

Schools of Thought in Strategic Management: Fragmentation, Integration or Synthesis?

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“Strategic management scholars are the blind men, and strategy formation is our elephant. No one has had the vision to see the whole beast, but everyone has grabbed hold of some part while remaining ignorant of the rest. But you do not create an elephant by simply adding the parts together – you need to understand the parts to understand the whole. And so it is with strategic management.” (adapted from Mintzberg, 1990: 107–108)

Over the last thirty years, strategic management has become established as a legitimate field of research and managerial practice (Shrivastava, 1986:363). In the evolution of strategy research, a diversity of partly competitive and partly supplementary paradigms have emerged. Therefore, to provide an unequivocal definition would mean ignoring the versatility of strategic management. The choice of a definition and the application of specific strategic management techniques is greatly dependent on which paradigmatic schools of thought in strategic management one prefers.

This paper systematically reviews different schools of thought based on a classification developed by Mintzberg (1990). A school of thought is understood to be the range of thought of a specific group of researchers that has crystallized out within the field of strategic management. In this context, a school of thought can be seen as an institutionalized paradigm. In addition to a consideration of prescriptive schools of thought (“design” school, “planning” school, “positioning” school) which have provided many techniques in strategic management, we thoroughly examine the more descriptive schools of thought at the individual-organization level (“entrepreneurial” school, “cognitive” school, “learning” school) and at

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the organization-environmental level (“cultural” school, “political” school, “environmental” school).

The above-listed diversity in schools of thought signifies an enrichment of the research within the field of study. On the other hand, it implies a lack of consistency and coherence. In this paper we argue that the field of strategic management is fragmented and that there is no agreement about the underlying theoretical dimensions nor the methodological approach to be employed. Many authors therefore advocate increased integration of theories within the strategy field:

“...it is time for strategy theoreticians and researchers to begin putting pieces together” (Chaffee, 1985: 96)

“What is needed is a greater emphasis on integration rather than differentiation of views. Research needs to be more concerned with reducing conceptual or theoretical barriers between disciplines and literatures and the consequent emphasis on eclectic approaches to explain organizational behaviour.” (Hrebiniak & Joyce, 1985: 348)

“Additional synthesis and pluralism is needed to advance integrated theory development – as opposed to fractionalism or applied functionalism – in the field of strategy.” (Schoemaker, 1993: 108)

This paper maps out a variety of such attempts at integration within the field. Nonetheless, our argument is that accumulation of knowledge within strategic management is only possible by synthesis. Hence, we suggest further attention to three synthesizing schools: namely the “boundary” school, the “dynamic capability” school and the “configurational” school. In contrast to the traditional schools, synthesizing schools are based on a number of base disciplines and strongly connected to the practical problem areas within the field of study.

The schools of thought: a summary of Mintzberg’s classification

The number of publications in the field of strategic management has greatly increased in size over the last thirty years. In the mid-1960s, Andrews (1965) and Ansoff (1965) were the first to give the discipline of stra-

tegic management a separate profile. However, they can hardly be considered as “the” founders of strategic management. Many of the current lines of reasoning or schools of thought within strategic management do not build on their range of ideas or they are actually inconsistent with the “design” and “planning” school of thought associated with (respectively) Andrews and Ansoff. In this section, seven other schools of thought are discussed in addition to the “design” and “planning” schools. The nine distinctive schools of thought are based on a classification developed by Mintzberg (1990). In recent years, a number of typologies of developments in strategic management have been made (Chaffee, 1985). We have chosen to use Mintzberg’s classification because it clarifies each school’s specific contribution to our field. The characteristic contribution of each school is often the result of a clear choice with respect to approach and assumptions about the content, the process and the context of strategy formation. The distinctive contribution of each school can also be related to its roots in a specific base discipline.

The first distinction to be made between the nine schools of thought is between a prescriptive and a descriptive approach. The “design” and the “planning” school are both prescriptive in character, which is also the case for the “positioning” school of thought. The other six schools belong to the descriptive category. First, the three more normative or prescriptive schools of thought are briefly discussed. For each of the three prescriptive schools of thought, a clear indication can be given of their own contribution to the field.

The “design” school is responsible for the development of the strength, weaknesses, opportunities and threats (SWOT) model. In this model, the strengths and weaknesses of a company are mapped together with the opportunities and threats in the marketplace. The data can be used to analyse various strategic options, which exploit the internal opportunities and anticipate the market situation. Reaching a good fit between the internal opportunities (strengths and weaknesses) and the external circumstances (opportunities and threats) can be considered to be the central guideline of this school of thought. The key players in the strategy formation are the board of directors, in particular the chair of the board. This approach can be further formalized into a more systematic approach. In this perspective, strategy formation consists of developing, formalizing and implementing an explicit plan. This school is known as the “planning” school; strategy formation is developed not so much by the chair of the board but rather by the planners in a staff division.

The central focus of the “positioning” school is the industrial-economic

angle, in particular the work of Porter (1980, 1985). Competition and a competitive position are analysed mostly based on economic concepts, and in this approach companies in a certain industry must choose one out of three generic strategies: cost-leadership, differentiation or focus. This school of thought is strongly influenced by economics, whereas the “planning” school has its theoretical roots in system theory and cybernetics. For the “design” school it is very difficult to point to a specific discipline. The approach used there has emerged from an attempt to develop an integrative perspective from practice.

In the three schools of thought dealt with above, the environment is seen as a relatively constant variable. The challenge for strategy formation is to influence the environment, responding to it or adjusting the organization to it. The underlying assumption here is that the environment can be analysed and that the opportunities and threats to a company can be distilled from it. It also assumes that the company has the time, using a planned or unplanned approach, to realize the potential of a certain strategy. The “design” school still works on the assumption that the CEO can design an explicit “grand strategy” for the entire enterprise. Research by Mintzberg & Waters (1985) shows, however, that strategies are not always explicitly formulated but can come about spontaneously without *a priori* intentions. It is also shown in empirical research carried out by Burgelman (1983) and the strategic decision-making models of Bourgeois & Brodwin (1984) that strategies often take place bottom-up and that the top management approves of these afterwards (retrospective sense making). Likewise, the “planning” school assumes that a correct strategy can only come about by means of frequent and systematic “forecasting”, “planning” and “control”. Empirical research by Fredrickson & Mitchell (1984) and Mintzberg (1973), however, shows that in turbulent environments planning is often insufficient and leads to rigidity. The annual planning rituals within an enterprise restrict its innovative potential; options are fixed and new options are not noticed.

As a consequence of the untenability of the normative assumptions of the above-mentioned prescriptive school, the more descriptive schools are increasingly gaining influence in the discipline. The latter schools, like the “entrepreneurial”, the “cognitive” and the “learning” schools are not prescriptive but try instead to describe the actual strategy formation in enterprises on the basis of empirical research.

In the “entrepreneurial” school, the environment is not a stable factor; it can be influenced and manipulated. Entrepreneurs are capable of bringing new innovative products and services onto the market, developed on

the basis of idiosyncratic dynamics, quite detached from the existing “laws” of the market. Baden-Fuller & Stopford (1992) show that the choice of the branch or industry only determines a very small part of the profit expectations, and that not the industry but the “firm” is a decisive measure of success. At the same time, the above-mentioned authors argue that successful enterprises such as McDonald’s, Benetton and Toyota do not opt for a “generic strategy” but instead opt for a combination of “low cost” and “differentiation”. This does not lead to the “stuck in the middle” effect feared by Porter, because the “positioning” school does not take into consideration internal organizational factors such as culture and ideology. It is the entrepreneurs with a vision of the future who determine the environment instead of vice versa. Strategic management viewed from this perspective cannot be traced back directly to a specific discipline, although the economist Schumpeter can be seen as its intellectual founding father.

The following two schools of thought, the “cognitive” and the “learning” school, have psychology as their base discipline. They consider the environment to be very demanding and/or difficult to comprehend. In the cognitive school the individual is the unit of analysis, and strategy formation is based on “mental maps”. Simon (1945) and March & Simon (1958) have made an important contribution to the cognitive school. In particular, the concept of “bounded rationality” has been of importance. In these schools, strategy is not so much planned but rather incremental and “emerging”. According to the supporters of the “learning” school, whose pioneers were Lindblom, Quinn and Weick, a strategy unfolds. It was Lindblom (1959) who in this way concluded that strategic management was not a linear process, but an incremental process of “muddling through”. This incremental vision was confirmed by Cyert & March (1963) and in an article by Wrapp (1967): “Good managers don’t make policy decisions”. Etzioni (1968:282–309) took an intermediate position, called “mixed scanning”, in which strategists must develop a long-term vision while approaching the short-term step by step. On the basis of nine longitudinal case-studies in large enterprises confronted with changes, Quinn (1980) concluded that incrementalism is logical because of the iterative character of strategic management processes and the need to continuously adjust strategies. According to this founder of the “learning” school, strategic management is necessarily a fragmented process, whereby initiatives arise from different subsystems and top management defines strategies as broadly as possible and leaves options open as long as possible. On the other hand, Johnson (1988) and others propagate, on the

grounds of a longitudinal case-study, that incrementalism is not logical but a result of cognitive schemes (Weick, 1979), cultural idea systems (Smircich & Stubbart, 1985) or political processes (Pettigrew, 1977). This "non-logical" incrementalism forms the basis for the "cultural" and the "political" school.

