9	36	7.6	10	2.0	113	5.3
Entry	6	1.7	15	3.8	16	4.0	43	9.1	31	6.1	111	5.2

(Barney 1991; Wernerfelt 1984), S–C–P paradigm (environmental modelling) (Bain 1964; Mason 1939), and strategy and structure (organization) (Chandler 1962). Methodologies cover a range of academic research viewpoints. The other keywords are specialty sub-fields or particular points of view of strategic management research, which is why they are less represented.

Analyses and Results

The analysis of the structure of the strategic management field and its evolution was performed in several steps. To analyse the content of the articles and obtain a richer representation of the relationships between keywords, we first computed a multiple correspondence analysis (MCA). Second, we used the results of the MCA to assess the evolution

of the relationships between keywords over time, and this analysis generated ideas of future directions in strategic management research. In their model of the forces influencing the development of an academic field, Berry and Parasuraman (1993) identified key individuals and key publications as contributing and accelerating factors, respectively. Therefore, in order to understand better the factors which have influenced the structure and the evolution of the strategic management field, the authors who have published the most were reviewed as well as the papers which had the most impact.

Connections among Keywords

To study the connections among keywords, we computed a MCA. A MCA is an exploratory data analysis technique for the graphical

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display of multivariate categorical data (Benzécri 1982; Hoffman and Franke 1986; Lebart *et al.* 1984). It is an analysis of interdependence among a set of categorical variables that is similar to principal component analysis (Hoffman *et al.* 1994). Multiple correspondence analysis allows the researcher to explore and analyse multi-way tables in order to detect structure in the relationships between nominal variables (the presence or absence of keywords in this study). Analysis shows which rows and columns of a frequency table have similar patterns of counts. In the present study, the rows and columns of the frequency table are defined by each article's value (0, 1) for the 26 keywords. If two rows have similar patterns of counts, they will be close together in the correspondence analysis plot and will have close co-ordinates on dimensions that account for most of the variance (Bendixen 1995). In summary, MCA integrates techniques from multidimensional scaling and classical multivariate analysis to emphasize relationships between variables and, at the same time, to reduce the number of dimensions, without losing information.

We computed the MCA using the Homals procedure (SPSS). To select the optimal number of dimensions, we use the eigenvalue curve criteria as recommended by Hoffman and de Leeuw (1992) because, as noticed by Kaciak and Louvière (1990), the proportion of the total variance explained by the dimensions are often very small (which leads to a distorted and pessimistic indication of the quality of the map) and uninterpretable. This is due to the binary nature of the data (Lebart *et al.* 1984, 173). The result of the analysis was that a two-dimensional space was the most suitable for the graphical presentation of the data (The first four eigenvalues are 1.838, 1.788, 1.357 and 1.312, with a clear break after the second eigenvalue.)

Multiple correspondence analysis provides a pair of co-ordinates in this two-dimensional space for each of the 2125 articles in the database. Representing such a large number of articles on a map will not be interpretable.

Therefore, to be able to understand the structure of the strategic management field, we decided to represent only the position of the keywords. This position corresponds to the average position of all the articles allocated to the keyword (Bendixen 1995; Hoffman *et al.* 1994). The resulting map is graphically presented in Figure 1, on which the sizes of the points are proportional to the number of articles associated to a keyword.

On this map, the proximity between keywords corresponds to shared-substance: keywords are close to each other because a large proportion of articles treat them together; they are distant from each other when only a small fraction of articles discusses these keywords together. For example, the keywords 'diversification' and 'corporate strategy' are close to each other because many articles on corporate strategy also involve the firm's diversification strategy. However, the keywords 'restructuring' and 'fit' are far from each other, because only a few articles on restructuring also discuss the issue of fit. The middle of the map represents the average position of all the articles and therefore represents the centre of the strategic management field. For example, the keyword performance is close to this centre, as a large number of articles in strategic management focus on performance-related issues.

The two dimensions of the map in Figure 1 which emerged from the MCA can be interpreted as follows. The first, horizontal, dimension separates keywords emphasizing corporate-level strategy (on the left) from those concerned with the concept of strategy as fit (on the right). The second, vertical dimension separates keywords focusing on competitive strategies (at the top) from those focusing on managers' strategic role (at the bottom). The dimensions of the map reflect characteristic 'poles' of topical orientation within strategic management. As already mentioned, the position of each of the keywords on the map represents the average position of the articles included in this keyword. Therefore, positions on the map represent articles' content and can be interpreted as such. On the



Figure 1. The structure of the strategic management field.

left-hand side of the map, we find articles dealing with the study of diversification, restructuring and corporate-level strategies as well as articles dealing with financial models. We also find articles on transaction cost and agency theories which are concerned with the boundaries of the firm. On the top of the map are located articles focusing on competitive strategies and competitive advantage. Indeed, on the top of the map, we find articles on innovation, growth and entrepreneurship as well as studies grounded in the resource-based view, which deal with how firms can achieve a competitive advantage. On the right-hand side of the map are located articles related to the concept of strategy as fit. On this side of the map, we can find studies grounded in the S-C-P paradigm and the role of the external environment. Articles about strategic groups and strategy typologies are also located there. Finally, at the bottom of the map, we find articles related to the strategic role of manager, with keywords related to leadership, top management, decision and planning.

