Operationalizing the Concept of Business-Level Strategy in Research

DONALD C. HAMBRICK
Columbia University

The concept of strategy continues to elude a common definition and operationalization. My purpose in this paper is to discuss alternative ways of operationalizing strategy, their strengths and limitations, and their appropriateness to different research questions. My particular focus is on business-level strategies, and I include an overview of available research questions involving business-level strategy.

The concept of strategy has emerged as central to the field of business policy [e.g., Andrews, 1971; Hofer, 1975; Schendel & Hofer, 1979] and as increasingly important to the field of organizational theory [e.g., Aldrich & Pfeffer, 1976; Child, 1972]. Strategy is generally viewed as a pattern of important decisions that (1) guides the organization in its relationships with its environment, (2) affects the internal structure and processes of the organization, and (3) centrally affects the organization’s performance. As such, strategy appears to be a concept worthy of empirical investigation and one that could be hypothesized as having linkages with many other constructs or variables.

Although empirical research on strategy has been (and is being) conducted, it did not accelerate through the 1970s at the rate many scholars anticipated. Normative and anecdotal discussions of strategy continue to outpace systematic investigation.

At the heart of the problem may be a difficulty in empirically operationalizing the concept of strategy and, more particularly, in operationalizing it in a way that is both valid and appropriate to the research questions being asked. In this vein, Schendel and Hofer placed as first on their list of some ninety research needs in the field of strategic management a call for “a definition of the strategy construct acceptable and usable by all... In particular, a definition is needed that will lend itself to measurement, comparison among firms” [1979, p. 516; emphasis added].

My purpose here is to shed light on alternative ways of operationalizing strategy, their strengths and limitations, and their appropriateness to different research questions. My particular focus is on business-level strategies (“How do we compete in this business?”), as opposed to corporate-level strategies (“What business should we be in?”). Wrigley [1970] and Rumelt [1974] have led the way in developing useful, replicable operationalizations of corporate-level strategy. However, no generally accepted approach for measuring business-level strategies has been developed. Various researchers have attempted to operationalize the concept of business-level strategy, generally with differing theories and techniques. As more researchers contemplate the inclusion of business-level strategy in their own studies, they will benefit from an understanding of some of the various approaches that have been used so far.

My thanks to William H. Newman and Charles C. Snow for their helpful suggestions on earlier drafts of the paper.

© 1980 by the Academy of Management 0033-0033

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
Available Research Questions Involving Strategy

Strategy has been viewed as a potentially powerful predictor of other organizational phenomena. Accordingly, there are no doubt many avenues of research available in which business-level strategy would play a role. As a backdrop for later discussion of alternative operationalizations of strategy, I will, in this section of the paper, highlight the number and diversity of research topics in which the strategy construct would play a role (without attempting to develop an exhaustive or prioritized inventory of research needs).

Perhaps most obvious and potentially useful to practitioners is that set of research questions inquiring into the strategy-performance linkage—namely, How do different strategies relate to organizational performance? A number of variables (e.g., nature of the industry, product life cycle, other environmental attributes) can be introduced to enrich the array of possible strategy-performance theories to be tested. Representative of such research are works by Abernathy and Wayne [1974]; Schoeffler, Buzzell, and Heany [1974]; Hatten, Schendel, and Cooper [1978]; Lenz [1978]; and Datta [1979].

A second general category of research questions is those examining the strategy-structure linkage. Chandler [1962] originated the strategy-structure paradigm, although his concept of strategy aligned more closely with a corporate-level view. Since then, Chandler’s thesis has been amply retested and reaffirmed, but each time with a corporate-level view of strategy [e.g., Pavan, 1972; Rumelt, 1974; Stopford & Wells, 1972; Wrigley, 1970]. Aside from various case studies, including Galbraith’s [1973] instructive historical study of strategy-structure alignment at Boeing, only Miles and Snow [1978] have systematically examined the linkage between business-level strategy and structure. (Various other authors have made important, but indirect, contributions to knowledge about linkages between business-level strategy and structure. These include Bums and Stalker [1961], Woodward [1965], and Perrow [1970].) Their findings indicate that single-business firms within an industry are structured differently, depending on their strategies. In addition, they concluded that structure affects strategy. This view, also usefully speculated on by Bourgeois and Astley [1978], significantly broadens the scope of potential strategy-structure research opportunities. In fact, reciprocal causality probably exists among all the pairs of constructs.