The contribution of the political school of thought to the strategic management field consists of such concepts as power and coalitions. Important studies that brought the factor power into strategic management literature were those of Allison (1971) and Perrow (1970). Strategic in this school means choosing your position and thinking in terms of move and counter-move. Making a distinction between power formation within an organization and between organizations is significant. The latter level of analysis is the meso level, in which the environment is clearly malleable. Securing a position in order to be able to determine the rules of the game can be of great influence to the competitive position of an enterprise. As far as the micro level is concerned, it is often assumed that organizations have a single face, thus ignoring the large differences of opinion and the existence of a variety of power blocks within an organization. The importance of recognizing the different sorts of strategy formation and implementation and the development of these concepts in order to analyse them can be attributed to the political school of thought. It has been clearly demonstrated that this school of thought is strongly influenced by political science.

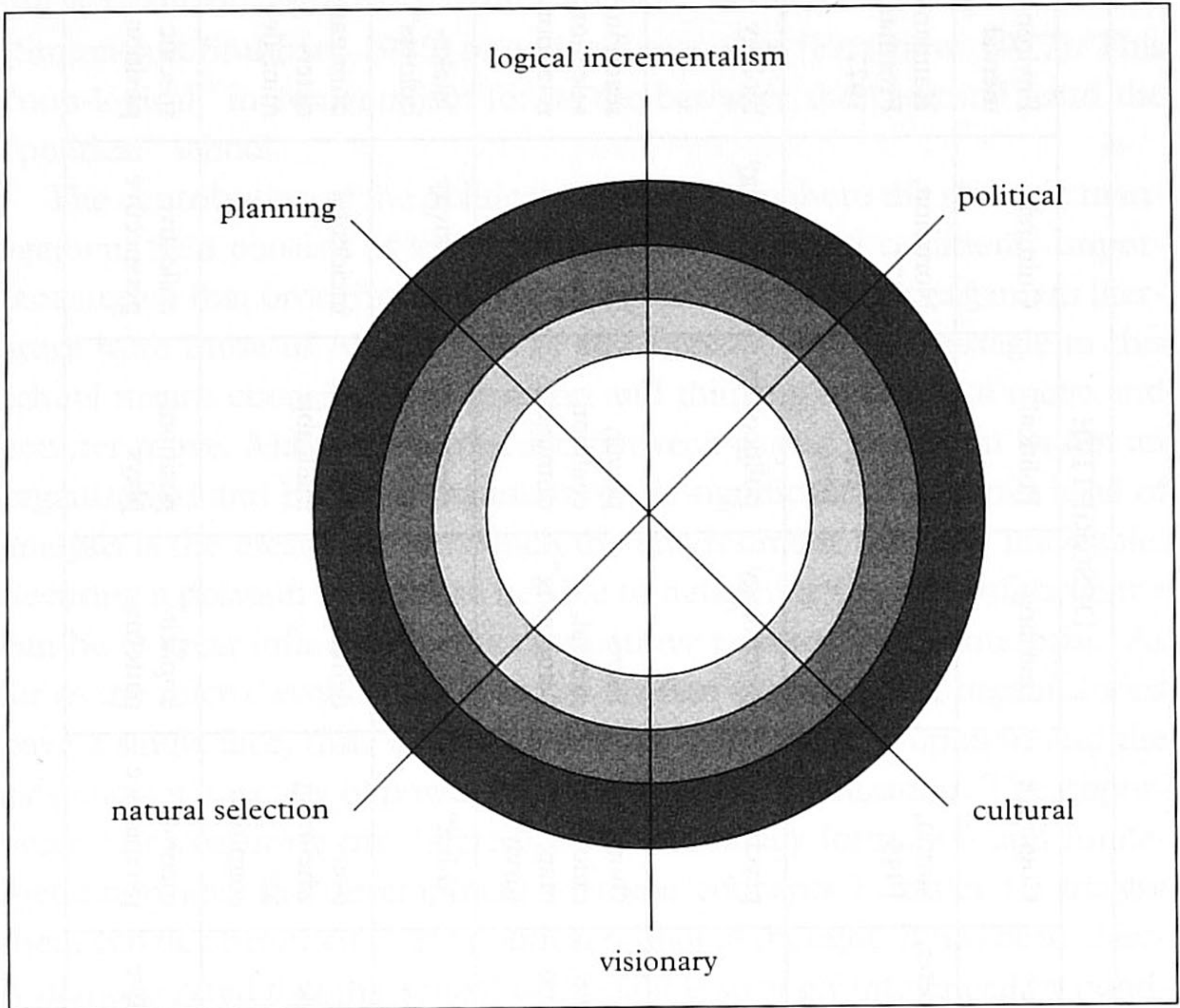
In the cultural school of thought, developing a common perspective for the organization is the central issue. The contribution of this school lies particularly in the insights offered into the importance of a common company culture for the formulation, and particularly the implementation, of a strategy. A strategy can only be successful if it is deeply rooted in the company culture, and accordingly, the development of common values and insights is a central issue. Strategy formation is not bottom-up or top-down but must be approached from a collective perspective. The conceptual breeding ground for this school of thought is anthropology, and Normann (1977) has made an important contribution to the development of the theory.

The last school of thought is the environment school. This school has been strongly influenced by the work of population-ecologists such as Hannan & Freeman (1977). By analogy with biology, they look at organizations with the aid of the variation-selection-retention model. Strategies are positions in the market, and if the favourable conditions which gave rise to the growth of the firm change, the organization is doomed. This ap-

Table 1. Nine Schools of thought in Strategic Management

Dimensions	PRESCRIPTIVE					DESCRIPTIVE				
	Design	Planning	Positioning	Entrepreneurial	Cognitive	Learning	Political	Cultural	Environmental	
Key author(s)	Andrews, 1965	Ansoff, 1965	Porter, 1980	Schumpeter, 1934	Simon, 1945	Lindblom, 1959 Quinn, 1980	Allison, 1971 Perrow, 1970	Normann, 1977	Hannan & Freeman, 1977	
Bases discipline	none	system theory, cybernetics	economics	none	psychology	psychology	politicology	antropology	biology	
Vocabulary	SWOT-model, "fit"	formalizing, programming, budgeting	analysing, generic strategy	vision, leadership, innovation	"bounded rationality, map; survival	Incremental, "emerging"	power, coalition dominant	ideology, values	reaction, selection, retention	
Central actor	president-director	planners	analysts	leader	"think"	everybody who learns	everybody with power	collectivity	"stakeholders"	
Environment	opportunities and threats	stable and controlled	analysable in economic variables	man-oeuvreable	overwhelming for cognition	demanding	intractable malleable	incidental	dominant, deterministic	
Strategy	explicit perspective	explicit plan	explicit generic positions	implicit perspective	mental perspective	implicit patterns	positions, plays	collective perspective	specific position	

Figure 1. The theoretical framework of Bailey & Johnson (1992).



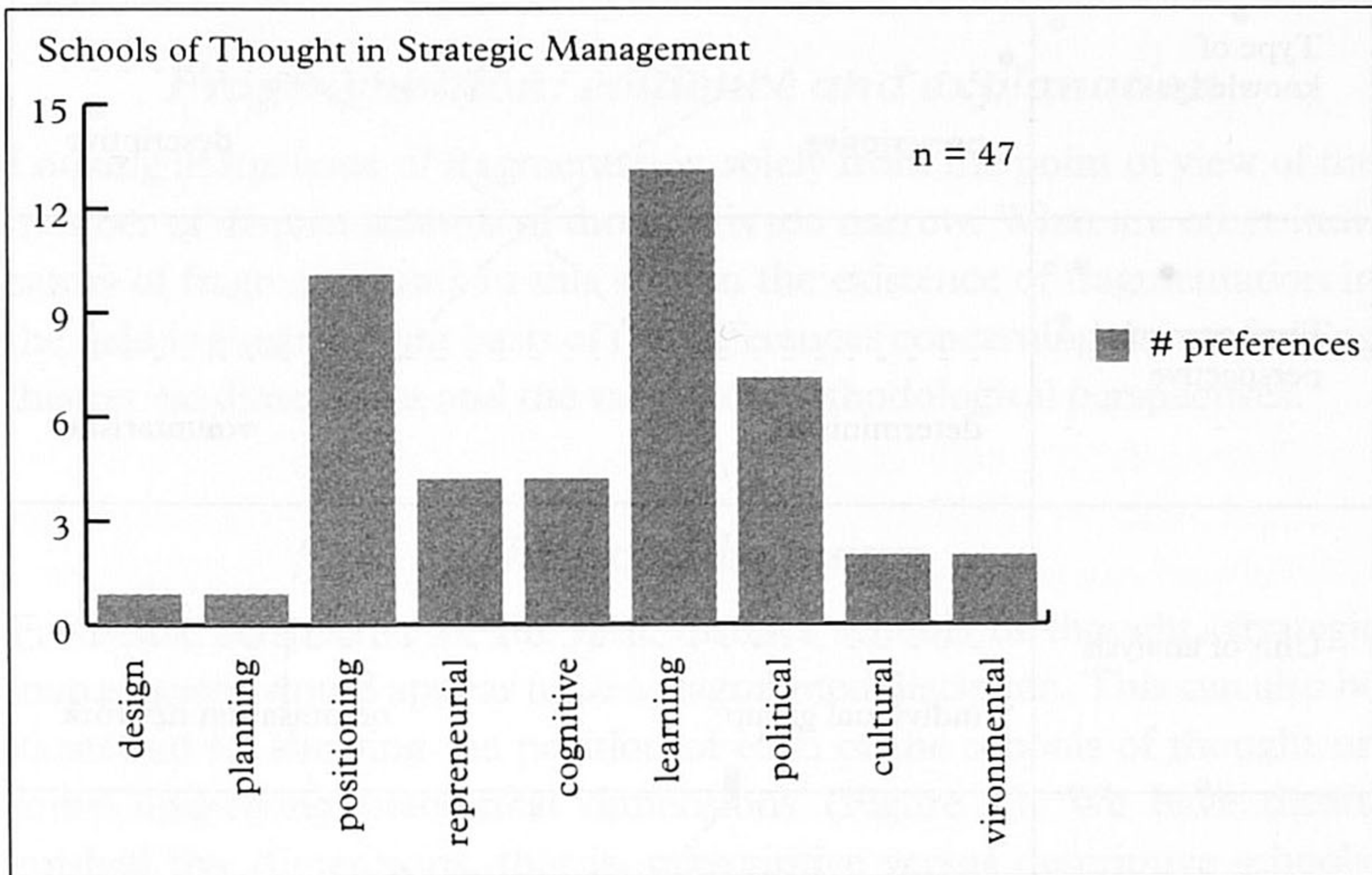
proach is exceedingly deterministic, and the room available for management to formulate strategies is nonexistent.