The combination of the two dimensions also provides interesting information about

the relationships between the keywords. For example, on the bottom left-hand part of the map are located articles related to agency theory, as these articles are dealing with both top management and financial issues. On the top left-hand part of the map are located articles, for example, on international corporate-level strategies, as these studies are dealing with corporate-level sources of competitive advantage. On the top right-hand part of the map, we find articles anchored in the S-C-P paradigm, which focus on the impact of environmental factors and industry structure on the performance of different strategy types. Finally, on the bottom right-hand part of the map are located articles focusing on strategy as a process in which leadership and top management play an important role.

It is particularly interesting to notice that the two dimensions of the map are very similar to the dimensions identified by Ramos-Rodriguez and Ruiz-Navarro (2004) in their study of the structure of strategic management research based on co-citation data. Because their dimensions emerged from an analysis of a different type of data, such a similarity

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provides strong support for the validity of our findings.

Evolution over Time

To study the evolution of the literature on strategic management, the 26-year period of publication between 1980 and 2005 was divided into five periods of five years with the exception of the first period which contains six years: 1980–1985, 1986–1990, 1991–1995, 1996–2000 and 2001–2005. Table 2 presents the number of articles per period and per keyword. It also shows the percentage of papers containing each keyword for each period. The sum of the percentages is not equal to 100%, because the papers could contain several keywords.

Table 2 shows that the importance of some keywords is increasing over time (alliances, capabilities, restructuring, corporate, entry, financial, international, entrepreneurship and innovation), and that the importance of others is decreasing (fit, decision, environment, planning, typologies and mission). For some other keywords, the importance is consistent

and stable (cognitive, competition, diversification, functional, growth, industry, top management, methodologies, organization, leadership and performance). During the 26 years of strategic management research, we observe an increased interest in the resource-based theory and corporate-level strategy and a decreased interest in the notion of strategy as fit and in the role of top managers. This evolution is reflected through the increase in such keywords as ‘capabilities’ and ‘alliances’ and the decrease in those of ‘environment’ and ‘fit’, as well as the increase in such keywords as ‘corporate’ and ‘restructuring’ and the decline in those of ‘decision’ and ‘planning’.

In order to see this evolution better, for each of the five periods, the position of each keyword in the map was calculated as the average position of the articles contained in the keyword and published during the period (Bendixen 1995; Hoffman *et al.* 1994). The results permit an evaluation of the direction of the evolution of the interrelationships between the keywords. This evolution is presented in Figure 2, in which, for purposes of clarity, only the positions of the first and the fifth

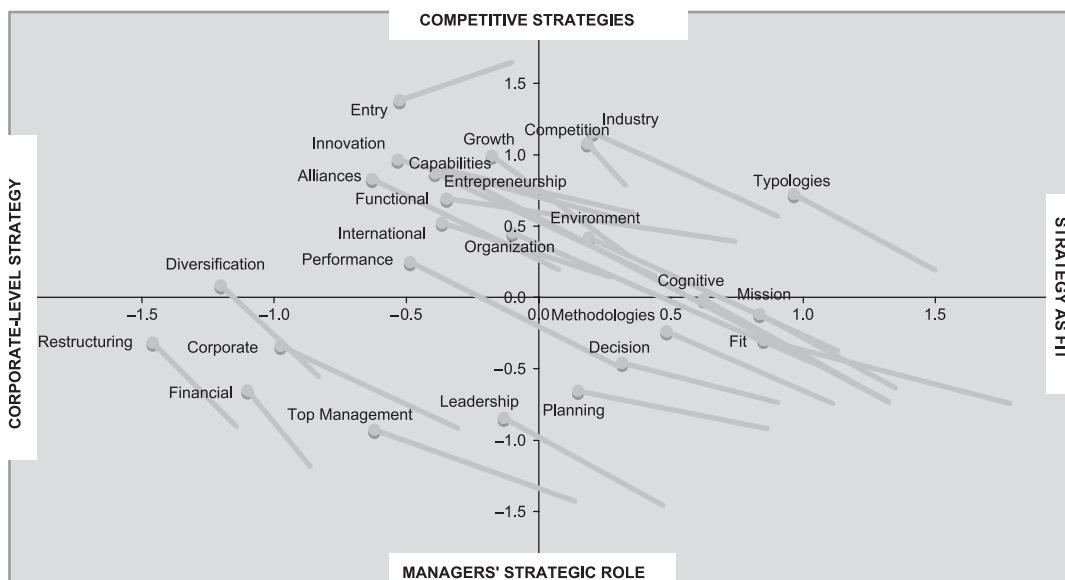


Figure 2. Evolution of the strategic management field, 1980–2005.

periods are represented, even though the papers of all the five periods were used to compute the positions in the map. In Figure 2, arrows represent the direction of evolution of the interrelationships between keywords. One end of these arrows corresponds to the position of the keyword during the first period (1980–1985); the other (marked by a circle) corresponds to the position of the keyword during the fifth period (2001–2005).