A third broad stream of research would seek to identify strategy-process linkages. Such research is closely related in outlook to the strategy-structure stream but encompasses a broader range of organizational and managerial processes. Notable among such research is that by Miles and Snow which established a linkage between business-level strategy and planning, control, and communication processes. Applying the same strategic typology used by Miles and Snow, I have tested the linkage among strategy, executives’ environmental scanning activities, and executives’ influence within their top management teams [1979]. The range of organizational processes and managerial activities that could be tested for their associations with business-level strategies appears to be substantial. One possibility, as yet untapped, would be to test the relationship between strategy and the prevalence of Mintzberg’s [1973] ten managerial roles among chief executives.

A fourth category of research would be aimed at exploring interlevel strategic linkages. Hofer and Schendel [1978] were instrumental in clarifying the key distinctions among corporate-level, business-level, and functional strategies. Later, they argued for research aimed at exploring the relationships among strategic levels [Schendel & Hofer, 1979]—namely, given a certain corporate-level strategy, what types of business-level strategies could we expect to find? What would be the mediating factors? What kinds of corporate-business-functional strategic alignments are effective? How are they achieved? Although normative literature has addressed these questions, through means-ends concepts, strategy-policy-tactics views, and master strategy/subordinate strategy frameworks, essentially no empirical research into interlevel strategic linkages has been conducted.

The last illustrative research stream to be discussed here would focus on systematically identifying and analyzing the gap between intended strategy and realized strategy. Mintzberg [1978], in thoughtful case analyses of Volkswagenwerk and U.S. policy in Vietnam, documented the potential for a gap between a strategy that is planned by a chief executive (an intended strategy) and what actually unfolds (a realized strategy). There appears to be ample opportunity to identify and systematically examine the antecedents, cor-
relates, and consequences of such gaps across larger samples or organizations. To do so, as to pursue any of the kinds of research discussed, requires some operationalization of the strategy construct.

The knowledgeable organizational researcher will readily identify other important possibilities, such as inquiry into linkages between environment and strategy, values and strategy, goals and strategy. The research topics highlighted here are intended to provide a sequenced array of relatively familiar frameworks (strategy-performance) and relatively untested frameworks (intended vs. realized strategy).

Obviously, research into business-level strategy is not limited to simple pairs of constructs as portrayed here. Any combination of constructs can be investigated. For example, systematic inquiry into the interactive effects of strategy, structure, and process on performance readily comes to mind. In some investigations, strategy may be a predictor variable, in others a mediator variable, and in others a criterion variable. This potential for various uses of business-level strategy in research, and the generally recognized complexity of strategy, suggest that no single operationalization of the construct will readily emerge as universally useful.

**Alternatives for Operationalizing Business-level Strategy in Research**

Research on business-level strategy has involved basically four different approaches to operationalizing the construct. First, some researchers have viewed strategy as a situational art that can best be studied through in-depth case studies. Strategy, in turn, is characterized textually, and no attempt is made to measure strategic behavior. Other researchers have relied on one or a few key variables to portray strategic behavior. Examples are studies that have viewed market share as the dominant strategic variable, or studies that have focused on a limited number of strategic variables in a single functional area—e.g., marketing. A third group of researchers has viewed strategy as a quantifiable interaction of a broad set of variables. Typically, a regression analysis is carried out to determine the effects of the various combinations of variables on organizational performance. The fourth and perhaps most recent approach to operationalizing business-level strategy is through strategic typologies, in which each strategic type is viewed as having its own distinct pattern of characteristics.

In the remainder of this paper, I will provide a more detailed discussion of these four approaches—their strengths and limitations.

**Textual Descriptions of Strategy**

The case-study origins of the field of strategic management have been amply discussed by other writers. Therefore, I will move directly to a summary of the strengths and limitations of textual descriptions of business-level strategies, which typically accompany case-study research.