Each of the nine schools represents a specific angle or approach to strategy formulation (Table 1). The splitting up of the discipline into clearly defined schools of thought furnishes us with insights into the backgrounds and the, often implicit, assumptions of a great number of trends in the field. Mintzberg however, shows that each school of thought is concerned with a certain aspect of the total picture, ignoring the other aspects along the way. If the contributions, shortcomings, assumptions and context of the diverse schools of thought are made more explicit, the fragmentation within strategic management is made painfully obvious.

Schools of Thought in Practice

The schools of thought sketched here are not only distinguishable in theory but can also be found in practice, as illustrated by the empirical research of Bailey & Johnson (1992). Although the distinction made by these re-

Table 2. A histogram indicating preferences of researchers concerning schools of thought.



searchers does not entirely match Mintzberg's nine schools, their theoretical framework contains six perspectives on strategy formulation: the planned, the visionary, the logical incrementalist, the cultural, the political and the natural selection perspective. In Mintzberg's classification, these perspectives would be categorized respectively in the "planning", the "entrepreneurial", the "learning", the "cultural", the "political" and the "environmental" school. On the basis of a structured question list of 42 items, whereby each strategy-perspective is represented by 7 items, Bailey & Johnson have asked senior managers to characterize the strategy formulation process (Figure 1). The resulting strategic decision-making profiles show that it is seldom that one school dominates and that combinations of schools are the most likely option. Hence the authors found a combination of the "planning" and "cultural" approach in a large multinational organization, a combination of an "environmental" and "political" approach in a government organization and a mix of a "political", "cultural" and "learning" approach in a large professional service organization. Bailey & Johnson also found conflicting approaches within organizations, for example a "planning" approach at divisional level and a "political" approach at corporate level.

From a small-scale sample survey carried out by the authors of this paper, it appeared that not only managers opt for a combination of schools

Figure 2. Theoretical dimensions of schools of thought in strategic management.

Schools of thought profiles	
Type of knowledge	
Environmental perspective	
Unit of analysis	
Research area	
Time frame	

----- = positioning school

..... = learning school

of thought, but that this also holds for most researchers in strategic management. We asked 47 researchers in the field of strategy and organization which school of thought they preferred the most. The results indicated that the more prescriptive schools of strategic management are losing popularity to the more descriptive schools (Table 2).

The "learning" school in particular is gaining popularity among an increasing number of researchers in strategic management. It must be remembered, however, that the sample survey was not representative and that most researchers find Mintzberg's classification too fragmented; an

explicit choice for one school of thought was only made after we had specifically asked for it.

Fragmentation: evidence and explanation

Looking at the issue of fragmentation solely from the point of view of the number of distinct schools of thought is too narrow. What are other indicators of fragmentation? In this section the existence of fragmentation in the field is illustrated on basis of the differences concerning the underlying theoretical dimensions and the variety of methodological perspectives.

Theoretical dimensions

From the perspective of the nine distinct schools of thought, strategic management would appear to be a fragmented discipline. This can also be illustrated by showing the position of each of the schools of thought on some underlying theoretical dimensions (Figure 2). We have distinguished five dimensions, that is, prescriptive versus descriptive schools, voluntaristic versus deterministic schools, the unit of analysis of the schools, the research area of each of the schools, and the extent to which each of these schools apply a static or a dynamic perspective. Concerning the first dimension, it has been argued that the first three schools, the design, the planning and the positioning school, can be characterized as prescriptive while the other six are more descriptive in nature.

In addition to the dimension prescriptive-descriptive, one can also look at the degree to which in each school there is room for strategic choice (voluntarism) or whether successful strategies are selected by the environment (determinism). An extreme example of the latter is the "environmental" school (cf. Hannan & Freeman, 1977). This is quite opposite to the "cognitive" school, in which there is room for slack (Cyert & March, 1963), to the "learning" school, in which there is leeway for "strategic choice" (Child, 1972), and to the "political" school, in which there is room for decisions from the dominant coalition (Thompson, 1967). Although the last-mentioned schools employ a more voluntary perspective, an increasing number of theoretical contributions within these schools assume that the room for choice is limited by internal organizational factors such as the routines that have built up over the years and the cognitive limitations of policy-makers (cf. Nelson & Winter, 1982).

The unit of analysis varies greatly too. The "entrepreneurial" and "cog-

nitive" schools address themselves in particular to the individual entrepreneur and manager. The "learning" school, however, focuses far more on the group level, while the unit of analysis in the "design", the "planning" and the "positioning" schools is the organization. Finally, in the "environmental" school the branch, the industry or the environment is the chosen aggregation level.

In addition to the level of analysis, there are great differences between the schools of thought with respect to their focus on a specific area of interest in strategic management. According to Pettigrew (1988), the research area can be divided into interest in the strategy-content, the strategy process and the context in which the process takes place. The "positioning" school is particularly interested in the strategy content in terms of generic strategies: "What is the best generic strategy for management to choose?". On the other hand, the "planning" and the "design" schools are more concerned with the process of strategic management from a prescriptive perspective and the "cognitive", the "learning" and "political" schools from a more descriptive perspective. The "environmental" and, to a lesser extent, the "cultural" schools are particularly interested in the strategic context, respectively, the environmental factors and national or professional cultures.

Finally, most of the prescriptive schools give a static description of strategy formation, whereas, for example, the "learning" school employs a more dynamic perspective and distinguishes different strategic learning routes. On the basis of these underlying theoretical dimensions, each school can be positioned in the profile above. As an illustration, the "positioning" school and the "learning" school have been filled in as two antipoles (Figure 2). The differences between the schools concerning the underlying theoretical dimensions can be seen as an illustration of the fragmentation in the field.

Methodological perspectives

Another way to examine the degree of fragmentation in the discipline is to look for common elements in the methodological perspective. Methodology is the way in which knowledge is acquired for strategic management questions. According to Camerer (1985), in his much discussed article "Redirecting Research in Business Policy and Strategy", the lack of a disciplined methodology is the cause of the fragmentation in strategic management.

“For all the energetic research on strategy and policy, the state of the art is disappointing. Theories are ambiguous, untested and tend to replace other theories with little apparent progress.” (Camerer, 1985: 5).

The author propagates that many concepts are ambiguous and there is no clarity on definitions. The distinction between “strategy” and “policy” is, for example, extremely vague. He also mentions that theories and checklists are seldom tested or compared with competing theories. Most research in strategic management is inductive and mostly based on a limited number of case-studies. The result of this “weak” methodological basis is that there is no accumulation of knowledge in strategic management, only a substitution of theories and schools of thought. Camerer therefore argues for a strictly hypothetical-deductive approach to research in strategic management, which according to him flourishes best in “harder” theories like “agency-theory”, “game theory”, “industrial organization” and “decision theory”.

In contrast to the Popperian Camerer, Teece (1990) argued, in the same way as Lakatos, that progress could only be made within strategic management by developing dominant research programmes like the traditional “competitive forces” perspective or the “resource-based” perspective.

“Until there is a framework and some accepted core of theoretical ideas, the field cannot build cumulatively. One cannot have meaningful exchanges in any field until there is some agreement on terminology, assumptions, causal structure and recognition of where different approaches may be applicable” (Teece, Pisano & Shuen, 1992: 3).

Whereas Camerer opts for a disciplined methodological approach and Teece for dominant research programmes, Mahoney (1993) chooses the opposite, the more pragmatic approach of methodological pluralism under the pretext of “good science is good conversation”. According to Mahoney, or equally Datt & Buenger (1990) and Hambrick (1990), the before-mentioned authors employ a strongly instrumental approach that excludes new insights that do not fit within a hard theory or dominant research programme. Furthermore, these so-called harder sciences face the same problems in the sense that their concepts are often ambiguous and

not clearly defined too. Instead of looking for universal methodological criteria, Mahoney argues that the continual attunement of rivalling schools of thought in strategic management should be promoted.