Figure 2 shows an evolution toward two poles: corporate-level strategy and competitive strategies. This evolution corresponds not only to the evolution of the topics studied in the papers, but also to the evolution of relationships between the keywords. This evolution means that the research topics represented by the keywords are actually more and more studied through a corporate-level strategy or a competitive lens, and less and less through a managerial or a fit lens. This is, for example, the case of all the studies which have revisited the classical strategy issue with a resource-based view or a shareholder perspective.

Summarizing these findings, the main research topics covered were identified and allowed the evolution of the research agenda over time to be mapped. The main research topics represent six main issues: strategy and its environment, strategy process and top management, corporate strategy and financial models, growth and market entry, industry and competition and the resource-based view of the firm. A clear finding was that there was an increase over time in the number of articles concerning capabilities and alliances, and a decrease in those concerning environment and fit. Further, the evolution of research agenda moved towards two poles: corporate-level strategy and competitive strategies. This evolution means that the research topics represented by the keywords are more and more studied through financial models or the resource-based view of the firm (capabilities) lenses, and less and less through the strategy process and environmental fit lenses. The findings reflect the paradigm shift from the

S–C–P approach to the resource-based view of a firm. This shift occurred in strategic management during the period under study, as confirmed in our initial literature overview of the field.

The question that should then be asked is in which direction the strategic management field is likely to move in the near future. Interestingly, the evolution identified shows a move in the direction of a conjunction between corporate-level strategy and competitive strategies. Since the seminal work by Hofer and Schendel (1978) at the end of the 1970s, the conceptualization of strategy in terms of corporate, and business (or competitive), has gained widespread acceptance in strategic management.² Corporate strategy is concerned with domain selection and vision: What portfolio of businesses, are we or should we be in? Business strategy is concerned with domain navigation: How should we compete in each business? This notion of a hierarchy of strategies is based on the rational approach to planning and strategy-making, in which top managers play an important role to managers. The relevance of this hierarchy of strategies to emerging theories of strategy such as the resource-based view and multipoint competition should be questioned. The evolution shown in Figure 2 points towards an integration of the corporate and competitive levels of strategy, transcending the notion of hierarchy of strategies. Based on this evolution, important research questions in strategic management in the near future are likely to be related to the notion of alignment between corporate and competitive strategies and its implication for firms' performance and competitive posture.

Contributing Authors

In their account of the evolution of the services marketing field, Berry and Parasuraman (1993) identified key individuals as one of the most important factors which contributed to the field's structure and growth. This is also supported by the findings of the study by Bergh *et al.* (2006), who found that the

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author's characteristics have the most explanatory power on an article's impact. They showed that individuals who most published in one time period had a strong impact on the themes studied during the following period. It is therefore useful in identifying the most published authors in strategic management in order to better understand the past evolution of the field and the likely future directions of its evolution.

Authors whose work has appeared most frequently in *AMJ*, *AMR*, *ASQ* and *SMJ* were also identified and ranked. The 2125 articles have been written by 2004 different authors. Among these authors 62 (3.1%) published 8 articles or more, 34 (1.7%) published 7 articles, 23 (1.2%) published 6 articles, 45 (2.3%) published 5, 95 (4.7%) published 4, 139 (6.9%) published 3, 326 (16.3%) published 2, and 1280 (63.9%) published only 1 article. Only 36.1% of the authors have published more than one paper. These proportions are comparable to those found by Heck and Cooley (1988) in the financial literature.

The ranking of authors is based on both the total number of appearances and the adjusted appearances. The methodology used to adjust appearances was similar to that employed by Heck and Cooley (1988), Inkpen and Beamish (1994) and Morrison and Inkpen (1991). The number of adjusted appearances reflects multiple authored articles. If an article was published by two authors, each received half a credit; in the case of three authors, one-third of a credit; and so on. Seven hundred and six (33.2%) papers were single authored, 1003 (47.2%) have 2 authors, 339 (16.0%) have 3 authors, 70 (3.3%) have 4 authors, 6 (0.3%) have 5 authors, and 1 (0.05%) has 7 authors.

The top five most prolific authors were: Donald Hambrick, with 18.42 adjusted appearances and 31 total appearances; Danny Miller, with 15.17 adjusted appearances and 23 total appearances; Kathryn Harrigan, with 11.00 adjusted appearances and 11 total appearances; Will Mitchell, with 10.50 adjusted appearances and 20 total appearances; Howard Thomas, with 9.70 adjusted appearances and 19 total