The business policy faculty at the Harvard Business School have written hundreds of cases involving business-level strategies, from which have emerged their prescriptions about strategy formulation [e.g., Christensen, Andrews, & Bower, 1978; Uyterhoeven, Ackerman, & Rosenblum, 1973]. Typically, such business-level strategies are not measured but rather are described in a comprehensive textual fashion. When cases are used in an attempt to build theory, they similarly involve qualitative descriptions of business-level strategies.

An attraction of textual characterizations of strategy is that they may be used when strategy is treated as a predictor, mediator, or criterion variable in a research design. For example, Hosmer's [1972] study of the start-up strategies of three graduate schools of management linked selected strategies to the strengths, weaknesses, opportunities, threats, and political considerations perceived by the strategists at the schools. In this sense, Hosmer was viewing business-level strategy as an outcome—a criterion variable. Hosmer went on to examine qualitatively how these matches of contexts and strategies affected the subsequent performance of the schools. In this sense he viewed strategy as a mediator variable. Galbraith [1973], in his qualitative study of the effects of changes in business-level strategy on structure at Boeing, was viewing strategy as a predictor variable.

Textual operationalizations of the strategy con-
The question that remains in the market share studies is one of discretion. Namely, can strategists choose their market share? Is market share a strategic variable or a given? On what factors does it depend? It also appears that using market share as a reflection of business-level strategy still begs the question “How does this firm compete in this business?” Market share seems to be an important, but limited, way of measuring or characterizing business-level strategy.

Another set of studies has focused on what amount to functional strategies—primarily focusing on key marketing or R&D variables. For example, Utterback and Abernathy [1974] and Christensen [1977] have focused on different aspects of R&D strategy and their relation to organizational performance. Udell [1972] and Datta [1979] studied the marketing-oriented aspects of strategy and their relationships with performance.

These views of strategy are typically accompanied by relatively reliable measurement of the key variables, since the researcher is drawn to the more quantifiable of those available. Because such research typically involves only one or two 'key strategic variables, usually on interval scales, these partial operationalizations of strategy can be used meaningfully as predictor, mediator, or criterion variables. The apparent limitation of such a view of strategy is that it does not capture the breadth of decision areas that constitute strategy. The greatest usefulness of such research may be that it allows close, relatively precise, study of a limited array of strategic variables that, when better understood, can be more cogently incorporated into comprehensive theories and measures of business-level strategy.

**Multivariate Measurement of Strategy**

Early research in the various functional areas provided a foundation for later investigators who were interested in building multivariate representations of business-level strategy. These more recent researchers were able to generate an inventory of potentially important strategic variables and test the relationship of these with other constructs—generally organizational performance. Primary examples of such researchers are Schoeffler, Buzzell, and Heany [1974]; Hatten, Schendel,
and Cooper [1978]; and Lenz [1978].

Students of strategy and marketing are familiar with the PIMS studies [Buzell, Gale, & Sultan, 1973; Schoeffler et al., 1974]. Published findings from the PIMS data base have reported cross-tabulations in which combinations of two or three variables (often including market share) are viewed in terms of their relationships to return on investment. PIMS makes available to its industrial subscribers the software option of regressing all combinations of the dozens of available environmental and strategic variables against various performance measures.

The studies of Hatten, Schendel, and Cooper [1978] and Lenz [1978] also used a regression method in which environmental and strategic variables were regressed against ROI. (The former study was conducted with the brewing industry, the latter with savings and loan associations.)

Unlike the partial operationalizations of strategy discussed above, the multivariate approaches take a comprehensive view of the construct. Marketing, manufacturing, financial, R&D, and personnel variables can all be entered into a data base for regression against some criterion. However, such an approach runs the risk of missing the concept of a central thread or internal logic underlying a strategy. The regression coefficients may have statistical significance, but may indicate no apparent logical linkages among the various independent variables. In fact, the regression results point to the statistical effect of each independent variable on the criterion, but they are neither calculated from nor suggestive of "strategies, as normativists would use the term.

Because multivariate modeling relies on relatively large data bases, one would think that an asset of the approach would be the generalizability of its results. However, Hatten, Schendel, and Cooper used the multivariate approach to demonstrate that even within a single industry, clusters of firms can be observed to have quite different relationships between various strategic variables and performance. From the original sample of 13 brewing firms in their study, as many as 7 distinct clusters emerged, divided primarily according to whether the firms were national, regional, or local. Thus, although the multivariate approach to strategy pinpoints interwoven statistical associations, its results are not necessarily generalizable.