To summarize, it can be recorded that Camerer is very unhappy with the present state of fragmentation, Teece wants to reduce this fragmentation to some extent by developing dominant research programmes and Mahoney, on the contrary, appreciates the versatility of the field. On the basis of this "heated debate" concerning the "best" methodology, it is clear that the differences not only refer to content but also to the methodological approach.

Causes of fragmentation

In the previous sections we provided some evidence of the fragmented character of the strategic management field. A large number of distinct schools, diversity in underlying theoretical dimensions and different views on methodology give an indication of what can be seen as important characteristics of fragmentation. It provides an answer to the question of what we mean by fragmentation, but it leaves the why question open. What are the causes of the observed fragmentation? The analysis by Whitley (1984) provides valuable insights to examine why.

A fragmented discipline can be characterized according to Whitley by a high degree of task uncertainty and a low degree of coordination of research procedures and strategies between researchers. The existence of a great degree of task uncertainty can be explained by the fact that three audiences for the research output can be isolated that each have their own criteria for research and research procedures. In addition to the criteria within the first audience, the strategic management researchers, one can also look at the criteria that are valid for the different base disciplines. The base disciplines on which strategic management builds can be seen as the second audience. The demands that can be made, for example of economic research, are different from those for research into strategy. In many cases this is due to the distinction between monodisciplinarity and interdisciplinarity. The third distinct audience can be seen as the business community and the management. These ultimate users employ their own criteria for the assessment of research. The existence of these three groups alongside one another leads to task uncertainty, resulting in fragmentation of the strategy field if no conscious attempts are made to promote integration and synthesis. Researchers and research institutes are not dependent on any of these three groups for their assessment or for obtaining, for ex-

ample, financial support. If one group rejects research proposals then one can turn to one of the other groups. Quality control is not in the hands of an elite, which is often the case by the more theoretically oriented mono-disciplines.

The relative independence of research efforts means that alignment and coordination are not seen as being a true necessity. In the field of strategic management, many potential scientific conflicts are conceivable, but the factual conflicts and/or heated debates are limited. The escape routes for assessment and financing are numerous compared to most of the social sciences. Thus, according to Whitley's criteria, the field of strategic management is a "fragmented adhocracy".

A certain degree of integration and synthesis is necessary for the further development of the field of strategic management. This synthesis, in our view, should be concentrated on bringing together the three distinct groups. Varying clusters of problem areas must be connected to a combination of perspectives and schools of thought. But first a number of more theoretically oriented integration efforts should be discussed.

Attempts at integration

Numerous authors are convinced (Bowman & Hurry, 1993; Chakravarthy & Doz, 1992; Schoemaker, 1993) that present theory formation within strategic management would benefit from integration. Segmentation and fragmentation will hamper the development of the field. A number of integration approaches are discussed here, in particular Schoemaker's proposals. He has distinguished three more or less related approaches. These integration approaches are not based on conflicting but on complementary aspects of the different schools.

In the first approach, the underlying assumptions of the schools of thought must be as close to reality as possible. In Schoemaker's terminology, they must show "assumptional fit". In a number of cases assumptions about high efficiency levels, rationality and common goals are more or less compatible with the situation concerned. The schools of thought relying on a rational analysis, such as the "planning" and "positioning" school, can then be used for the analysis. These schools would be unsuitable if there were a dominance of opposing interests and conflicting ideas about the aims to be pursued. Problem fields that are characterized as such might be studied on the basis of other schools, such as the cultural or the political school. The fit of the assumptions to reality emphasizes the complementarity of the various schools and thereby brings about a certain integration.

A second approach tries to realize complementarity by employing the "unit of analysis" as an important criterion for the choice of a specific school or thought. Chakravarthy & Doz (1992) use that criterion to illustrate the complementarity between "strategy process" and "strategy content" research. Schoemaker argues that the design and positioning schools are applicable to problems in which the external development and their impact on the strategy of a firm are the key issues. On the other side of the continuum, the emphasis appears to lie on the detailed developments within a firm, whereby individuals, teams and their mutual relations are central to research. With this kind of focus, the learning, cognitive and cultural school will be able to provide more insights.

The third approach, working on the basis of the different models being complementary, makes use of the dichotomy presented by the presence or absence of equilibrium. This concerns the degree to which a firm is able to adjust to a constantly changing environment. Schoemaker argues that in the last decade there have been different periods in which firms were fairly well equipped to react to new market situations. In such a situation of relative stability, schools based on the rational actor model, such as the positioning school, are appropriate. A more turbulent environment with a great level of uncertainty, such as the introduction of new technology, or a change in the rules of competition, can lead to disequilibrium. In this situation, firms need structural alterations or organizational innovations (Chandler, 1977) to adapt to the continually changing situation. Other schools are more appropriate in these circumstances, for example, schools that emphasize core competencies, capabilities and invisible assets (cf. Amit & Schoemaker, 1993; Prahalad & Hamel, 1990; Itami, 1987) or the entrepreneurial school, in which the creation of new combinations is relevant.

The various attempts at integration are of importance for further theory-building. It means that the similarities and differences between various concepts are clarified and the boundaries of the different schools are put into perspective. However, it is questionable whether developing a "grand design" or meta-theory is realistic if the current state of affairs is taken into account. The theoretical problems within the different integrative approaches have not yet been solved: it is not clear on what grounds certain situations or problems should be classified into an integrative framework. Moreover, the discussed integration approaches that are based on complementarity ignore the dynamics involved when a strategic problem moves from one category to another. We suggest a more modest attempt at synthesis. Not so much the development of a meta-theory should be the cen-

tral focus, but the search for a restricted number of schools whereby the link between theory and the practical problems is of the greatest importance.

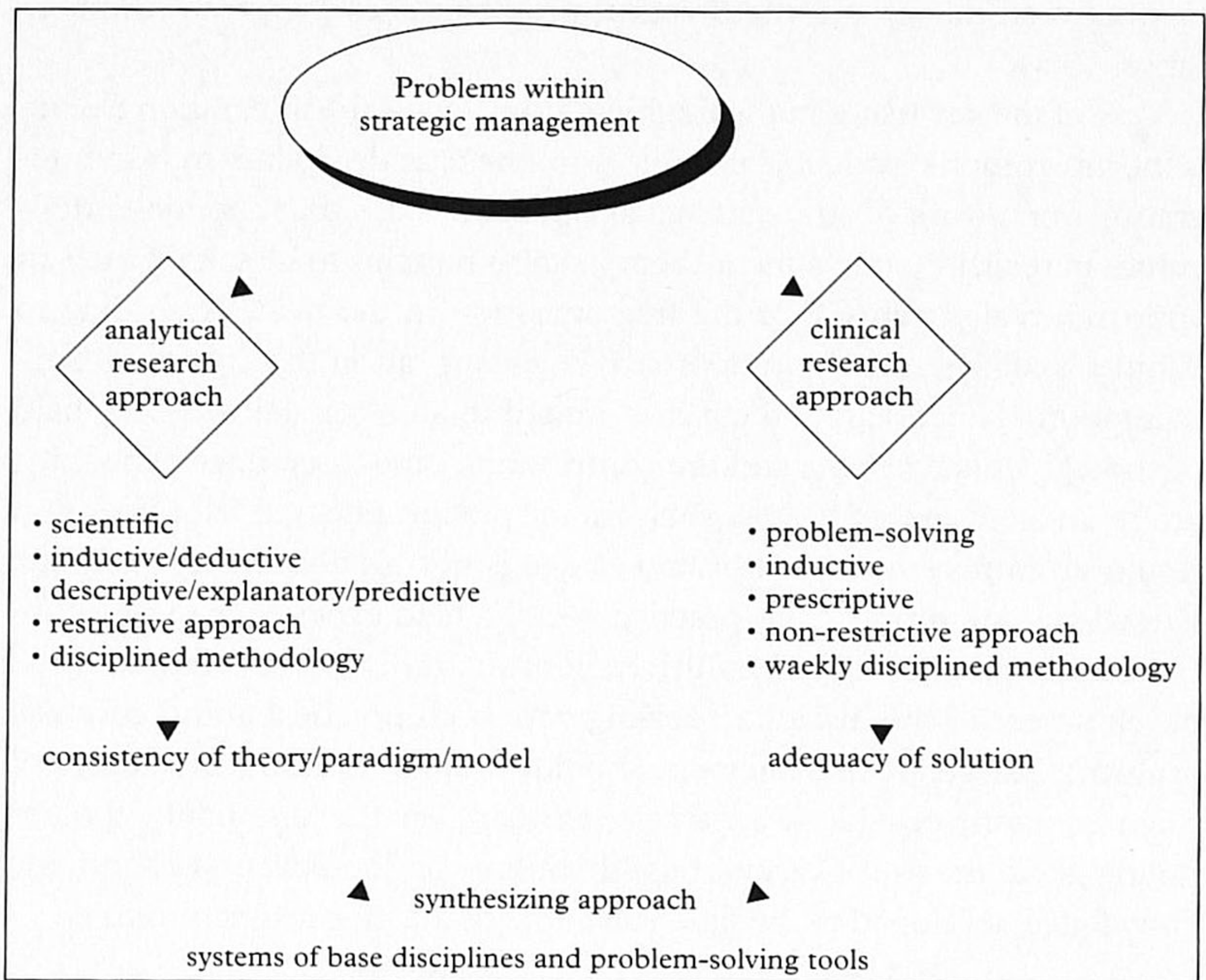
One of the key issues in the fragmentation versus the integration debate is the integration of valuable insights from the base disciplines into an integrating framework of strategic management. Besides the mentioned difficulties in realizing such a meta-theory, it also remains to be seen if such an approach really will reduce the fragmentation in the field. According to Whitley's analysis, such an approach does not tackle the causes of fragmentation. The integration effort is limited to a linkage between the field of strategic management and the contributing base disciplines. The third group involved in the Whitley analysis, the practical field, is left aside. As a result, an important source of knowledge is not used in theory-building. Knowledge stemming from practice and the field experience of prescriptive do-statements and theory-driven consultancy is of importance for the development of the discipline dealing with both practical and theoretical problems. Strategic management should, keeping in mind the causes of fragmentation, provide a synthesis between, on the one hand, theory-building and the use of various base disciplines and, on the other hand, the knowledge developed in the practical arena of the business community.

