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Strategizing Before Strategic Decision Making

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Abstract. Processes of strategic problem formulation are not only core to strategic decision making, but may be paramount. Indeed, one cannot even assess whether a situation is strategic until the problem has been formulated. To illustrate the importance of problem formulation, we present a case study, and after highlighting key features, explore several ways in which the case's problem could be formulated. These alternative formulations highlight how strategic decision premises can dramatically affect decision making. Problem formulation, we next advance, is intimately related to the development of theories or conjectures, especially at the group level. We therefore propose that strategizing processes are appropriately understood as vital mechanisms that can be normatively designed, taught, and used in a practical way. No single formulation process is appropriate for all situations, we note, as effective and efficient formulation processes depend on a variety of organizational and situational factors. An additional consideration arises with respect to how the problem formulation process may yield profound implications not only for developing alternative strategies and making the strategic decision, but also for implementing these decisions. Based on these insights, we describe potential research opportunities and ways to enhance teaching to advance the theory and practice of strategizing.

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Keywords: problem formulation • strategic decision making • strategy process

What is a strategic decision? The standard answer is that strategic decisions are long term in nature, have significant impacts on an organization's ability to create and capture value, involve the allocation of resources and costly to reverse commitments, take rivals' responses into account, and can positively affect returns on investments (Schelling 1960, Chandler 1962, Ghemawat 1991, Ireland and Miller 2004; see also papers in this special issue). Strategy research analyzing these kinds of decisions often uses various tools and decision-theoretic concepts such as expected value, real options, game theory, search models, Monte Carlo simulations, as well as other frameworks to guide decision makers (e.g., Kogut 1991, Rotemberg and Saloner 1994, Brandenburger and Stuart 1996, Levinthal 1997, Brandenburger and Stuart 2007). Although these tools and frameworks are no doubt important and useful, we suggest that the literature's emphasis on them can come at the expense of, and perhaps even miss completely, a deeper understanding of larger strategic decision-making challenges. If this view is correct, then the tools and frameworks used for strategic decision making could actually undermine the value created from these decisions (Mintzberg 2004).

We refer to the processes by which organizations assess their challenges, opportunities, and situations—as well as conceptualize possible alternative future states—as strategizing.[1] We maintain that strategizing comprises two kinds of processes. The first, which is rarely discussed in current literature, explores and formulates the problem in which the organization's larger strategic context and challenges are conceptualized.[2] The second generates alternative solutions (i.e., strategies) that can involve formally modeling, analyzing, and presenting alternatives to leaders so that a decision can be made. Strategic decision making, and any analysis used to inform it, therefore is at least implicitly if not explicitly predicated on strategizing because it fundamentally creates the decision premise (i.e., the problem to be solved) along with a set of strategic options that respond to the premise. Earlier literature in strategy recognized the importance of strategizing, and, although scholars made some progress in understanding it, this research stream dramatically diminished roughly 30 years ago (e.g., Lyles and Mitroff 1980, Volkema 1983) because of a lack of a strong basis in social science fundamentals.[3] Our aim in this paper is to revive interest in the problem-formulation stage of strategizing, and to begin building stronger theoretical foundations for it. Given the undertreatment of strategizing in the recent literature, especially relative to its paramount importance, we submit

that building these foundations is critical to the strategy field.

Strategic problem formulation encompasses a variety of implicit and explicit processes in which organizational members ask questions such as: What is the most fundamental problem the organization faces?[4] Which are the symptoms, and which are the corresponding root causes that together define strategic problems? What are the alternative ways of formulating those problems, and which formulation accounts for more of the symptoms? If those problems involve competition from rivals, and their likely reactions to the organization's choices, then problem formulation involves asking, What game are we playing? That is, who are the rivals, what are their alternative choices and payoffs, and how do those potential choices interact with those of our organization? These and similar questions can contribute to formulating an organization's strategic challenges and opportunities.[5]

We perceive that the strategy field's emphasis on decision-making and decision-theoretic frameworks and tools all too often leads decision makers to give short shrift to problem formulation and the design and selection of processes that produce formulations. Logically, these processes should be undertaken prior to decision making because they shape the decision premise. Yet, in the absence of a comprehensive strategic problem formulation process, leaders all too easily jump to accepting a superficial, symptomatic, or partial formulation of problems. Furthermore, they can suffer from a variety of biases and impediments that can further narrow formulation, as well as the set of alternative solution approaches, which ultimately can lead to decisions that fail to address underlying strategic issues (e.g., Janis 1972, Mitroff and Featheringham 1974, Baer et al. 2013). It is not uncommon for leaders to focus on a few problem symptoms rather than comprehensively formulating the more fundamental underlying problem. As a result, leaders can fail to grasp the full range of symptoms, miss the most fundamental strategic challenges, or misconceptualize the decision premise. This failing in turn can trigger unintended consequences and require additional attempts to more accurately characterize the problem.

In this paper, we submit that processes of strategic problem formulation are not only core to strategic decision making, but may be paramount. With respect to this special issue and as a matter of logic, one cannot even assess whether a situation is strategic until the problem has been formulated. More generally, the formulation of a problem specifies what is to be solved. To the extent that strategic situations are likely to be complex and ill-structured, with multiple interacting subproblems, nonlinearities, and feedback loops (Simon 1973, Andriani and McKelvey 2009), formulation and specification of what is to be solved is a nontrivial matter. We therefore focus our attention explicitly on problem formulation processes, as they represent the first essential step of strategic decision making (Nickerson et al. 2007, Nickerson et al. 2012).

To illustrate these concerns, we present a case study focused on the owner of a company with an exclusive citywide contract to distribute beer produced by AB InBev. The beer distribution industry is undergoing long-term changes that are reducing profitability. The owner's son proposes branching out to distribute a rapidly growing brand of tequila state-wide. After highlighting the key features of the case, we explore several ways in which the case's problem could be formulated. We then compare and contrast these alternative formulations for their impact on the strategic decision premise.