A multivariate analysis is most useful when strategy is viewed as a predictor construct in a research design. As already noted, the researchers who have used such an approach have primarily attempted to identify how combinations of strategic variables predict performance. A multivariate operationalization of strategy would have limited use as a mediator variable. A regression formula would have to be calculated for each state of nature for the predictor variable (e.g., growth industry, mature industry, high capital intensity, low capital intensity). Such a research design is economically feasible if the predictor variable is nominal or univariate. Multivariate operationalizations of strategy appear to have little or no usefulness as criterion variables in research designs. Thus, if a researcher were interested in longitudinally testing the effects that different managerial values have on business-level strategy, a multivariate view of strategy could not be applied meaningfully. The effects of values on individual strategic variables, viewed alone, could of course be tested.

Multivariate measurement of business-level strategy has been done exclusively in studies of realized strategy. There is no apparent reason why multivariate measurement of intended strategies (based on questionnaire or scaled interview data from executives) could not be done as well.

**Typologies of Strategies**

Recently, two notable attempts have been made to empirically establish typologies of business-level strategies. One, developed by Miller and Friesen [1977], does not distinguish between corporate-level and business-level strategy, but it encompasses elements of both. The authors used Q-type factor analysis to determine ten strategic types (or "archetypes") based on their quantified assessment of 81 published business cases. The variables that entered into their factor analysis included dimensions of strategic content (e.g., product-market innovation) and strategic process (e.g., centralization). Each of the ten archetypes (six successful, four unsuccessful) was labeled according to the scores of its member firms on five
key factors. For instance, the “impulsive firms” (one of the unsuccessful archetypes) had high heterogeneity, high dynamism, low intelligence/rationality, high centralization, and high risk-taking temperament. The “stagnant bureaucracies” (another unsuccessful category) had low heterogeneity, low dynamism, low intelligence/rationality, moderate centralization, and low risk-taking temperament. Thus, each of the ten empirically derived archetypes had its own fairly comprehensive strategic profile.

Miles and Snow [1978] originally developed their strategic typology to help explain differences among textbook publishing firms they studied. They later extended, verified, and applied the typology in several other industries. The primary dimension underlying their typology is the organization’s rate of product-market change. For example, organizations that rarely change their products or markets are Defenders. Those that readily and frequently alter their products and markets are Prospectors. Analyzers represent an intermediate category, and Reactors are inconsistent in their approach to product-market change. Miles and Snow have enriched their typology beyond a one-dimensional classification scheme by documenting the coalignment of numerous other variables with the key product-market change variable. For example, Defenders tend to compete primarily on price, delivery, or quality; they invest relatively large sums in process engineering; they have relatively mechanistic structures and processes; and they are run primarily under the influence of production and accounting executives. Organizations in the Prospector, Analyzer, and Reactor categories similarly have their own comprehensive profiles.

It is the degree of comprehensiveness, or integrative pattern, that distinguishes typological operationalizations of strategy from the partial view of strategy discussed earlier. Even if there is a single dominant underlying dimension to the typology, such as with the Miles and Snow typology, the overall profile of a given strategic type moves it beyond a univariate description. In this vein, Miller and Friesen wrote,

Archetypes appear to represent a set of relationships which are in a temporary state of balance. The administrative situations which are described seem to form a number of gestalts. There is something holistic and ordered about the patterning of environmental, organizational, and strategy-making behavior attributes [1977, p. 264].

Empirical determination of a strategic typology, such as that pursued by Miller and Friesen, seems a useful research goal in itself. Perhaps more such endeavors should be attempted, especially in light of the many prescriptive typologies offered by textbook authors [e.g., Glueck, 1976; Hofer & Schendel, 1978]. Applying factor analytic techniques to the PIMS data base, for instance, could provide important evidence as to the existence of recurring but distinct patterns of strategic behavior in business units.

Using a strategic typology to study linkages with other variables can be problematical. But the researcher may test for the association between strategic types and other variables that did not constitute the basis for typing in the first place. For example, statistical tests could be used to determine the association between Miller and Friesen’s strategic types and, say, relative price or product quality (dimensions they did not examine). If strong associations emerge, the typology takes on new richness: the descriptions of some or all of the types can be expanded.