Towards a synthesis: three emerging strategy schools

The above-mentioned attempts at integration do not actually contribute to reducing the fragmentation in strategic management. The overaccentuation of base disciplines and the "artificial" searching processes for common dimensions has led to theoretical frameworks that have little, if anything, to say about the practical problems in strategic management. Nor do they offer new perspectives for scholars in the strategy field.

Bowman (1990: 17) quite rightly remarks that no central paradigm can be developed in strategic management. The most important cause in Bowman's view is the great dilemma between theory-oriented schools and more practically oriented design schools. To give a polarized view, one could maintain that, within the field of strategic management there is an extreme separation between, on the one hand, analytical approaches (Volberda 1992) that are strongly anchored in a specific base discipline and, on the other hand, clinical approaches strongly concerned with the development of concepts and techniques for strategic management (Figure 3). Following Whitley's terminology (1984), we could argue that within the analytical approach the strategy researcher chooses for a base discipline as

Figure 3. The synthesizing research approach in strategic management.



target group, while in the clinical approach the researcher focuses primarily on management as target group.

The analytical approach is a theory-oriented and scientific approach based on systematic observation and measurement, employing an absolute separation between the researcher and research object. The formal inductive and deductive logic applied results in descriptive, explanatory and, at most, predictive knowledge. In this restrictive or monodisciplinary approach, the central focus is on the consistency of the underlying theory of the school of thought. All the researchers in such an analytical school in strategic management act according to the same strict methodological principles. In this respect one could label the “positioning”, the “cognitive” and the “environmental” schools as analytical schools.

On the other hand, the clinical approach is far more problem-oriented. This inductive approach is based on the experience of the researcher, subjective assessment, “trial and error” and mainly qualitative data. The result is prescriptive knowledge in the form of concepts, “tools”, and “do’s and don’ts” for the strategist. In this clinical approach to strategic management, the researchers are not building on one specific theory. Further-

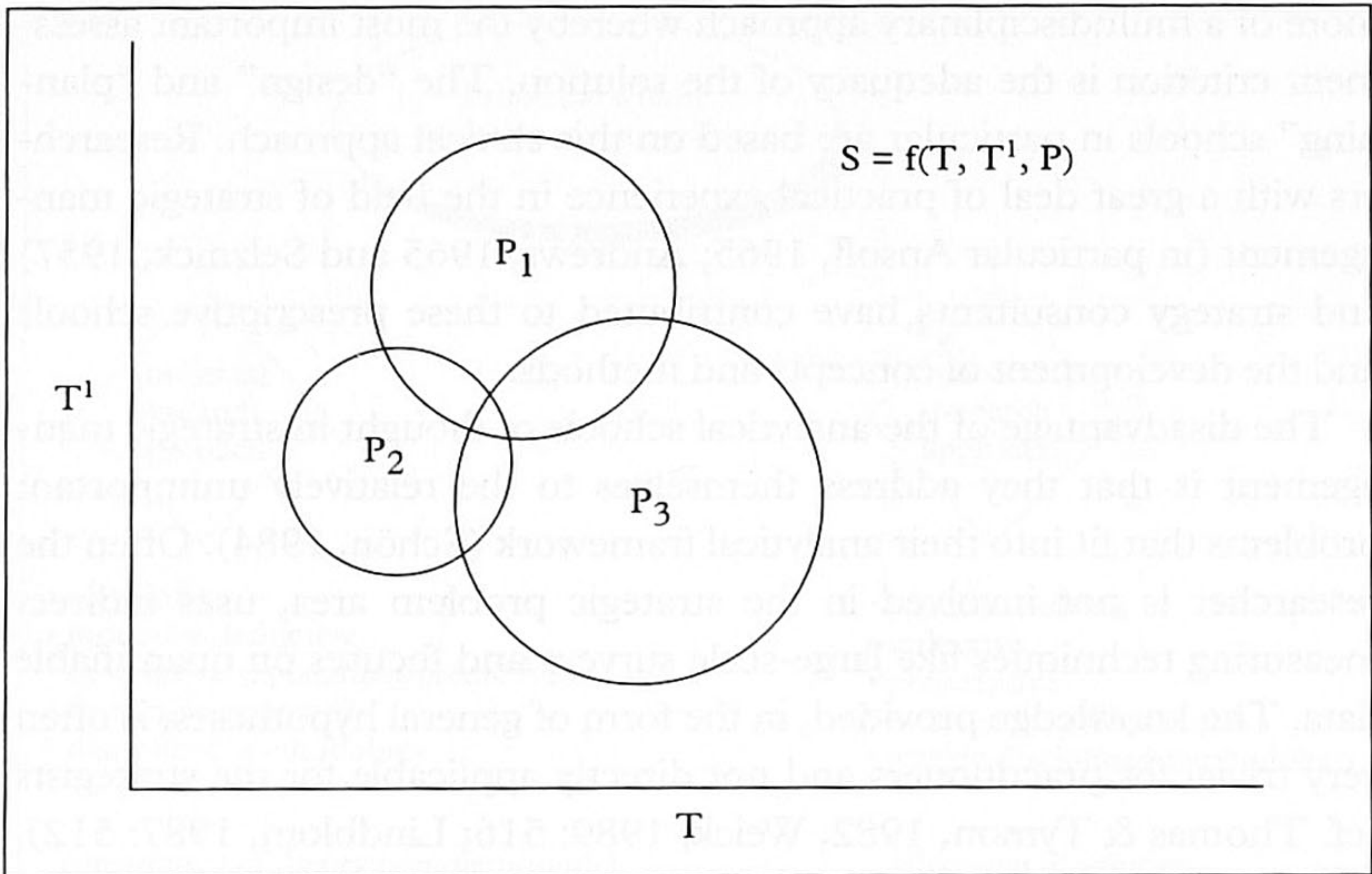
more, they do not apply generally accepted methodological rules. It is more of a multidisciplinary approach whereby the most important assessment criterion is the adequacy of the solution. The "design" and "planning" schools in particular are based on this clinical approach. Researchers with a great deal of practical experience in the field of strategic management (in particular Ansoff, 1965; Andrews, 1965 and Selznick, 1957) and strategy consultants have contributed to these prescriptive schools and the development of concepts and methods.

The disadvantage of the analytical schools of thought in strategic management is that they address themselves to the relatively unimportant problems that fit into their analytical framework (Schön, 1984). Often the researcher is not involved in the strategic problem area, uses indirect measuring techniques like large-scale surveys and focuses on quantifiable data. The knowledge provided, in the form of general hypotheses, is often very trivial for practitioners and not directly applicable for the strategists (cf. Thomas & Tymon, 1982; Weick, 1989: 516; Lindblom, 1987: 512). On the other hand, the clinical schools have not developed any explicit criteria to evaluate knowledge. In many situations, practical relevance and feasibility dominates, which often leads to opportunistic research behaviour without *ex ante* methodological considerations. Many concepts in strategic management, such as the SWOT analysis, the Boston Consultancy Matrix, the GE Business Screen, and the 7 S's model, are often applied but seldom tested. It is therefore not surprising that many of the excellent enterprises by Peters & Waterman (1982) that were consistent according to the 7 S's model were no longer successful one year later.

Summarizing, we can state that the discipline suffers from a discord that is leading to great fragmentation. We therefore advocate a more synthesizing approach which is both theory-oriented and problem-oriented (Volberda, 1993). The fragmentation in our discipline will not be solved by choosing one school at the expense of another school but by synthesis. Or as Schendel puts it:

"This tension between base disciplines vs. more practically oriented scholars in strategy (and perhaps the entire business school) is best seen and solved not as a choice of one field and perspective over the other, but in relative, balanced terms. A good metaphor is that of the engineer, who has one foot firmly planted in physical sciences and theory, with the other just as firmly planted in practice and problem-solving" (Schendel, 1991:2).

Figure 4. Synthesizing schools in strategic management.



P = cluster of problem areas

T = base disciplines, such as economics, psychology and biology

T' = problem-solving tools

S = synthesizing schools of thought

An important guideline of our attempt at synthesis has been the result of Whitley's analysis of the causes of fragmentation in a field like strategic management. Synthesis serves to integrate the three different audiences of research, namely the base disciplines, "body of knowledge" of strategic management and management as the user. In this context, synthesizing schools differ from the prevailing analytical and clinical schools in strategic management in the sense that they (Figure 4):

- are based on theories from various base disciplines (T) with an explicit reference to these disciplines;
- are related to a cluster of problem areas (P) in strategic management; and
- develop clear "problem-solving tools" (T') from a chosen range of theories.