Next, we build on Felin and Zenger (2016) to advance that the process of strategizing relies on developing theories about key topics, namely, customer demand, the acquisition and transforming of resources into products and services, the efficient governance of these activities, or competition and its effect on feasible positions for a focal firm (Williamson 1985, Brandenburger and Stuart 1996). For example, a problem formulation simply stating that an organization is earning insufficient profit is not a complete formulation. The statement is insufficient because it does not reflect the details and complexity of challenges that arise from specific issues or theories of demand, acquisition and transformation, governance, or competition. We therefore emphasize that problem formulation is intimately related to the development of theories or conjectures. This emphasis is important because any business initiative is fraught with uncertainty and complexity, with important complementarities between business functions. An organization's ability to conduct definitive, robust testing and experiments with respect to all of these theories before launch is inherently limited. Therefore, problem formulations should reflect extensive and careful theorizing by leaders about each of the key topics, as well as that the chosen strategy clearly addresses the problem as formulated.

Third, we begin to explore where these theories come from. Felin and Zenger (2016) emphasize that individual cognitive processes and rounds of hypothesis testing produce strategic theories, and we agree that this is true in some cases. We maintain, however, that the more common source of strategic theories is in group-level strategizing processes. Group processes represent important mechanisms for formulating, conceptualizing, and theorizing about strategic situations, and they can vary greatly in their effectiveness. We propose that strategizing processes therefore are appropriately understood as vital mechanisms that can be normatively designed, taught, and used in a practical way (e.g., Baer et al. 2013).[6]

Fourth, we suggest that no single formulation process is appropriate for all situations. Instead, effective and efficient formulation processes depend on a variety of organizational and situational factors. For instance, effective and efficient processes may vary by the attributes of the situation (e.g., complexity, ill-structuredness, uncertainty, etc.), and dimensions of the team (e.g., level of pre-existing trust; possession of a common language, lexicon, and terminology; size and diversity of stakeholders), etc. In addition to formulating and developing solutions in teams, we note that such processes may have substantial consequences for the efficacy of implementation. Consequently, we consider how comprehensive formulation may yield, under specific circumstances, profound implications not only for developing alternative solutions approaches (i.e., strategies) and making the strategic decision, but also for implementing these decisions, which is a necessary condition for any strategy to succeed, and yet is notoriously difficult to achieve.

Finally, based on these insights, we describe potential research opportunities and ways to enhance teaching to advance strategic management through the theory and practice of strategizing. Both theoretical and empirical research on the normative design and implementation of strategic formulation processes are needed, because the ability to facilitate groups of individuals through problem formulation processes turns out to be vital to the strategic management research and teaching agendas. Hence, the theory and practice of strategizing and the facilitation of strategizing among groups hold the potential to transform the value that the field of strategy can bring to leaders and students alike.

History of Problem Formulation in Strategic Management Research

In the early formation of the strategic management field, much interest focused on decision processes, especially with respect to processes of exploring, conceptualizing, and formulating an organization's strategic challenges (e.g., Pounds 1969; Mintzberg et al. 1976; Volkema 1983, 1986, 1988). Indeed, strength, weaknesses, opportunities, and threats (SWOT) analysis, which arose from Selznick's (1957) classic work, can be viewed as one framework for exploring, conceptualizing, and formulating an organization's strategic challenges.

An important inflection point in the literature occurred in the 1970s, when Mitroff and others brought attention to the high frequency with which leaders solved what appeared in retrospect to be the wrong strategic problem (e.g., Janis 1972, Mitroff 1974, Lyles and Mitroff 1980). Mitroff and Featheringham (1974) labelled "solving the wrong problem" as a "type III error."[7] This research thus highlighted the importance of understanding problem formulation processes in the context of decision making.

In response to this interest in problem formulation and concerns about solving the wrong problem, strategy scholars introduced a variety of decision process elements, including recognition, diagnosis, solution search and development, and selection, all meant to mitigate type III error (e.g., Mintzberg et al. 1976; Kilmann and Mitroff 1979; Lyles 1981; Volkema 1983; Fredrickson 1984; Fredrickson and Mitchell 1984; Nutt 1984; Volkema 1986, 1988; Nutt 1993; Niederman and DeSanctis 1995; Nutt 1998). Unfortunately, this stream of research that emerged in the 1970s and early1980s diminished to a trickle by the late 1980s. The increasing importance of theory development in strategy journals, especially economic theory, created hurdles for a literature that was largely atheoretical, lacking disciplinary roots or microfoundations (Baer et al. 2013).

At about the same time, this initial interest in and terminology of problem formulation took an interesting linguistic turn, as the phrase "strategy formulation" became dominant in the literature. Rather than focus on formulating a strategic problem, research on strategy formulation focused on generating a solution approach (i.e., formulating a strategy). This shift corresponded with an explosion of research papers that explored strategy formulation from a variety of process perspectives. Indeed, a search of the *Strategic Management Journal* in JSTOR with the terms "strategy formulation" and "process" yields more than 600 entries. Yet, by the early 1990s, few strategy process papers focused on problem formulation and instead explored a wide variety of process-related topics concerned with the choice of strategy and factors that influence the strategic decisions. As further evidence of this shift, in 1992 the *Strategic Management Journal* hosted two special issues on strategy process (summer and winter). Of the 18 papers published in these two special issues, none focused on problem formulation and its corresponding processes.

Even with the decline in research about it, problem formulation nonetheless was recognized as a core activity in strategic decision making (e.g., Witte 1972, Quinn 1980, Shrivastava and Grant 1985) and the importance and value of problem formation to the success of decision making was well-documented (e.g., Pounds 1969; Volkema 1983, 1986, 1988, 1997). Indeed, in the context of science, Einstein and Infeld (1938, p. 95) asserted that "[t]he formulation of a problem is often more essential than its solution, which may be merely a matter of mathematics or experimental skill."[8] The strategy literature has appreciated that this lesson applies to business as well as to science.

Whereas the older literature emphasizes the importance of problem formulation for determining the premise of strategic decisions, problem formulation today receives very little scholarly attention. For

instance, a review of six textbooks on strategic management revealed no treatment of the topic, except for a half-page discussion in an older textbook emphasizing strategy process.[9] A cursory glance at the syllabi from numerous strategic management courses available online reveals a focus on the teaching of analytical frameworks, methods, and strategies with practically no content devoted to strategic problem formulation. The same can be said about syllabi for PhD courses available online. Our conclusion is that is that although problem formulation is critical for determining the decision premise—and whether a situation indeed is strategic—it receives little attention in modern strategy research and teaching.