Any typology will have limited applicability. For example, the Miles and Snow typology may not apply in some industries and may have serious limitations in others. And although typological operationalizations of strategy will generally be subject to the statistical limitations placed on nominal variables, it appears feasible to apply such an approach when strategy is viewed as either a predictor, mediator, or criterion construct. The primary strength of typologies is that they endeavor to capture both the comprehensiveness and the integrative nature of strategy. For this reason, they are especially suited for concisely communicating concepts of strategy to students and executives. Their usefulness in research is still open to question and clearly will vary according to the research question asked and the characteristics of the particular typology applied.

Summary

A summary of the applicability, strengths, and limitations of the four approaches for opera-
ationalizing the construct “business-level strategy” in research is presented in Table 1. The table suggests that no one approach is totally superior or inferior. Rather, the appropriateness of each approach is a function of at least three sets of factors:

1. How refined is present understanding about the question(s) being researched? Is the study directed at theory building, theory testing, or a combination of the two? At this point in the research stream, is the investigator interested in demonstrating broad generalizability?

2. What role does the strategy construct play in the investigator’s research design? Is strategy viewed as a predictor, mediator, or criterion variable?

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Four Approaches to Operationalizing Business-Level Strategy in Research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Textual Descriptions of Strategy</td>
</tr>
<tr>
<td>CRITERIA</td>
<td></td>
</tr>
<tr>
<td>Goal of the Research</td>
<td></td>
</tr>
<tr>
<td>Theory Building</td>
<td>useful</td>
</tr>
<tr>
<td>Theory Testing</td>
<td>not useful</td>
</tr>
<tr>
<td>Demonstrating Generalizability</td>
<td>limited use</td>
</tr>
<tr>
<td>Improving Measurement Reliability</td>
<td>not useful</td>
</tr>
<tr>
<td>Role of Strategy Construct in the Research</td>
<td></td>
</tr>
<tr>
<td>Predictor Variable</td>
<td>useful</td>
</tr>
<tr>
<td>Moderator Variable</td>
<td>useful</td>
</tr>
<tr>
<td>Criterion Variable</td>
<td>useful</td>
</tr>
<tr>
<td>Investigator’s View of the Strategy Construct</td>
<td></td>
</tr>
<tr>
<td>Intended Strategy</td>
<td>useful</td>
</tr>
<tr>
<td>Realized Strategy</td>
<td>useful</td>
</tr>
<tr>
<td>Strategy is Comprehensive</td>
<td>useful</td>
</tr>
<tr>
<td>Strategy is Integrative (has an internal logic)</td>
<td>useful</td>
</tr>
</tbody>
</table>

573
3. What is the investigator’s theoretical definition of strategy? Is strategy viewed as a set of outcomes or a set of intentions? Is strategy viewed as comprehensive and multifunctional, as having an internal logic?

Researchers’ answers to these questions will vary. Their task is to achieve an alignment or match between what they are trying to do with the strategy construct and how they operationalize it. In turn, we conclude that there is no “ideal” way of operationalizing the strategy construct.

In the first part of this paper I presented a sampling of possible research topics involving the strategy construct. Readers may wish to mentally apply the above three factors to their own vision of more specific versions of those research topics to determine the most appropriate approach to operationalizing strategy.

Scholars have questioned both the legitimacy [e.g., Dill, 1979] and the research usefulness [e.g., Weir, 1979] of the strategy construct. To some extent, these objections may have stemmed from previous researchers’ unclear conceptions of strategy, careless operationalizations of strategy, or mismatches among the concept, method, and the research question being addressed.

Apparently because of this imprecision and carelessness, Schendel and Hofer [1979] called for a single definition of strategy that would allow a generally acceptable way of measuring strategy. Their aim seems laudable, and the state of the field may be advanced when it is achieved. However, we cannot expect their aim to be achieved soon, given the diverse perspectives of strategy scholars and the broad array of applications of the strategy construct. Furthermore, we must hope their aim is not achieved prematurely, before various conceptions and operationalizations of the strategy construct have had a critical airing.

REFERENCES


Donald C. Hambrick is Assistant Professor of Business in the Graduate School of Business, Columbia University.

Received 12/28/79

575