Table 3. Author appearances for the 1980–2005 period

Rank	Author	Total appearances ^a	Adjusted appearances ^b
1	Hambrick, D.C.	31	18.42
2	Miller, D.	23	15.17
3	Harrigan, K.R.	11	11.00
4	Mitchell, W.	20	10.50
5	Thomas, H.	19	9.70
6	Powell, T.C.	10	9.00
7	Hitt, M.A.	25	8.78
8	Hoskisson, R.E.	22	8.50
9	Venkatraman, N.	17	8.50
10	Hill, C.W.L.	16	8.50
11	MacMillan, I.C.	17	8.33
12	Nayyar, P.R.	9	8.00
13	Singh, H.	16	7.83
14	Zajac, E.J.	14	7.83
15	Fredrickson, J.W.	11	7.83
16	Lubatkin, M.H.	16	7.33
17	Eisenhardt, K.M.	12	7.33
18	Ghoshal, S.	13	7.00
19	Miller, K.D.	11	7.00
20	Greve, H.R.	8	6.83
21	Montgomery, C.A.	11	6.50
22	Gulati, R.	10	6.50
23	Ginsberg, A.	9	6.50
24	Barney, J.B.	9	6.33
25	Pearce, J.A. II	13	6.25
26	Bettis, R.A.	10	6.25
27	Chang, S.J.	9	6.00
28	Luo, Y.	7	6.00
28	Makadok, R.	7	6.00
30	Gomez-Mejia, L.	11	5.83
31	Dess, G.G.	11	5.67
32	Wernerfelt, B.	10	5.67
33	Chatterjee, S.	9	5.58
34	Helfat, C.E.	9	5.50
35	Mintzberg, H.	8	5.50
36	Schwenk, C.R.	7	5.50
37	Burgelman, R.A.	6	5.50

^aIn total, there are 2004 author appearances. Only authors with adjusted appearance ≥ 5.50 are presented in the table.

^bTotal appearances $\geq$ adjusted appearances. Adjustments are made for multi-authorships. Credit for an article with two authors is 0.50, three authors is 0.33, etc.

appearances. Table 3 provides a list of the 37 most-published authors based on adjusted appearances.

Despite some movement in position of several authors due to multi-authorship, rankings before and after adjustment are highly correlated. For the Top 37 authors listed in Table 4, the Spearman rank correlation between total

Table 4. The most influential strategic management articles

Rank	Article	No. of citations ^a	No. of citations per year
1	Barney (<i>JOM</i> 1991 ^b)	1757	116.5
2	Cohen and Levinthal (<i>ASQ</i> 1990)	1464	91.5
3	Teece et al. (<i>SMJ</i> 1997)	774	86.0
4	Wernerfelt (<i>SMJ</i> 1984)	1098	49.9
5	Nahapiet and Ghoshal (<i>AMR</i> 1998)	373	46.6
6	Powell et al. (<i>ASQ</i> 1996)	448	44.8
7	Dyer and Singh (<i>AMR</i> 1998)	356	44.5
8	Grant (<i>SMJ</i> 1996)	419	41.9
9	Uzzi (<i>ASQ</i> 1997)	374	41.6
10	Peteraf (<i>SMJ</i> 1993)	523	40.2
11	Eisenhardt and Martin (<i>SMJ</i> 2000)	239	39.8
12	Dierickx and Cool (<i>MS</i> 1989 ^b)	675	39.7
13	Williamson (<i>ASQ</i> 1991)	571	38.1
14	Tushman and Anderson (<i>ASQ</i> 1986)	726	36.3
15	Gulati (<i>AMJ</i> 1995)	399	36.3
16	Szulanski (<i>SMJ</i> 1996)	337	33.7
17	Amit and Schoemaker (<i>SMJ</i> 1993)	429	33.0
18	Leonard-Barton (<i>SMJ</i> 1992)	446	31.9
19	Hambrick and Mason (<i>AMR</i> 1984)	697	31.7
20	Eisenhardt (<i>AMR</i> 1989a)	530	31.2
21	Ring and Van de Ven (<i>AMR</i> 1994)	360	30.0
22	Hamel (<i>SMJ</i> 1991)	441	29.4
23	Gulati (<i>SMJ</i> 1998)	223	27.9
24	Levinthal and March (<i>SMJ</i> 1993)	359	27.6
25	Eisenhardt and Tabrizi (<i>ASQ</i> 1995)	273	24.8
26	Oliver (<i>AMR</i> 1991)	371	24.7
27	Ouchi (<i>ASQ</i> 1980)	632	24.3
28	Kogut (<i>SMJ</i> 1988)	423	23.5
29	Lane and Lubatkin (<i>SMJ</i> 1998)	188	23.5
30	Eisenhardt (<i>AMJ</i> 1989b)	398	23.4
31	Ring and Van de Ven (<i>SMJ</i> 1992)	323	23.1
32	Suchman (<i>AMR</i> 1995)	250	22.7
33	Spender (<i>SMJ</i> 1996)	217	21.7
33	Doz (<i>SMJ</i> 1996)	217	21.7
35	Conner (<i>JOM</i> 1991 ^b)	324	21.6
36	Mitchell et al. (<i>AMR</i> 1997)	193	21.4
37	Parkhe (<i>AMJ</i> 1993)	272	20.9
38	Powell (<i>SMJ</i> 1995)	225	20.5
39	Gulati et al. (<i>SMJ</i> 2000)	121	20.2
40	Henderson and Cockburn (<i>SMJ</i> 1994)	242	20.2
41	Lieberman and Montgomery (<i>SMJ</i> 1988)	358	19.9

^aNumber of citations between 1980 and 26 August 2006.

^bInfluential articles published in other journals (*JOM* = *Journal of Management*; *MS* = *Management Science*).
Source: SSCI.

and adjusted appearances equals 0.770, and the Pearson correlation equals 0.809. For all 2004 authors, Spearman equals 0.806 and Pearson equals 0.940. Each of these correlation coefficients implies a strong relationship between total and adjusted appearances.