This situation may be changing. A new literature on the processes of problem formulation may be emerging. This new literature is found in top-tier strategy journals and offers a theoretical framing and microfoundations that the early literature did not possess. It identifies biases and impediments to comprehensive formulation and offers processes and communication structures with which to overcome these impediments (e.g., Moldoveanu 2009, Baer et al. 2013, Foss et al. 2016). These papers suggest new approaches for thinking about how to normatively design processes to enhance problem formulation to mitigate if not overcome type III errors.

To explore how this more recent literature on problem formulation can advance, we first define what is meant by "problem formulation" and then offer some insight into what makes for a good formulation. We define a problem with respect to strategic management as a deviation from a desired set of specific conditions or a range of acceptable conditions. In colloquial terms, such deviations often are described as pain points. Deviations are typically characterized by a symptom or a web of symptoms recognized as needing to be addressed (e.g., Baer et al. 2013). A formulation is essentially a theory of what causes these symptoms. It can be articulated as a coherent set of statements devised to explain a web of symptoms, or as a question reflective of these explanations (e.g., How can we tackle . . .?).[10] Next, we offer a case to illustrate the definition of a formulation, how a situation can lead to vastly different formulations, and how these formulations can illuminate very different decision premises.

The Un Amor Decision

The case involves Lang Distribution (Nickerson and Tkach 2010) and illustrates the challenges of problem formulation and its effects on strategic decision making. The company was owned by Ed Lang, who had worked at the company his father started from its beginning. It enjoyed an exclusive contract to distribute beer products produced by Anheuser-Busch (AB) InBev in a major midwestern city. The company had a 48-year relationship with AB, and a strong relationship with the Bush family. Ed Lang also had a long-standing friendship with the distributor in the adjacent territory. In addition to competing citywide with distributors representing other beers, Lang also competed with two major state-wide distributors that distributed within the city.

By 2010, Lang's business was in decline. In February, Ed's son, Brian, who was three years out of college, approached him with an idea. Brian had learned that a few other AB InBev distributors had begun carrying a new and fast-growing premium tequila called Un Amor. Distilled spirits were experiencing rapid innovation and growth during this time, and Brian thought that Lang Distribution could counter the long-term decline in demand for mass market beer products by becoming the exclusive state-wide distributor of Un Amor.

When discussing the case, students almost always formulate Ed's challenge as whether he should distribute Un Amor tequila. (The case prompts students by asking if "offering Un Amor tequila is the right move for the distributorship.") This formulation usually leads to various analyses, including assessing the possibility of harming relationships with AB InBev or with the adjacent distributor, potential reactions by the state-wide distributors, operational challenges with expanding distribution state-wide, and challenges with handling high-value bottles versus low-value cans and kegs. Students thus almost always frame the central strategic issues as "to distribute Un Amor or not" and "maintaining relationships."

Another framing, however—one that can change the perception of the strategic issues dramatically—is how Lang Distribution could distribute Un Amor profitably (a few students typically formulate the strategic issue in this way). What might appear as subtle rephrasing actually leads to a dramatically different decision premise and set of analyses. What are the necessary and sufficient conditions for Lang to distribute Un Amor profitably? Following this formulation, students realize that state-wide distribution cannot be built on a single tequila product, so they begin exploring what other products may be needed to justify distributing state-wide, and how much additional revenue would be needed from them. In essence, the analysis turns into a business plan for launching state-wide distribution division and competitive interactions with the two existing distributors.

Yet a third and more comprehensive formulation is based on the recognition that Lang Distribution is a family business with a patriarch most likely in his late 60s if not early 70s—an age at which succession planning is vital. Who will be the successor and what leadership capabilities will be needed for the family business to adapt to the changing industry landscape? This formulation leads to a recognition that the

business's long-term survival will need an entrepreneur to remake or diversify the business. Ed's strategic challenge, in this formulation, is how to use the current situation to develop in Brian the capability to lead Lang Distribution into an uncertain future while simultaneously limiting potential downside loss that could threaten the survival of the current business from a novice decision maker (very few students formulate the strategic issue in this way).

These three alternative formulations present dramatically different decision premises. The first formulation highlights several problem symptoms: profitability is down and declining; other AB InBev distributors are distributing Un Amor; Ed holds dear his relationships; and the mass market beer industry is in decline. The strategic premise is whether to distribute Un Amor and the usual recommendation is to not distribute it because the revenues will not justify the costs.

The second formulation highlights that state-wide distribution requires investment in new capabilities, the cost of which is justified only by distributing multiple products, of which Un Amor may be only one. Competition with two well-established distributors is featured in this formulation, along with the challenges that liquor innovators face in getting sufficient representation and shelf space to penetrate markets. The strategic premise focuses on launching a new state-wide distribution division, and recommendations focus on whether to launch or not.

The third formulation highlights developing Brian to take over the business in the long-run: not as a manager executing a long-established, successful strategy, but as an entrepreneur who can help Lang Distribution adapt, survive, and thrive in an environment featuring structural changes in supply and demand. Here the strategic decision premise revolves around how to provide Brian with leadership experience while not harming the economic viability of the existing business (which encompasses the prior two formulations). The recommendations here focus on starting a new legal entity, separate from Lang Distribution, in which Brian is the principal. The new business could be financed by Ed, which would limit its downside risk. Brian could seek further business education to help him develop as an entrepreneurial leader.

This case study helps us illuminate how the formulation of a situation can lead to dramatically different strategic decision premises. Notably, the first formulation might be considered the wrong strategic problem, yielding a type III error. This surface-level formulation resolves neither how Lang Distribution can earn new profits, nor how it might adapt and survive over the long term in a dynamic environment with a current leader whose age may be problematic. No analytical method applied in response to this first formulation is likely to reveal the third formulation, nor possibly even the second. Moreover, each formulation shines a bright light on problem solving by illuminating vastly different solution sets to explore: launch a product or not, launch a division or not, launch a new firm as a development platform for a new leader or not. Our experience with students at various levels is that the vast majority can recognize the surface issue, but very few recognize the deeper and more strategic issues that involve costly to reverse commitments with substantial risks, and that can have a profound impact on the organization's long-term ability to survive and create and capture value. Adopting processes that spur the identification of multiple formulations can help students to escape type III error by countering their natural tendency to focus on and solve the immediate issue. Our experience with MBA students of all ages suggests that the risk of type III errors is high, suggesting that it is high for many actual leaders as well.[11] Thus, we submit that an important part of leadership development involves teaching students how to strategize before making strategic decisions.