In other words, a synthesizing school of thought in strategic management consists of more than one base discipline and one set of problem-solving techniques to deal with a specific range of strategic problems. The application of specific tools to strategic problem areas may even lead to an adjust-

Table 3. Synthesizing schools in strategic management

	The "boundary" school	The "dynamic capabilities" school	The "configurational" school
<i>Base disciplines/theories</i>	<ul style="list-style-type: none"> - agency theory (economics/psychology) - transaction costs theory - industrial organization - control theories (sociology) - decision-making theories (psychology) 	<ul style="list-style-type: none"> - resource-based theory of the firm (economics) - entrepreneurship (economics) - innovation theories (organization theory) - learning theories (organizational behaviour) 	<ul style="list-style-type: none"> - social sciences - history - equilibrium models - (biology) - catastrophe theories (mathematics)
<i>Schools of thought</i>	<ul style="list-style-type: none"> - "positioning" school - "cognitive" school - "cultural" school - "political" school 	<ul style="list-style-type: none"> - "design" school - "entrepreneurial" school - "learning" school - "environmental" school 	<ul style="list-style-type: none"> - "political" school - "environmental" school - "learning" school - "cognitive" school - "entrepreneurial" school
<i>Problem-solving tools</i>	<ul style="list-style-type: none"> - the strategy sourcing process - Porter's value chain 	<ul style="list-style-type: none"> - the roots of competitiveness (Prahalad & Hamel, 1990) - the capability matrix (Schoemaker, 1992, 1993) 	<ul style="list-style-type: none"> - archetypes (Miller & Friesen, 1980) - strategic types (Miles & Snow, 1978) - FAR method (Volberda, 1992, 1993)

ment of the basis theories. In this paper we attempt to describe synthesizing schools of thought. Such a description can never be complete. On the basis of a literature study, we have distinguished three emerging schools of thought with synthesizing characteristics: the "boundary" school, the "dynamic capability" school and the "configurational" school. For each of these schools consecutively, we will deal with the relevant research questions and problem areas (P), the underlying base disciplines (T), and Mintzberg's corresponding schools of thought (Table 3). At the same time, we will give a few examples of generated problem-solving techniques (T') for each of the three schools.

The boundary school

In the 1980s, the vertically integrated firm as guiding principal became increasingly controversial. The advantages of scale and control appeared to

be losing ground to the disadvantages of bureaucracy and inflexibility. Partly due to the influence of increased international competition, blurring of boundaries of industry and uncertainty, companies increasingly turned to their core activities. They tried to enhance their flexibility and innovativeness. Generally, firms responded to these new developments by concentrating on their core competencies while contracting out the other parts of the production process to specialists (Mahoney, 1992). This question of "make or buy" applies not only to the existing production process but also to the development of new products and services. Besides the make or buy options, we can distinguish a third hybrid option of cooperation, for example, minority and majority participation, joint ventures and network structures (cf. Jarillo, 1988; Powell, 1987). As a result of these make, buy and cooperate decisions the boundaries of the organization are becoming increasingly vague. Research into the boundaries of the organization (Van den Bosch, 1989) is the central focus of the "boundary" school.

Important research questions for this school are:

- What are the advantages and disadvantages of respectively doing it yourself and contracting out?
- When is cooperation preferable to doing it yourself or contracting out and how must cooperation be organized?
- What are the strategic implications of "make, buy or cooperate"?
- What are the important steps in the implementation route of "make, buy or cooperate"?

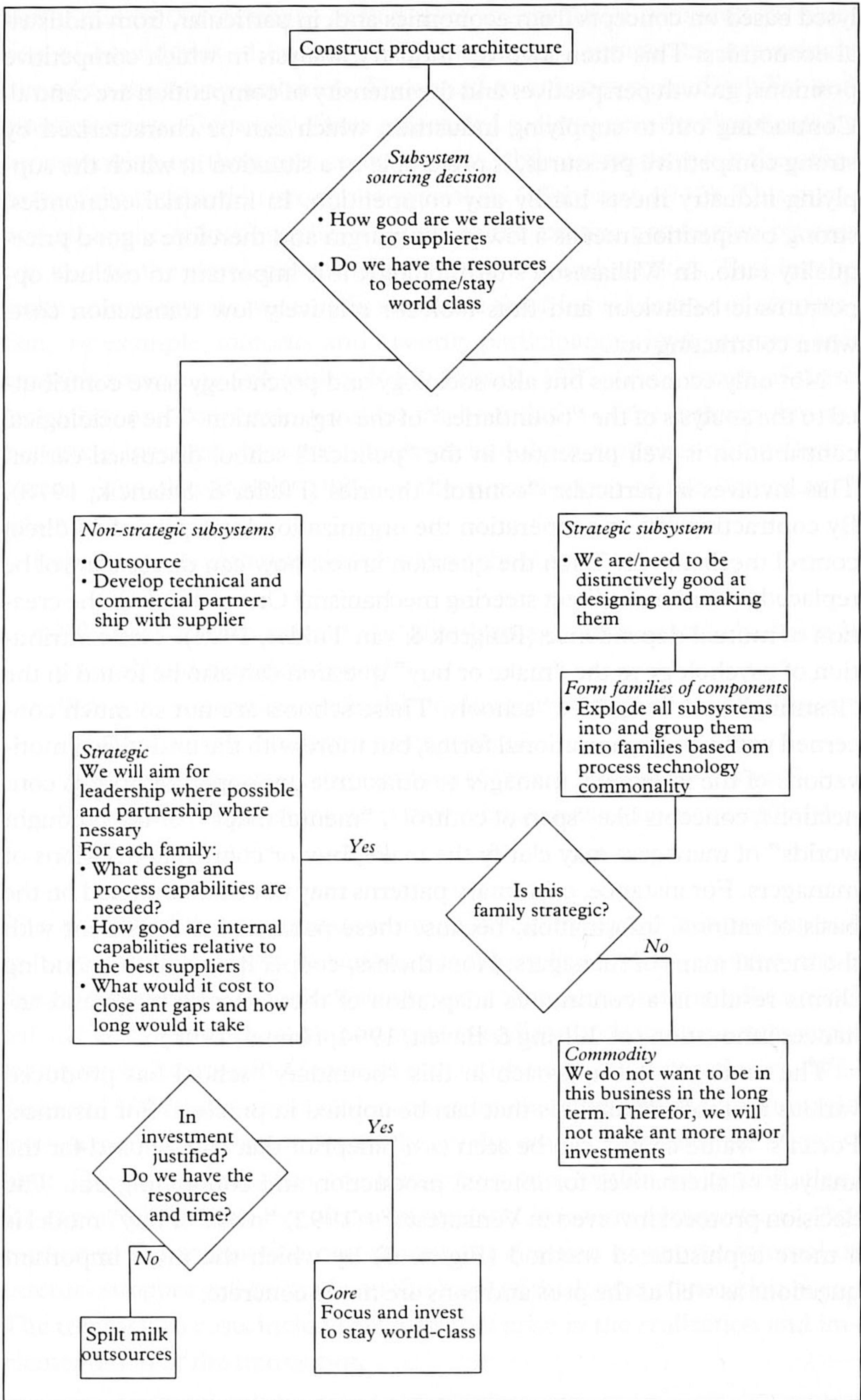
The analysis of the strategic question of doing it yourself, contracting out or cooperation is rooted in various base disciplines. One can even argue that, in a number of schools of strategic management, searching for a good balance between internal and external coordination is an important topic for research. Economic science, in particular transaction cost theory (Williamson, 1985) and industrial economics, has contributed to strategic management. In transaction cost theory the unit of analysis is the transaction. The theory compares the transaction costs within an organization, for example between two departments and between organizations. According to the transaction cost theory, the decision to opt for internal or external supplies will be made on the basis of the lowest transaction costs. The transaction costs include all costs that arise in the realization and implementation of the transaction.

The "make or buy" issues in the "positioning" school are often analysed based on concepts from economics and, in particular, from industrial economics. This often involves industry analysis in which competitive positions, growth perspectives and the intensity of competition are central. Contracting out to supplying industries, which can be characterized by strong competitive pressures, is preferable to a situation in which the supplying industry meets hardly any competition. In industrial economics, strong competition means a low profit margin and therefore a good price-quality ratio. In Williamson's terminology, it is important to exclude opportunistic behaviour and thus look for relatively low transaction costs when contracting out.

Not only economics but also sociology and psychology have contributed to the analysis of the "boundaries" of the organization. The sociological contribution is well presented in the "political" school discussed earlier. This involves in particular "control" theories (Pfeffer & Salancik, 1978). By contracting out or cooperation the organization loses part of its direct control mechanisms. Then the question arises: how can direct control be replaced by a more indirect steering mechanism? One example is the creation of mutual dependence (Ruigrok & van Tulder, 1993). The contribution of psychology to the "make or buy" question can also be found in the "learning" and "cognitive" schools. These schools are not so much concerned with new organizational forms, but more with the underlying motivations of the individual manager to outsource or cooperate. In this connections, concepts like "span of control", "mental maps", or the "thought worlds" of managers may clarify the make, buy or cooperate decisions of managers. For instance, customary patterns may not be abandoned on the basis of rational information, because these patterns are consistent with the mental maps of managers. Nonetheless, cooperating with demanding clients results in a continuous adaptation of these mental maps and enhances innovation (cf. Elfring & Baven, 1994; Hamel, 1991).