As noticed by Inkpen and Beamish (1994) in their analysis of the articles published in the *Journal of International Studies*, this

analysis highlights the contributions of researchers over the course of the 26-year period; it does not differentiate between the long-established and new generations of researchers. This latter group will inevitably and increasingly be called upon to set the future directions of the strategic management field. Because the number of articles published by an author is a function of the length of his/her career,

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authors in the top of our ranking are also those with the longest careers; as such, they are also those who had the most impact on the structure and evolution of the strategic management field. Interestingly, we can observe two different types of authors with two different effects on the field. On the one hand, we can identify generalists, such as Kathryn Harrigan and Howard Thomas, whose articles were published on different issues of the strategic management field and are scattered all around the map. These authors had a strong influence on the structure of the field, in terms of how the different keywords are related to each other. On the other hand, we can also identify more specialist authors, such as Sumantra Ghoshal and Ranjay Gulati, who mainly focused their career on one or a few keywords, and whose articles are concentrated around one point in the map. These authors had a strong influence on the direction of the evolution of the field, by setting the research agenda on a specific sub-field of strategic management research. Both generalists and specialists are necessary for a healthy development of the field. The influence of the authors was not only because of the number of articles they wrote but also because of the particular impact of some of the key articles.

Most Influential Papers

In every scientific field, some publications assumed seminal roles in the evolution of the field. These articles, owing to their impact, are accelerating factors to the development of the field (Berry and Parasuraman 1993). It is therefore important to identify what are the most influential strategic management articles published in *AMJ*, *AMR*, *ASQ* and *SMJ* between 1980 and 2005, in order to understand better the directions of the future development of the strategic management field. To define and measure the influence or impact of a research article, we used the generally accepted method of summed citation counts (Bergh *et al.* 2006; Ramos-Rodriguez and Ruiz-Navarro 2004; Tahai and Meyer 1999).

The most influential papers published in *AMJ*, *AMR*, *ASQ* and *SMJ* were identified based on their number of appearances in the SSCI citation data files between 1981 and August 2006 accessed through the ISI Web of Science. Because a paper published in an earlier period has a better chance to have a larger number of citations than a paper published in a later period, the papers were ranked by the number of citations divided by the number of years the paper has been published. Table 4 and Figure 3 show the most influential papers with their number of citations and their number of citations per year.

Among these 41 most influential articles, 25 (61.0%) have their main focus on capabilities, 19 (46.3%) on performance, 15 (36.6%) on alliances, 15 (36.6%) on organization, 9 (22.0%) on competition, 8 (19.5%) on innovation, 6 (14.6%) on environment, and 6 (14.6%) on industry. For each of these keywords, influential articles were published across the complete study period from the beginning of 1980s to the end of the 1990s. However, we can observe three different patterns: Only a few influential articles on capabilities, alliances, competitions and innovation were published in the beginning of the period, but their number increased over time; the frequency of influential articles on performance and organization is relatively constant across the time period; and finally, the number of influential articles on environment and industry decreased over time. This is consistent with the evolution we observed in Figure 2. Moreover, according to the accelerator effect of influential articles (Berry and Parasuraman 1993), we may expect even more publications on capabilities, alliances, competitions and innovation in the near future.

Discussion and Conclusions

In our analysis of the 26 years of publication in top strategic management journals, we have identified the main research directions in the field. Through a content analysis of the past 26 years of research in *AMJ*, *AMR*, *ASQ* and

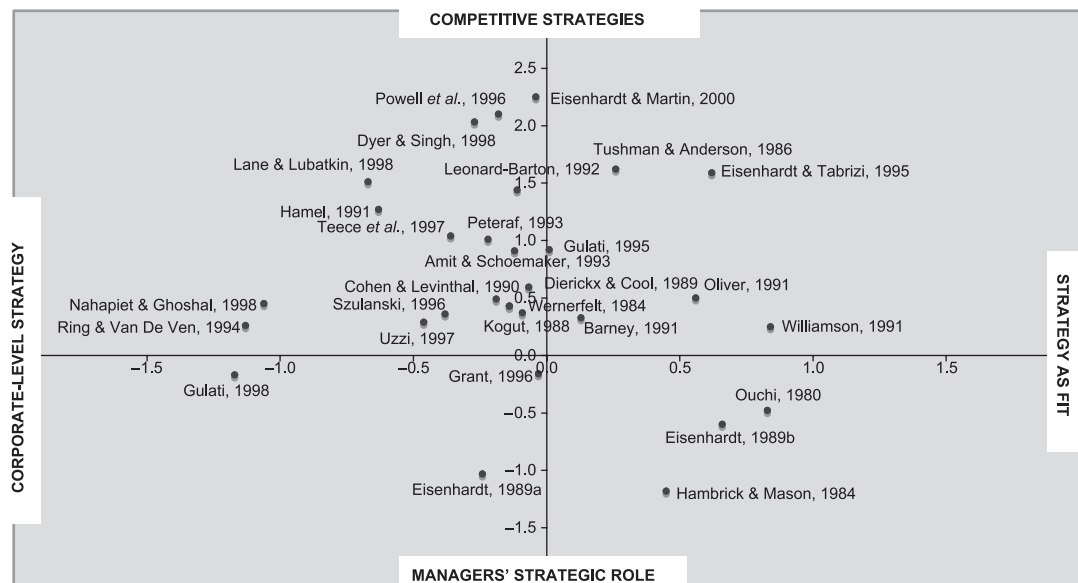


Figure 3. Most-cited articles.