An additional insight from our illustration is that approaching the case solely from an economic, sociological, or psychological perspective would not yield the same set of formulations and hence strategic insights. Indeed, an economic perspective alone might focus narrowly on the marginal costs and benefits of carrying Un Amor, and therefore miss issues of succession planning and capability development. A sociological perspective might focus on the network of relationships or organizational design and overlook economic factors and the need to develop entrepreneurial capabilities for future adaptations. A psychological perspective might recognize cognitive biases on the parts of father and son, but may provide little insight into other aspects of the situation. Hence, problem formulation in complex and ill-structured situations requires developing multiple formulations that are inherently multidisciplinary, and that can deliver insights beyond the contributions of any single discipline. Therefore, a focus on problem formulation may offer the field of strategic management a unique basis for claiming that it provides value beyond what is available from the disciplines—at least for complex and ill-structured contexts.

Strategizing, Theorizing, and Teams

We noted earlier that with a few exceptions, strategizing processes have not been much studied recently. One of those exceptions is Felin and Zenger (2016), who argue that the central aspect of strategizing involves arriving a theory of value for the organization: a set of hypotheses about how the organization can create and capture value in a given market(s) or an entirely new market(s):

> Economic theories of value held by managers and entrepreneurs… as animated by questions and problems, provide the underlying instruments and vehicles for

> identifying previously unseen sources of value. They reveal new possible uses and functions. . .for common objects and new combinations (Felin and Zenger 2016, p. 260).

Their theory focuses on individual-level cognitive mechanisms of human perception that, they argue, undergird theorizing in business strategy, especially processes of observation, formation of falsifiable hypotheses, further observation to refine and test those hypotheses, and so on.[12] Theories are representations of the world that guide the individual strategist in terms of where to look, what to observe, and what is salient and what is not. They emphasize that theories of value that are particularly successful are usually based on contrarian beliefs based on idiosyncratic insights about alternate possible realities. Their emphasis contrasts with the established notion that strategy involves achieving fit between the organization and a single, commonly accepted reality.

We agree with these points and add that arriving at a theory of value for the organization must rest on a robust problem formulation. Theorizing about value creation might occur in many directions. Formulating the problem to be solved gives crucial guidance on the directions in which to theorize about value creation and capture. Moreover, any business initiative is fraught with uncertainty, and an organization's ability to conduct definitive, robust testing and experiments with respect to a wide range of theories before finalizing a decision is inherently limited. Therefore, to ensure that the theory addresses the right problem, organizations must rely on extensive and careful problem formulation as a prelude to developing a theory of value for the organization.

We also concur with Felin and Zenger (2016) that theorizing based on individual cognition and contrarian beliefs is central to strategizing (see also Schumpeter 1934). We suggest, however, that social (usually organizational) processes are equally important in strategizing for most organizations, and even for entrepreneurs (Normann 1971). Although in some cases a single strategist is the relevant theorist, in more cases (especially in larger firms), strategizing occurs in groups. Indeed, even when the key idea for a new business originates from a single strategist's fundamental insight, group processes are often important in refining that idea, even altering it significantly, before it can form the basis of a successful business. Even entrepreneurs seek feedback from friends, advisors, investors, and the like, often modifying their original ideas significantly in the process.

Nevertheless, a tension remains between emphasis on individual versus group levels of strategic decision making. Individuals with breakthrough, contrarian beliefs almost by definition face opposition from others, including in the relevant social group for strategizing (e.g., fellow organization members, investors, or advisors in the case of entrepreneurs). Contrarians by definition find that many of these others cannot be persuaded, perhaps regardless of the effectiveness of the strategizing process they might initiate with them. They are then forced to shop for a different group that is persuadable. In any case, we suggest that enough important strategizing occurs in groups that a better understanding of those processes is necessary for strategy research.

Unsurprisingly, the key question that emerges with a focus on group-level strategizing is, What makes for an effective and efficient strategizing process? How should knowledge and insights from different individuals be combined to formulate problems facing a new or existing business? Some strategizing processes are effective in generating alternate problem formulations, sifting between them using logic and data, and arriving at a comprehensive formulation, but others are not. Some strategizing processes are plagued by politicking, polarization, ego satisfaction, unbalanced burdens of proof, and group biases of various kinds. Others succeed by soliciting high-quality problem formulations from group members, gaining consensus on the most compelling formulation, and only then moving to an evenhanded discussion of potential solutions.

Apple's history provides insights into the question of individual versus group strategizing, and also illustrates differences between effective and ineffective strategizing processes. Felin and Zenger (2016, p. 263) suggest that Apple's great success was due to the strategic theory that Steve Jobs himself developed, namely, that computers "need not remain the instrument of specialized experts, and that simple, elegant, approachable design could make them personal." Felin and Zenger (2016) explain that on his famous visit to Xerox PARC in 1979, Jobs was deeply impressed by the graphical user interface developed there. In contrast, senior Xerox executives did not see the value of the computer technologies developed at PARC. Jobs licensed Xerox's interface technology, mouse, and other computer technology on extremely favorable terms, and on these technologies Apple Computer was built.

Missing in this treatment of Apple's history, however, is that Jobs' pursuit of his admittedly brilliant insight almost led to the firm's bankruptcy in the late 1980s. Low market share in desktop computers is widely accepted as the cause for Apple's financial distress, which was in turn due to the fact that the Macintosh computer and its operating system were incompatible with the increasingly dominant IBM PC-based computer architecture. The IBM PC architecture was initially preferred by business customers, and later consumers, because more software applications (such

as a spreadsheet program) were available for it. More software applications were available for the PC in turn because the system was open to third-party application developers, whereas Jobs insisted on keeping the Apple architecture closed to third parties.