The more clinical approach in this "boundary" school has produced various methods of analysis that can be applied in practice. For instance, Porter's "value chain" can be seen as a blueprint that can be used for the analysis of alternatives for internal production and contracting out. The decision protocol involved in Venkatesan's (1992) "make or buy" model is a more sophisticated method (Figure 5) by which the most important questions as well as the pros and cons are made concrete.

Figure 5. A strategic framework for outsourcing.



The dynamic capability school

The “dynamic capability” school considers strategic management as a collective learning process aimed at developing distinctive capabilities that are difficult to imitate. The theoretical basis of the “dynamic capability” school is largely based on the work of Teece, Pisano & Shuen (1992), Amit & Schoemaker (1993), Barney (1991) and Prahalad & Hamel (1990). This synthesizing school is not so much focused on developing an optimal strategy through industry and segment selection and the manipulation of market structure to create market power (Porter, 1980). Instead of using such an outside-in approach whereby the primacy lies with the environment, the “dynamic capability” school employs an inside-out approach. If markets are in a state of flux, then the internal resources and capabilities of a firm would appear to be a more suitable basis for strategy formulation than the external customer focus that has traditionally associated with the marketing orientation to strategy (Grant, 1994). On the basis of a reservoir of developed capabilities and acquired resources, the firm must exploit a “distinctive competence” in different end-markets. The most important research questions for this school are:

- How do organizations develop firm-specific capabilities?
- How can organizations develop new capabilities that are complementary or substitutional to existing capabilities?
- What are the determinants of successful development routes?
- How can one determine or measure the collective capabilities of a firm?

This synthetic school is strongly based on the “resource-based theory of the firm” (Penrose, 1959; Learned, Christensen, Andrews & Guth, 1969). This approach within economics does not consider the firm as a black box guided by an entrepreneur, but as a bundle of firm-specific “resources” that can lead to superior “performance”. Although this approach originally only considered pure physical resources, a shift can be seen towards more interest in “intangible resources” and “tacit knowledge” (cf. Quinn, 1992; Itami, 1987). Besides the resource-based theory of the firm, theories of entrepreneurship have also contributed to this school (Schumpeter, 1934; Kirzner, 1973). A unique competence requires the proliferation of existing skills within the firm (Kirzner, 1973). On the other hand, the development of a new core competence goes hand in hand with the “creative destruction” of existing skills (Schumpeter, 1934). In the same way, innovation theories like Nelson & Winter’s (1982) “evolutionary the-

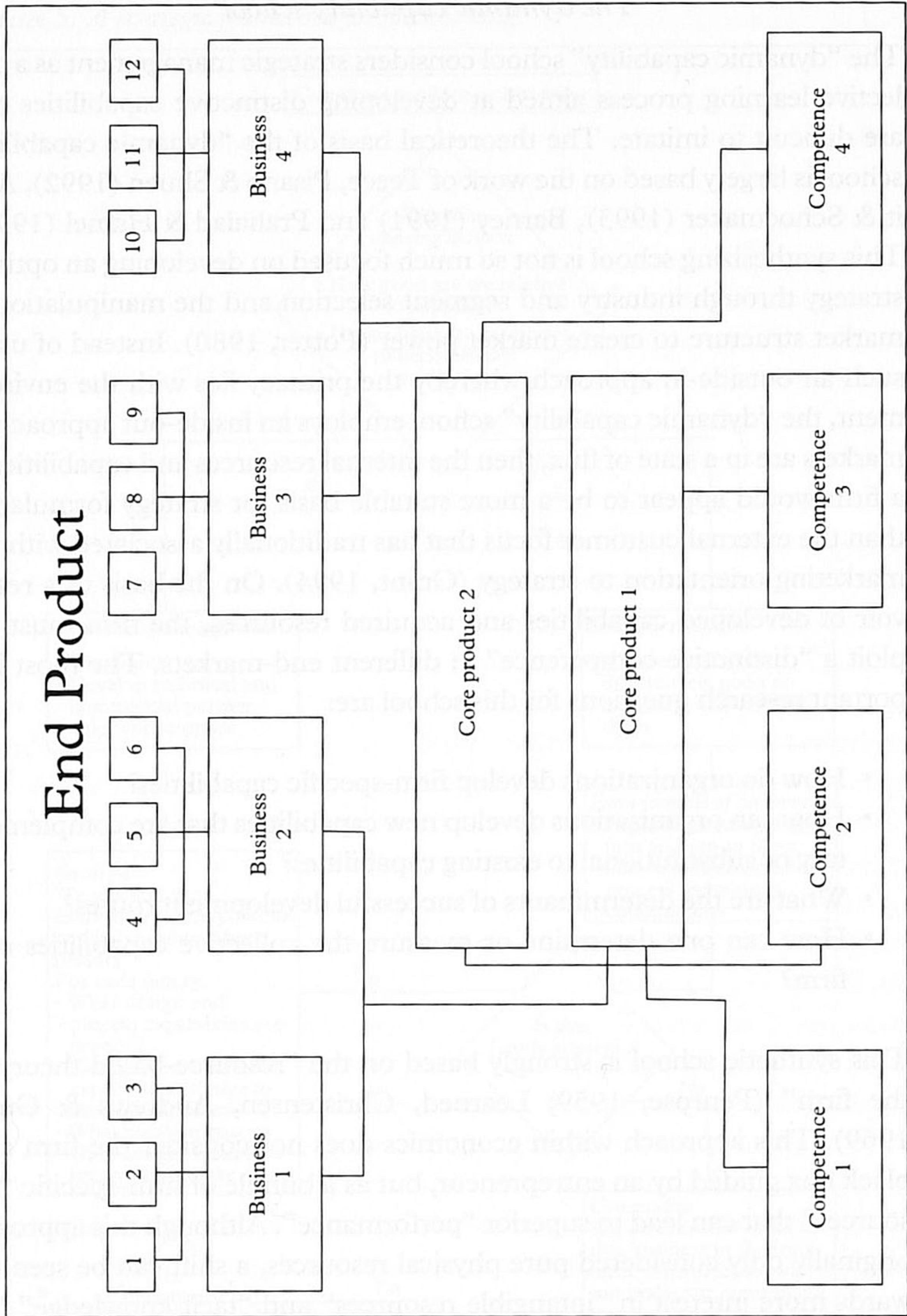


Figure 6. The roots of competitiveness

ory of economic change” state that developing skills is based on routinizing existing activities and leads to so-called “natural trajectories”. This implies that the development of skills is an incremental process. The factors that determine these incremental learning processes like the organization’s history, prior investments, and cognitive structures are sometimes called

“path dependencies” in the “dynamic capability” school. In addition to innovation theories, the synthesizing school discussed here is firmly anchored in learning theories. The development of distinctive competencies demands the accentuation and profiling of routines, which is also referred to as “single-loop learning” (Argyris & Schön, 1978). A core competence can, however, lead to a core rigidity (Leonard-Barton, 1992). For this reason, firms must be able to break the habit of existing routines and develop entirely new ones, that is to say embark upon “double-loop learning.”

The “dynamic capability” school builds on the “entrepreneurial”, “learning”, “design” and “environmental” schools. The first two schools have been thoroughly dealt with, the last two are not such a logical choice. The “design” school states that a chosen strategy is only viable when this leads to a “distinctive competence” (Selznick, 1957). The concept of “distinctive competence” laid the foundation of the “dynamic capability” school. This synthetic school is also partly based on the “environmental” school – in the sense that only those skills are developed that are selected by the internal selection environment.

The more tool-oriented and clinical approach has been developed by Prahalad & Hamel (1990). They developed “the roots of competitiveness”, a conceptual model for formulating a number of core products and end-markets on the basis of core competencies (Figure 6).

In this tree diagram, a core competence may be filled in when it passes the competence test, which means that a competence must:

- give access to a variety of markets and application areas;
- make an important contribution to the end-products, seen from the perspective of the customer/user; and
- be difficult to imitate, which holds primarily when complex combinations of skills and knowledge are formed.

Schoemaker (1992) also developed a capability matrix for the identification and development of the skills that are effective under different scenarios.

The Configurational School

This school considers strategic management as an episodic process in which certain strategy configurations dominate depending on the organizational environment. The “configurational” school was posited by Mintzberg (1990) as a collective school for all the nine distinct schools in

his classification. In each episode, a certain strategy school can dominate depending on the context. This school mainly focuses on the following research questions:

- In what environment are specific strategy configurations effective?
- What are the relevant dimensions which explain the variety of strategy configurations?
- How can an organization pass through a transition from the one configuration to the other?

The “configurational” school is mainly oriented towards explaining the variety of strategic configurations and has resulted in numerous *ex ante* taxonomies and *ex post* typologies in the form of “strategy modes”, “archetypes”, “configurations”, “periods”, “stages”, and “life cycles”. This school came to development through the work of Khandwalla (1977) who has given a systematic categorization of relevant dimensions, Miller & Friesen (1980) who have developed a typology of strategic archetypes and, of course, the work of Mintzberg (1973, 1978) himself (“strategy modes” and “organizational configurations”).