SMJ, we also studied the relationships between the subfields of strategic management and the evolution of the research topics over time. To the extent that these journals reflect the evolution of the strategic management field as a whole, the evolutions we have observed raise some questions about future directions. Hoskisson *et al.* (1999) described the evolution of theory and research in strategic management from its beginnings in the 1960s to the end of 1990s as the swings of a pendulum. It can be observed from the overview at the beginning of the article how the focus on the firm's internal characteristics in the 1960s shifted to industry structure in the late 1970s and early 1980s, and back to the firms' internal resources in the 1990s. Indeed, research in strategic management seems to swing like a pendulum (Hoskisson *et al.* 1999). In this study focusing only on the 1980s, 1990s and the beginning of the twenty-first century, an almost linear evolution of research in strategic management was observed over the past 26 years (all the keywords moved in the same direction) (see Figure 2). This evolution represents the swing back from an outside

perspective to an inside perspective using the Hoskisson *et al.* (1999) metaphor. The critical question is therefore to know how long this trend will continue or if and when the pendulum will swing back to an outside perspective. To answer this question, the factors that influence the evolution of strategic management research need to be examined and understood.

To conjecture about the future of strategic management research, we need to reflect on its origins and study the observed changes and evolutions in the field. A number of factors has influenced these developments: some endogenous to the academic community, others exogenous (Bowman *et al.* 2002; Rumelt *et al.* 1994). In this study, we discussed two endogenous factors. We have also analysed the contributions made by key authors and the most influential articles. This allowed us to identify the most prolific contributors and to assess the impact of their work on the field's structure and development. Furthermore, a MCA was used to map keywords and most influential papers in order to provide a comprehensive picture of the research published in strategic management between 1980 and 2005.

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However, exogenous factors may also have influenced the evolution of research in strategic management. Bowman *et al.* (2002) noticed a parallel evolution between strategic thinking and how environmental challenges have changed over time. They showed that the 1960s, the continuation of the period of post World War II recovery, paralleled the evolution of the form of the modern business enterprise, the development of the conglomerate form of organization and the view of the firm as mini-capital market. The 1970s were characterized by a combination of stagnation and inflation that influenced the development of portfolio management approaches. In the 1980s, the increased foreign competition and globalization of markets pushed research towards internationalization strategies as well as financially driven strategies. During the 1990s, rapid and discontinuous economic and political changes in the international environment suggested that academic research should deal with multinational alliances, corporate ventures, technology changes, and continuing restructuring (Bowman *et al.* 2002).

Changes in the practice of management from financial planning in the 1950s and earlier to long-range planning in the 1960s, then to strategic planning in 1970s, and finally to strategic management in the 1980s and onwards, also influenced research in strategy (Bowman *et al.* 2002). As we take environmental influences into account, it can be predicted that it is very unlikely that there will be long stable periods in which firms can achieve sustainable competitive advantages; instead, the hyper-competitive context (D'Aveni 1994) will allow only short periods of advantage making the re-thinking of strategy more or less continuous. These conditions call for new approaches able to capture the new dynamism in the field of strategic management. Thus, the resource-based theory of the firm needs to move from a static view of existing stocks of resources, towards an appreciation of innovation and renewal implied by 'dynamic capabilities'. This also corresponds to the direction of the evolution of the field we identified in our analysis.

In our analysis, we identified an evolution shown in the direction towards an integration of the corporate and competitive levels of strategy, which should transcend the notion of hierarchy of strategies. Therefore, future research questions should be related to the integration of corporate and competitive strategies and its implication for firms' performance and competitive posture.

Developments in this direction can also benefit from greater cross-fertilization of the field with other disciplines. Barney (1991) has argued that the rise of the resource-based theory of the firm offered new opportunities to bring more organizational theory into the strategy domain to help disentangle the origins and development of socially complex competitive resources such as trust, change and choice, capability and creativity. Thus, we already can observe a narrowing of the dichotomy between economic (at the corporate level) and behavioural science (at the competitive level) approaches to strategy with thinking in economic terms being enriched by the identification of complementary behavioural questions and issues.

Over these 26 years of publication in top strategic management journals, we have seen that a scientific approach has analytically reduced strategy to its various components, e.g. the resource-based view. Recently, we can begin to identify a more balanced view involving the integration between the different academic influences on the field of strategic management, and we shall probably see a strengthening of this integrative trend over the next several years.

Acknowledgements

The authors would like to thank Cosmina Voinea for her help with the coding of the data.

Notes

- 1 We thank one of the reviewers for mentioning this interesting observation.

- 2 There is also a third level of strategy: functional strategies which are concerned with organizing functional sub-systems capable of meeting the needs of the two higher-levels strategies and which are mainly studies in separate and independent academic fields, such as marketing, operations management and human resource management.