Now, the story of how Apple came to maintain its closed system despite mounting evidence that it was harming the company provides insight into what constitutes an ineffective strategizing process. According to a detailed journalistic account by Carlton (1997), during the 1980s several executives made presentations to Apple's top management with options for how to increase Apple's market share by stimulating its adoption as a standard in the industry. These options included opening the architecture by providing application programming interfaces (APIs) to third-party developers, licensing the graphical user interface to others, allowing the Macintosh to be cloned, and the like. As Carlton (1997) explains, Jobs and his chief engineer Jean-Louis Gassée "shot down" each of these proposals, and in one case essentially demoted one of the presenting executives as punishment for his dissent.

What made this kind of strategizing process ineffective was not its outcome (which threatened Apple's survival) but rather the rules of engagement under which it operated (Argyres and Mui 2007). Whereas those executives who presented cases for making Apple technology a standard backed their cases with compelling problem formulations, supported by logic and extensive evidence, according to Carlton (1997), Jobs and Gassée were not asked to back their own positions with comparable problem formulations, data, and logic. They merely rejected the proposals based on statements of their own preferences for elegant computers unsullied by third parties; importantly, under the strategizing process in place at Apple at the time (led by Jobs), Jobs and Gassée were not obligated to present a different formulation of the problem facing Apple at the time. The burden of proof fell disproportionately upon the dissenters to formulate the problem and provide solutions. Because the strategizing process at the group level was characterized by an unbalanced burden of proof, Jobs' brilliant strategic theory almost went unrealized. Thus, the Apple story, we submit, suggests that group strategizing processes are important in determining firm performance, even when individual-level strategizing is important as well.

One way to reconcile these two views (the single strategist as theorist versus group strategizing) is to consider that the relevance of each for an ill-structured situation may depend on a key contingency, namely, problem complexity. As illustrated in the Apple case, and in many other cases, a successful venture often begins with a simple, elegant insight that occurs to the entrepreneur but not to others, or that others have considered and rejected. The view of the strategist as an individual theorist who arrives with a simple but contrarian belief helps to explain the kind of strategizing discussed by Felin and Zenger (2016). However, when problems are more complex, requiring deep analysis from multiple perspectives, the kind of group strategizing processes we emphasize come to the fore. Certainly, the problem of whether and how to make the Macintosh/iOS an industry standard circa 1988 falls into the category of a complex problem, requiring consideration of many perspectives, alternate problem formulations, and comparative analysis of solutions.

Strategizing Processes

What makes for an effective strategizing process? The organization behavior and management literatures have long examined group decision-making processes, albeit mostly focused on processes for solving given problems rather than formulating new ones.[13] We suggest that much can be learned from this literature for understanding strategizing. Yet, several elements of these insights must be modified to account for differences between problem formulation and problem-solution processes.

The existing literature has emphasized two overarching factors affecting the effectiveness of group decision making: (1) the degree to which group members share their unique knowledge or information in the problem-solving process,[14] and (2) avoiding groupthink (Janis 1972). We add a third factor: (3) individuals evaluating strategies based on differing and often unarticulated criteria (Baer et al. 2013). Research in organization behavior has shown that group members often fail to share their unique information in group problem-solving sessions, instead offering information that is similar to that others have already provided (e.g., Wittenbaum et al. 2004). Moreover, even when unique information is shared, group members tend to focus on the shared information at the expense of unshared information (e.g., Larson et al. 1996), judging that the shared information is more important and reliable than the unique information (Wittenbaum et al. 1999, Postmes et al. 2001).

When a group is handed an already-formulated problem to solve, however, group members have at least some common basis to begin to explore the information and knowledge sets they each possess, and to assess the relevance of bits of that information or knowledge. The challenge of information and knowledge sharing becomes substantially more difficult when a group is trying to formulate a problem, rather than solve a given one. Which information/knowledge is relevant and important to the discussion becomes even more ambiguous in problem-formulation processes. Indeed, we propose that implementing a disciplined, structured decision process becomes more vitally important in problem formulation than in problem solving. In the absence of such a process, participants may fail

to realize the relevance or importance of pieces of their information/knowledge or may not be afforded an opportunity to share it.

The reasons why relevant and important information and knowledge are not shared in groups are many and complex but might be divided into three broad categories of impediments: cognitive, sociological and political-economic (for a view of microfoundations see Baer et al. 2013). Group members may approach a situation with different mental models or representations of the world—they may see things and interpret the same facts very differently. If a particular view of the world is devalued or seen as incompatible by others during a problem-formulation process, the representative of that perspective may cease to contribute, robbing the group of its unique knowledge or information. Group members may also be reluctant to share if they fear losing social status because their contributions are not sufficiently valued by others. This impediment is particularly severe when a group consists of members whose status varies widely. Group members may also be unwilling to share their unique knowledge and information in a problem-formulation process if they fear a loss of promotion chances or other economic opportunities if their own contributions contradict or otherwise weaken those of hierarchical superiors in the group. Indeed, group members may go so far as to hide or distort the information they possess to serve their own personal or parochial goals (e.g., Milgrom and Roberts 1992).

Groupthink (Janis 1972) is second major reason for poor group decision making. Groupthink occurs when members are so concerned with conformity or harmony that they avoid considering alternative viewpoints that could lead to conflict in the group. Groups subject to this phenomenon overrate their own decision-making capabilities relative to others'. Numerous individual-level cognitive biases can come into play during groupthink decision making. For example, initial information may be given undue weight in decision making (e.g., anchoring and framing biases), and information that is inconsistent with prior beliefs may be undervalued (e.g., anchoring and confirmation biases).

A third challenge to group strategizing arises if a group fails to gain agreement on the formulation of a situation. In such cases, individual team members likely possess their own unarticulated and often implicit view of the problem. These differences lead to individual evaluations of alternative strategies based on differing criteria, which naturally leads to conflict among team members. Team members are unlikely to agree if they use different criteria to assess alternative formulations in much the way that Jobs and Gassée disagreed with competing alternative strategies.