In contrast to an integrative research approach, this school does not only show interest when certain configurations are plausible but also tries to explain dynamic trajectories of change. In doing so, its work is based on socially oriented organizational sciences which, with the aid of ideal types, try to explain the variety in strategy and structure configurations (cf. Lambers, 1987; Perrow, 1986; Weber, 1946). At the same time, this school has strong roots in business history – seeing certain “business recipes” as dominant in certain periods. In this respect, Chandler (1962) in his historical research into strategy-structure configurations in large multinational enterprises has distinguished four phases (Figure 7), which were later confirmed by Rumelt (1974) and many European researchers (Stopford & Wells, 1972; Franco, 1974).

Biology also contributes to this school in the form of “dynamic equilibrium models” which indicate when certain life forms (morphostasis) are adequate and when structural transition (morphogenesis) is necessary. But also complex mathematical theories like the catastrophe theory and the chaos theory of Cybernetics II (Priogine, 1976; Maturana & Varela, 1980) give insight into when certain configurations are capable of self-reproduction and maintenance of their identity and when certain configurations are no longer viable. Miller (1982) has used the above-mentioned insights for his “quantum view of structural change in organizations”.

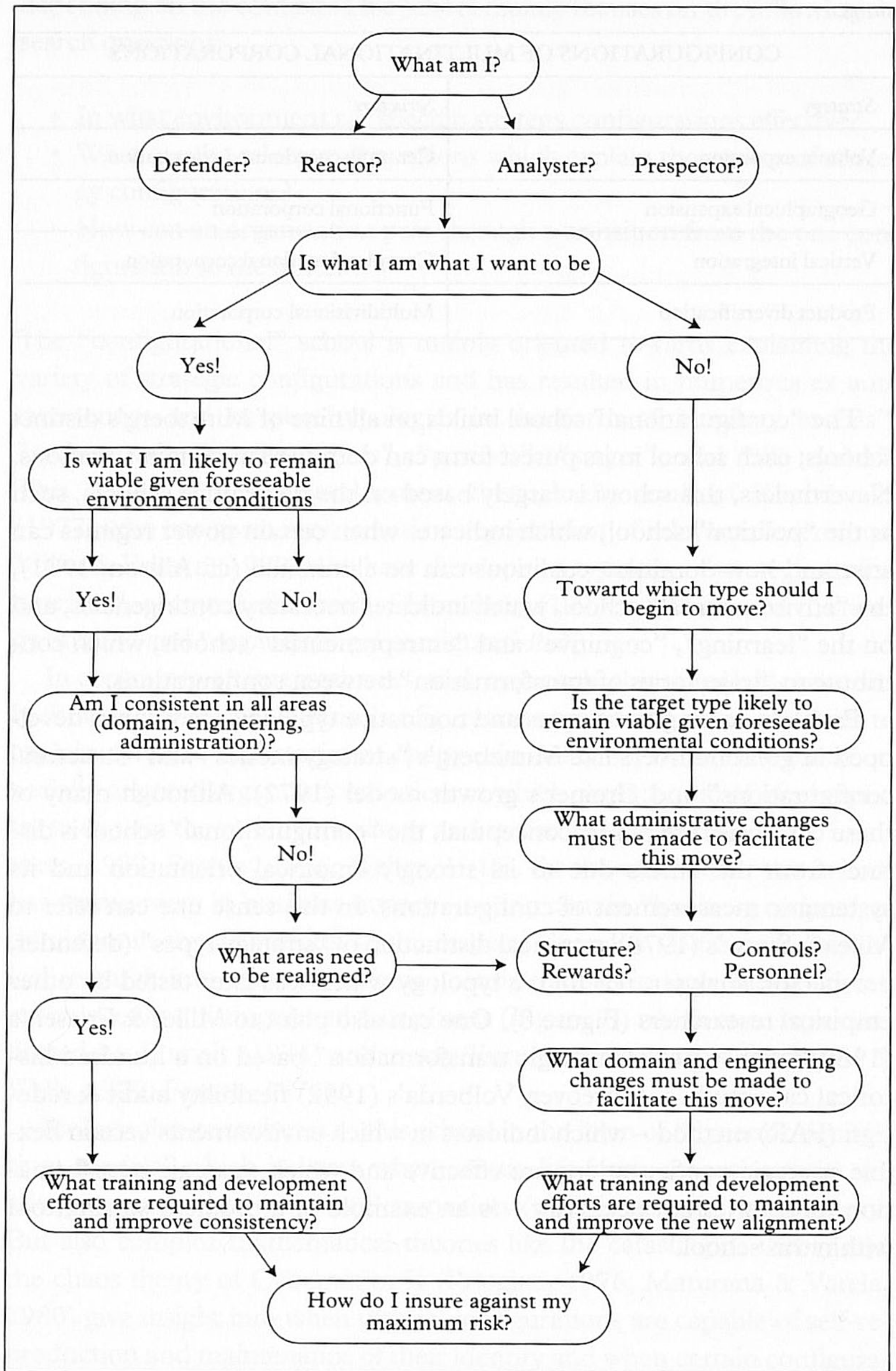
Figure 7. Chandler's Strategy-structure configurations of multinational corporations.

CONFIGURATIONS OF MULTINATIONAL CORPORATIONS	
<i>Strategy</i>	<i>Structure</i>
Volume expansion	Centrally coordinated corporation
Geographical expansion	Functional corporation
Vertical integration	Complex functional corporation
Product diversification	Multidivisional corporation

The "configurational" school builds on all nine of Mintzberg's distinct schools; each school in its purest form can dominate in certain situations. Nevertheless, this school is largely based on the descriptive schools, such as the "political" school, which indicates when certain power regimes can arise and how dominant coalitions can be eliminated (cf. Allison, 1971), the "environmental" school, which indicates necessary contingencies, and on the "learning", "cognitive" and "entrepreneurial" schools, which contribute to "trajectories of transformation" between configurations.

Problem-solving techniques and normative typologies have been developed in great numbers like Mintzberg's "strategy modes" and "structural configurations" and Greiner's growth model (1972). Although many of these categories are purely conceptual, the "configurational" school is distinct from the others due to its strongly empirical orientation and its systematic measurement of configurations. In this sense one can refer to Miles & Snow's (1978) empirical distinction of "strategy types" (defender, prospector, analyser, reactor), a typology which was later tested by other empirical researchers (Figure 8). One can also point to Miller & Friesen's (1980) "archetypes of strategic transformation" based on a hundred historical case-studies. Moreover, Volberda's (1992) flexibility audit & redesign (FAR) method – which indicates in which environments certain flexible strategic-configurations are effective and which strategic transformation trajectories are necessary – is an example of a problem-solving tool within this school.

Figure 8. A diagnostic checklist for the strategy types of Miles & Snow (1978).



Conclusions

In this paper we have systematically discussed a variety of schools of thought in strategic management. Each of Mintzberg's nine schools highlights a specific aspect of the strategy formation process. Each school of thought is reasonably delineated by the assumptions made as to its content, process and context of strategy formation. An advantage of this approach is that the added value and the specific shortcomings of each school are fairly well mapped out. There are, however, great disadvantages too. The first is that, in practice, it would appear that more than one school is used at once. This holds both for management that makes use of the insights of the various schools implicitly or explicitly and for the researchers who, when analyzing certain problem fields, base their work on concepts and instruments from more than one school. But what is more important is that splitting up the field of strategic management into nine schools of thought encourages fragmentation.

The fragmentation in the field was illustrated by considering the underlying theoretical dimensions of the schools and the various methodological perspectives applied by strategy researchers. The questions this raises are: what are the common theoretical dimensions, and are the methodological differences reconcilable? By considering various theoretical dimensions, we concluded that it is not possible to reach a certain clustering of schools of thought. Reduction of fragmentation in this way is difficult to realize. A similar conclusion was drawn with respect to the search for a common methodological perspective. In view of the clear differences, it is not likely that the fragmentation can be reduced by means of a disciplined methodological approach.

Accumulation of knowledge and further development of the central concepts in strategic management can, in many researchers' view, only come about through integration of the various schools in the strategy field. In the literature, numerous efforts have been made to develop an integrative framework to link the "body of knowledge" of strategic management and the contribution of the various base disciplines. These frameworks were often based on the complementarity principle. One set of schools is applicable in a situation of equilibrium, while the other is valid in cases of turbulence and disequilibrium. Or one school of thought is applicable to the individual while the other is oriented towards the firm as unit of analysis. The complementarity principle is, however, a rather theoretical solution because practical problems often move from one category to another. In addition, the "artificial" search processes into common dimensions

have led to theoretical frameworks that are relatively removed from the actual problems in strategic management.

In this paper, therefore, we suggested an increased effort for synthesis. Synthesis serves to integrate the three different target groups of research: the base disciplines, "body of knowledge" of strategic management and management as the user. To start such a synthesis, we provided three emerging schools of thought in strategic management: the "boundary" school, the "dynamic capability" school and the "configurational" school. Each of these synthesizing schools of thought consists of more than one base discipline and one set of problem-solving techniques in order to tackle a specific range of strategic problems. As far as methodology is concerned, the synthetic schools try to span the gap between the analytical approach and the clinical approach. These three synthesizing schools of thought are designed to neutralize the causes of fragmentation at the source. In that sense, our proposal for three schools of thought is new. It is not a repeated attempt to arrive at a meta-theory for strategic management, nor is it a classification of schools of thought that harbour inherent fragmentary powers. Further development of the three distinct synthesizing schools of thought will meet the widely experienced need to accumulate insight and knowledge in strategic management.

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