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Appendix 1. Strategic management literature major keywords

Alliances, joint ventures, and co-operation	Collaboration, collective strategies, co-operative arrangements, co-operative strategy, electronic data interchange, inter-firm linkages, inter-firm networks, inter-industry transactions, inter-organizational learning, inter-organizational networks, joint ventures, network management, network externalities, network organizations, network perspective, non-joint ventures, partnership, relational contracts, strategic alliances, strategic networks, transaction costs, subcontracting, outsourcing
Capabilities, competencies, and resource-based view of the firm	Assets, core capabilities, core competencies, core technologies, distinctive competence, excess capacity, factor market, firm heterogeneity, firm skills, firm specific assets, group capabilities, human resources, isolating mechanisms, know-how, knowledge, organizational competence, organizational knowledge, patent race game, resource position barriers, resource product matrix, reputation, resources, resource dependency, resource-based view, resource commitment, routines, sociocognitive resources, skill profile, strategic assets, strategic resources, strengths and weaknesses
Cognitive modelling	Bounded rationality, cognitive biases, cognitive psychology, cognitive styles, executive cognition, organization perception, perceived environment, perception, psychological context, social construction, sociocognitive resources
Competition and competitive analysis	Bilateral competition, comparative advantage, competitive analysis, competitive data, competitor analysis, domestic competition, foreign competition, game theoretic approach, global competitiveness, global competition, global market competition, market share growth, market share leader, market share strategies, multi-point competition, rivalry, rivalry intensity, sustainable competitive advantage
Concept of strategy as fit	Coalignment, compensation–diversification strategy fit, compensation–organizational strategy fit, contingency theory, entrepreneurial style–environment fit, mission–environment fit, manager–strategy fit, strategic fit, strategy–environment fit, strategy–structure fit, strategy–technology fit, structure–environment fit, structure–technology fit
Corporate restructuring	Acquisition factors, acquisition strategy, bankruptcy, co-insurance, conglomerate restructuring, corporate reorganization, corporate restructuring, divestment, divestitures, downsizing, efficiency gains, failure, financial distress, mergers strategy, organizational failure, reorganization, reorientation, restructuring, revitalization, spin-offs, stage of takeovers, turnaround
Corporate strategy	Capital structure, conglomerate strategy, corporate culture, corporate development, corporate entrepreneurship, corporate reputation, corporate speeches, corporate strategy, corporate value, corporate venturing, corporate governance, corporate headquarters, corporate investment decisions, corporate renewal, corporate reorganization, corporate restructuring, headquarters–subsidiary relations, ownership, ownership structure, organization governance, resource allocation
Decision-making	Applied decision analysis, behavioural decision theory, decision analysis, decision-making, decision-making technologies, decision support systems, devil's advocacy, dialectic, organizational decision-making, strategic decisions, strategic decision-making, strategic decisions, strategy-making modes
Diversification strategy	Corporate diversification, conglomerate strategy, diversification strategies, diversity, dominant logic, firm diversity, new firm formation, product diversification, related diversification, relatedness, scope economies, synergy, systematic risk, unrelated product, vertical integration, vertical strategy
Entrepreneurship	Corporate entrepreneurship, entrepreneurial capacity, entrepreneurial start-ups, entrepreneurial strategy, entrepreneurs, entrepreneurship paradigm, intrapreneurship, new venture formation, new ventures, small businesses, small firm perspective, start-up business data, start-up process
Entry modes and strategic advantage	Choice of entry mode, entrants, entry strategies, first mover, first mover advantage, first mover effects, foreign market entry, market pioneering, new markets, order of entry, order of market entry perspective, pioneering, product cannibalism, product imitation, timing of entry perspective
Environmental modelling: governmental, social, and political influences on strategy	Antitrust, deregulation, environment and strategy, environment scanning, environmental analysis, environmental change, environmental conditions, environmental complexity, environmental determinism, environmental information, environmental munificence, environmental scanning, environmental shock, environmental stability, environmental uncertainty, environmental variation, government regulation, government relations, impact of environment, industrial policy, market analysis, national security, perceived environment, public affairs office, public policy formulation, public policy issues, political bargaining power, political imperative, politics, privatization, procedural justice, public sector, public utilities, regulated environment, regulation, social control, social demands, social issues, social power, social responsiveness, social systems, state owned enterprises

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Appendix 1. (Continued)