One manifestation of the absence of an appropriate group process is the tendency to jump to discussion of solutions before a problem is fully formulated. In part, this tendency stems from the cognitive orientations of individuals anxious to pursue their initial ideas, rather than thinking broadly in terms of alternative approaches to comprehending a situation. The propensity to pursue the first solution that occurs to a group member also stems from competition among group members for status as the problem-solver or the leader or the desire to personally benefit from implementation of his or her proposed strategy. Problem solving in that sense is often perceived as a race, rather than as thoughtful inquiry requiring formulation before solution. These biases become particularly important in strategizing, because mistaking a symptom for an underlying problem, or excessive focus on one symptom of a problem or one particular problem formulation to the exclusion of others, can lead to premature, and therefore mistaken, problem formulation generating type III errors.

Thus, we know from the organization behavior literature that group decision making faces the challenges of eliciting relevant, accurate, and important knowledge and information from group members, and of preventing groupthink from unduly influencing the decision-making process. These lessons certainly apply to strategizing processes, but with important differences because problem formulation is different from problem solving, especially with respect to gaining agreement of the formulation and hence criteria with which to evaluate alternative strategies. What kinds of structured processes might aid strategizing by improving information/knowledge sharing and mitigating the influence of groupthink?

To address this question, we consider a strategizing process as a mechanism, by which we mean a set of rules or protocols that motivates information/knowledge sharing by members, while inhibiting groupthink, and achieving a common understanding, if not unanimity, on the formulation of a challenge.[15] To illuminate one such mechanism, we draw on Baer et al. (2013), who introduce a process for formulating complex and ill-structured problems, a core component of which is a multistage modified nominal group technique (mNGT).

In the first stage of the process, a facilitator gains agreement on the ground rules for the decision-making process, the most important of which is to agree not to discuss problem solutions or symptom causes until unanimity[16] is achieved on a problem formulation. This first step enables the group to avoid prematurely jumping to a solution and prevents conflict stemming from differing understandings of the decision-making process by group members.

In the second stage, the facilitator asks all group members to immediately write down all of the possible problem symptoms that they believe are correlated with an initial symptom provided by the facilitator. The act of writing down these symptoms serves several

purposes. At the individual level, it helps to overcome anchoring and confirmation biases, and tendencies to jump to a solution. The facilitator then asks each member to share one symptom at a time with the group in a round-robin fashion. Each symptom is discussed and is either agreed upon or rejected by the group, and then the next member offers a symptom for discussion. In contrast with free-flowing discussions, in which some group members may feel intimidated from sharing their unique knowledge and information due to status differences or career concerns, asking each to share provides some safe space for each to contribute, which is ensured through the facilitator. In addition, free-flowing discussions are more easily hijacked by aggressive members pursuing self-interested agendas. This second step helps to ensure that important problem symptoms are not missed because of a failure to share information or lack of participation or manipulation.

The second stage of the process also requires creating a document that lists all of the problem symptoms that the group agrees are the relevant ones for the problem at hand. This document serves to build a comprehensive inventory of symptoms that can be used to develop and assess alternate problem formulations. The act of writing down the unanimous symptoms helps bind the group to explaining the full list, rather than focusing on those emphasized by one member or other (especially by higher status members). It also helps to forestall discussion of solutions before the problem is well formulated.

In the third stage, the facilitator shares the documented list of symptoms with a broader set of stakeholders outside the immediate group for feedback. This step helps to avoid groupthink and serves as a validity check on the strategizing process to this point. The list of agreed-upon symptoms is then reviewed and potentially modified based on additional information or perspective provided by the larger group of stakeholders.

The fourth stage is much like the second except group members are asked to silently write down causes of all of the symptoms, and then share these with the group in a round-robin fashion. Unanimity again is the criterion for determining the set of root causes. One difference compared with stage two is that the facilitator may use five "whys" to help ensure discovery of a true root cause that can be acted upon. A document, which builds upon the prior one, lists all of the root causes and their connection to the symptoms and is shared with stakeholders outside the immediate group for feedback.

Baer et al.'s (2013) mNGT process is only one example of a mechanism for governing strategizing processes. Other kinds of mechanisms can be designed for different kinds of strategizing processes, or for different components of those processes. For example, many strategizing processes require interviewing a wide range of organization members, beyond those in a focal decision-making group (for example, see Nickerson 2014). Rather than merely gathering facts or data that are at the interviewee's fingertips, interviewers must often gather the kinds of information and knowledge that require thought and interpretation for interviewees to produce. Structuring interviews in these cases requires designing mechanisms for motivating information sharing, and mitigating tendencies by interviewees to conform, for example, by telling the interviewer what they think the interviewer wants to hear.

Consulting firms often design process mechanisms for these purposes. For example, one mechanism for one-on-one interviewing might involve the following: (1) find personal things in common with the interviewee to build trust that interviewee answers won't be used against him or her; (2) begin with easy questions to deter defensiveness, move to more difficult questions to elicit alternative viewpoints or possibly data that the contradicts conventional wisdom in the organization, and finish with easy questions to end with positive emotions; (3) engage in "expert listening," that is, frequently summarize interviewee comments, restate them, and probe for more precision.[17] Similar kinds of protocols can be designed for facilitation processes in which a facilitator is guiding a group strategizing discussion. In these cases, a facilitator may design mechanisms to ensure participation by each group member, to avoid dominance by one or a few members, and to counter impediments to knowledge sharing stemming from status differences among group members, concerns about retaliation, and the like. Once again, our main point here is that formalized mechanisms are important for ensuring effective strategizing processes.

The value of such formalized process mechanisms was recently highlighted by two leading strategy scholars: Richard Rumelt and Jay Barney. At a May 2018 conference celebrating Rumelt's retirement, Rumelt and Barney detailed the systematic procedures they use to guide their consulting clients toward formulating problems prior to solving them and prior to crafting strategy. Both emphasized the significant time they spend on a specific process of problem formulation with their clients. The conversation was remarkable in light of the fact that both scholars are widely known for their research on strategy content, rather than on strategy process, yet they indicated that much of the value that they brought to clients was in helping them decide which strategic problem to tackle.[18]

Future Research

The lack of systematic research on strategizing processes is surprising given their centrality to the field of strategy. As mentioned earlier, early writing in strategy and management did address strategy formulation, but was unable to build a theoretical basis on which a

research program could be sustained over time. We suggest, however, that the field is to a point at which theories and boundary conditions of effective strategizing processes can be developed, and at which those theories can be tested in the laboratory and in the field. With regard to theory, we now have more systematic ways of thinking about of the impediments to information/knowledge sharing in groups and the sources of groupthink from the organizational behavior and organizational economics literature. However, many gaps in our knowledge remain.