Financial theory and strategic management	Agency theory, anti-takeover amendments, capital market, capital structure, CAPM, contract risk, debt, efficient market, family stockholding, financial ratio, financial systems, free cash flow hypothesis, golden parachutes, investment strategies, managerial entrenchment hypothesis, market efficiency hypothesis, market imperfections, mutual funds, option theory, risk and return, risk measures, risk reduction, risk/return, risk/return paradox, shareholder, shareholder value maximization hypothesis, shareholder wealth, shareholder wealth creation, stock market reactions, stockholder suits, stockholders, systematic risk, value, venture capital
Functional strategies	Accounting principles, flexible manufacturing, manufacturing strategy, manufacturing trade-off, marketing, marketing competencies, marketing strategy, marketing/R&D link, optimal plant size, pricing strategy, product strategies, segmentation, strategic markets
Global, international, and multinational strategies	Culture, cross-country analysis, cross-country management, export control, export performance, foreign direct investment, foreign market entry, global competition, global competitiveness, global corporation, global integration, global market competition, global strategy, globalization, international competition, international competitiveness, international strategy, multinational corporation, multinational management, multinationals
Growth models	Adaptation, business cycle, business survival, decline, disequilibrium phenomena, development, dynamic theories, economies of evolution, economies of scale, ecosystems theory, evolution, evolutionary biology, experience, experience curve, firm size, growth characteristics, growth industry, growth rate, growth risks, growth strategies, growth-share matrix, industry evolution, industry growth, industry life cycle, inertia, life cycle theory, low share businesses, models of change, market cycle, market growth, market share growth, market share leader, market share strategies, mature industries, mature businesses, mature firms, organizational ecology, organizational evolution, organizational growth, organizational inertia, organizational life cycle, organizational size, population ecology, process models, product life cycle, scale, scale economies, stage models, stages of development, stages of growth theory, strategy through process, sustainable growth, technology life cycle
Industry analysis	Bargaining power, buyer power, competitor analysis, customer analysis, entry barriers, exit barriers, firm power, industrial organization, industrial policy, industry attractiveness, industry change, industry concentration, industry consolidation, industry effect, industry evolution, industry growth, industry life cycle, industry structure, industry typologies, intra-industry profit differentials, market power, market structure, mature industries, mobility barriers, monopoly power, power dependence, PIMS study, SIC codes, supplier power, strategic industry factors
Leadership, management style, and learning	Conflict resolution, co-ordinating mechanisms, co-ordination, group norms, individual learning, leadership, management development, management by objectives, management style, management system, manager typologies, managerial choice, managerial objectives, managerial perspective, middle management, quality of management, reward systems, roles and tasks of managers, visionary leaders
Methodologies, theories, and research issues	Agency theory, annual report studies, Bayesian methods, canonical correlation analysis, case analysis, chaos theory, contingency theory, cross-sectional analysis, cross-tab comparison, data base issues, design school, discriminant analysis, empirical methods issues, entropy measure of diversification, event study, expectancy theory, factor analysis, field research, field study, institutional theory, journal ratings, journals, Markov processes, mathematical modelling, measurement issues, meta-analysis, methodological issues, metric conjoint analysis, modelling issues, multiple regression analysis, neo-institutionalism, non-linear models, paradigm evolution, partial least squares, path analysis, policy research, philosophy of science, philosophy of strategic management, questionnaire study, research issues, research philosophy, scenario method, simultaneous equation model, simulation models, statistical power, strategic theory, teaching issues, temporal perspectives, theory development, theory of the firm, variance component estimation
Organization: structure, strategy, and change	Bureaucracy, complex organizations, control system implementation, decentralization, efficiency, flexibility, franchising, functional relationships, heterarchy, hierarchy, implementation, incrementalism, industry change, inter-organizational learning, learning curve, learning myopia, learning traps, M-form structure, organizational change, organizational evolution, organizational learning, organizational mutation, organizational pathology, organizational typologies radical change, social learning theory, strategic change, strategy implementation, technological change

Appendix 1. (Continued)

Performance	Abnormal returns, accounting return, company performance, operating performance, performance controls, performance measurement, performance measures, productivity, productivity improvement, profit, profit forecast, profitability, rate of return, rents, risk and return, risk/return, risk/return paradox, shareholder return, strategic performance, sustainable rents, Tobin's Q, wealth creation
Planning and control systems	Business plan, communication, control systems, Delphi technique, diagnostic control system, economic planning, financial control, financial planning, forecasting, formal planning processes, human resource planning, information asymmetries, interactive control system, information diffusion, information management, information processing, information systems, information technology, locus of control, managerial control, marketing planning, organizational control, performance control, planning horizons, process, project planning, process technology, scenario analysis, social control, staff planning, strategic control, strategic control systems, strategic planning, strategy process, succession planning, value-based planning, zero-based budgeting
R&D, technology, innovation	Core technology, decision-making technologies, emerging technology, high technology industries, incubators, information technology, innovation gap, innovation model, innovation strategy, innovation strategy search, marketing/R&D link, new product development, organizational innovation, patent race game, process technology, product innovation, process R&D, R&D budget, R&D expenditures, R&D intensity, strategic innovation, strategy–technology interaction, technological change, technological competition, technological evolution, technological innovation, technological progress, technological settings, technology, technology life cycle, technology management, technology transfer, technology strategy
Strategy typologies and strategic groups	Cost leadership, cost versus market focus, differentiation, entry barriers, exit barriers, focus strategy, generic strategies, Miles and Snow typology, mobility barriers, prospector, strategic groups, strategic variables
Strategy, mission, vision	Strategic adaptation, strategic alternatives, strategic behaviour, strategic choice, strategic commitment, strategic configuration, strategic moves, strategic orientation, strategic position, strategic vision, strategy and structure, strategy content, strategy formation, strategy formulation, strategy reformulation
Top management	Board of directors, CEO, Company directors, compensation, executive, executive characteristics, executive compensation, executive succession, executive team, general managers, incentives, management buyout, management selection, manager typologies, managerial elites, managerial entrenchment hypothesis, reward systems, succession planning, top management team

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