For example, Baer et al. (2013) maintain that comprehensiveness in the number of alternative formulations is a key intermediate objective of problem-formulation processes. It is not clear, however, that comprehensiveness is always the optimal intermediate goal. Perhaps in some instances, early identification of the main case is a superior intermediate goal. We also lack a good understanding of the importance of team or stakeholder unanimity in supporting a formulation, and how it affects implementability of a strategy. Perhaps unanimity is not always needed for effective implementation. More generally, how do various problem-formulation processes affect later implementation?

In addition, whereas we have focused in this paper on processes in groups with a given set of individuals, how selection of group members affects strategizing processes is also important to understand. For example, when might the benefits of selecting like-minded individuals for a strategizing group outweigh the benefits of a group with a greater span of information and knowledge? How might this tradeoff vary based on the complexity and ill-structuredness of a problem context? And what is the role for outside consultants? Groups can also vary in their levels of pre-existing trust, possession of a common language or terminology, organizational levels represented, etc. What kinds of problem formulation processes are appropriate under these various conditions? More generally, what are the boundary conditions for various kinds of strategizing processes?

With regard to empirics, techniques for laboratory testing have advanced to the point at which theories of effective strategizing process can be tested in the laboratory. Researchers could design experiments to test alternate strategizing protocols for various kinds of decision scenarios. Which kinds of protocols best fit with which kinds of decision scenarios, where fit is assessed in terms of both intermediate (formulation) and final (strategy performance) goals? For example, how does greater comprehensiveness of problem-formulation processes compare with an alternative emphasis on expeditious identification of the main case for various decision scenarios? How are groups, with various demographic characteristics, best matched with various decisions scenarios and corresponding strategizing processes? Decision scenarios might be varied in terms of time pressure, complexity, uncertainty, cost of experimentation, location within the organization, etc.

A long-standing challenge in social science is to understand the implementability of various initiatives, policy choices, and decision processes that are identified as optimal prior to considering implementation feasibility. One reason for the challenge is that the political dynamics within organizations can be difficult to anticipate, and can add significant complexity to a decision scenario. Field research in actual organizations could help to make progress with respect to understanding implementability challenges and how alternative processes of strategizing address these challenges. Indeed, more generally, field research is an alternative approach for developing research on strategizing processes. The classic work of Allison (1971) on the Cuban Missile Crisis, and of Janis (1972) on groupthink, illustrate the power of field research. Data access can be difficult, however. We suggest that this difficulty can be overcome if academics join with consultants to design and carry out strategizing processes with practitioners and clients through engaged scholarship (Burgelman and Grove 2007, Van de Ven 2007). This kind of approach promises to encourage greater engagement between academics, consultants, and practitioners—engagement that has frequently been lacking. Our hope is that by encouraging strategy scholars to shift their emphasis from decision tools to strategizing processes, more common ground will appear on which to engage with consultants and practitioners.

Conclusion

The question "What makes a decision strategic?" presupposes the existence of a decision premise, the problem to be solved along with the consideration of alternative solutions approaches (i.e., strategies). We argued that developing a decision premise requires strategizing, which refers to the processes by which organizations assess their challenges, opportunities, and situations as well as conceptualize possible future states. Although the literature's emphasis on strategic decision making is important, in this paper we maintained that strategizing may be paramount but all too often missing in theory, teaching, and in practice.

Strategizing involves two processes: one that explores, conceptualizes, and formulates the problem in an organization's larger strategic context, and one that generates alternative solution approaches (i.e., strategies) that can successfully tackle and resolve the problem. We asserted that strategic problem formulation is the more fundamental of the two processes because a problem's formulation shines a bright light on the domains in which to discover potential solutions approaches. We therefore focused our attention on processes of problem formulation.

To illustrate why problem formulation is so pivotal to the outcome of a strategizing process, we presented a case study about the owner of a company with an exclusive citywide contract to distribute beer produced by AB InBev. A key feature of the case is that his son brought him the idea of carrying a new, fast-growing brand of tequila. Through the case study, we illustrated three alternative formulations typically arrived at by students. These alternative formulations yielded profound implications on the nature of the corresponding decision premise, which highlighted the importance of comprehensive formulation as the antecedent of strategic decision making.

We built on these insights to argue that strategizing relies on developing theories about key topics like customer demand, the acquisition and transforming of resources into products and services, the efficient governance of these activities, or competition and its effect on feasible positions for a focal firm. We therefore emphasized that problem formulation is intimately related to developing theories or conjectures about the organization's context and situation. We also maintained that for many if not most situations that group processes represent important mechanisms for formulating, conceptualizing, and theorizing about strategic situations, and they can vary greatly in their effectiveness. We therefore proposed that strategizing processes are vital mechanisms that can be normatively designed, taught, and utilized in a practical way.

We argued that no single formulation process is appropriate for all situations, and described a protocol developed from theory, and from practice by leading scholars in the strategic management field. The illustrations then opened a discussion of potential research opportunities from both theoretical and empirical perspectives. We offered several avenues of future research that can advance our understanding, design, and use of formulation processes to advance the field of strategy by strategizing before strategic decision making.

Our perspective has several consequences for the study of strategic decision making. First and foremost, we maintain that analytics does not and cannot substitute for engaging in inquiry to formulate the challenge or opportunity at hand. In fact, the more we as a field teach or place emphasis on analysis and crowd out inquiry and problem formulation, the more we may give false confidence to our students that they are good strategic decision makers.

Second, building on the microfoundations of problem formulation suggests a new path for research in strategy and the teaching of strategic decision making. The reawakening of research into problem formulation invites scholarship that draws on interdisciplinary perspectives from governance, organizational behavior, psychology, and sociology, as well as in more pragmatic areas like group facilitation, in integrated and novel ways. Whereas facilitation and processes all too often are viewed in the strategic management field as practitioner focused and not appropriate for academic inquiry, we believe that they may be closer to the heart of strategic management than most scholars think. We submit that these areas (like facilitation and formulation process design) are worthy of academic research to advance theoretical as well as practical development in problem formulation. With advances, we envision courses in strategic decision making that differ dramatically from today's standard fare. The courses would focus more on inquiry and formulation and correspondingly reduce their focus on analytics, although analytics will remain an important dimension of courses as decisions ultimately must be rendered. Students would learn these processes of inquiry and practice them through repeated role play (i.e., cases that involve multiple roles with each role possessing different information, knowledge, and motivation) and experiential learning.

Third, a focus on the practice of inquiry and problem formulation may contribute to a shift from the terminology and practice of management to leadership in the field of strategic management. We maintain that whereas different types of leadership may exist, common and central to every type of leadership is the need to engage in inquiry and formulate strategic challenges and opportunities. Surprisingly, the study of leadership in organizations (e.g., Yukl 2010) is practically devoid of any discussion of inquiry and the formulation of strategic challenges either on an individual basis or through teams. Hence, research on problem formulation, especially in teams, may enable scholars to contribute to strategic leadership in a new, useful, and valuable way that leadership scholars have overlooked.

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Endnotes

[1] Williamson (1991) used the term "strategizing" to describe firms that seek market power. Our use of the term here is much broader. Indeed, our definition includes processes that may lead to an emphasis on efficiencies of various kinds rather than just on market power, for example. Because of its active tense, we believe the term "strategizing" is better reserved to describe processes rather than outcomes.

[2] Consistent with this point, Rumelt (2011) explains that "good strategy" requires identifying a challenge that the organization is facing.

[3] In personal communications, Marjorie Lyles and Ian Mitroff, who were among leaders in this stream of research, suggested that by the mid-1980s, the changing requirements for acceptance into top-tier journals may have been one reason why research publications in the problem-formulation stream diminished in frequency. The strategy

literature continues to occasionally discuss "wicked" or "intractable" problems (e.g., Camillus 2008) but the focus has been on heuristics and problem solving (e.g., Bettis 2017, Bettis and Hu 2018) and on individual cognition (e.g., Menon 2018) rather than on organizational problem formulation processes. Literature in organizational behavior on group decision making is in many ways relevant to the study of strategizing, as we discuss later. However, research in organizational behavior has focused on problem solving instead of strategic problem formulation per se.

[4] We use the term "problem" as a synonym for challenge, opportunity, or situation. Although some may argue that "problem" imposes a negative framing, we maintain that opportunities to create value derive from finding a solution to a problem for which a customer has a willingness to pay, and that exceeds the cost of delivering a solution.

[5] Scenario planning can serve as one component of strategizing processes. Yet, scenario planning is distinct from problem formulation because choosing a domain in which to develop alternate scenarios presupposes prior problem formulation activity. Scenario planning addresses longer-term challenges emanating from the firm's broader environment, that is, challenges lying beyond "the immediate business environment an organization inhabits" (Ramirez et al. 2017, p. 1). By contrast, problem formulation is concerned with immediate challenges in the firm's current industry environment, as well as with future challenges.

[6] Importantly, we assert that group problem formulation processes likely are not identical to group problem-solving processes. Whereas the latter have received much research attention, especially from group researchers, the former has received surprisingly little consideration (Baer et al. 2013).

[7] Mitroff and Featheringham (1974) were not the first to introduce the term "type III error." References to type III error first appeared shortly after World War II (for example, see Mosteller 1948, p. 61; Kimball 1957, p. 134).

[8] A similar quote is attributed to both John Dewey, an American philosopher, psychologist, and educational reformer, and Charles F. Kettering, an American engineer, inventor, and businessman: "A problem well-stated is half solved."

[9] The textbooks examined were Barney and Hesterly (2012), Carpenter and Sanders (2009), David (2015), Grant (2016), Mintzberg et al.(2002), and Rothaermel (2013).

[10] Often, theories are conjectures that have not been (and in some instances cannot be) subject to conclusive testing.

[11] Mitroff and Silvers (2009) provide another example of type III error. In 1999, Coca-Cola was forced to recall 30 million cans of soft drinks after consumers complained of headaches and nausea. Following an investigation at its Belgian plant, the company determined that substandard carbon dioxide (a relatively innocuous issue) was the problem and blamed mass hysteria for the customer reactions. The company assumed that this response would stabilize sales, but instead Coca-Cola suffered large sales losses as four European governments banned its products. Coca-Cola failed to formulate the problem as one of both production quality and validating and reassuring customers.

[12] In a randomized control trial, Camuffo et al. (2017) found that entrepreneurs who received training on how to pose and test hypotheses about their start-ups outperformed those who did not.

[13] Examples include the literature on brainstorming, e.g., Diehl and Stroebe (1987), Jablin (1981), Mullen et al. (1991), Paulus and Dzindolet (1993), Paulus et al. (1995), Taylor et al. (1958).

[14] Here we think of "information" as data or facts, and "knowledge" as understanding of cause-effect relationships, such as how various problem-solution pairs map to outcomes.

[15] Protocols differ from heuristics and algorithms. Heuristics are rules of thumb often loosely defined; they are useful for making quick decisions. Algorithms are a highly specified processes or a set of rules often followed by a calculation. Protocols are also a set of processes or set of rules, but are focused on how to exchange information or knowledge, or to follow a prescribed series of behaviors. Hence, protocols are useful for governing the interactions among actors.

[16] Unanimity differs from consensus. Whereas consensus typically is defined in economics and political science as a majority voting rule, in practice consensus often means that team members are unwilling to actively resist a proposal. This latter definition can lead to passive resistance and a lack of ownership and commitment to a proposal, which can undermine agreement on a strategy as well as its implementation. A unanimous voting rule means that all parties agree. In practice, unanimity can also imply ownership of, and commitment to, a decision, which facilitates its implementation.

[17] Nickerson (2010) is an illustration of a process mechanism that can be used by a consultant to find, frame, and formulate an organizational problem. A copy of the process protocol is available upon request.

[18] Based on conversations with consultants working in strategy consulting firms, we believe that many such firms maintain their own strategizing processes that are proprietary and therefore not available for researchers to analyze. Rasiel (2002) presents some frameworks used by McKinsey to structure problems, but does not describe the organizational processes it uses to do so in any detail. Rasiel (1999) mentions brainstorming briefly, but again does not describe any formal processes.

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