The "problem" of creating and capturing value

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Introduction

Although the strategy field encompasses myriad research interests, perhaps the most frequently voiced motivating question has been: "What are the sources of a firm's sustainable competitive advantage?" In recent years this has been transformed into "How can a firm create and capture value?" which reflects the understanding that competitive advantage stems from two distinct (albeit related) activities: value creation and value capture. If we reflect on the field of strategy today, however, little research seems directly focused on these broad, fundamental questions.

Strategy research departs from these questions in two ways. First, although strategy scholars pay lip service to the notion of value creation, the vast majority of strategy research has focused on value capture and underemphasized the challenge of crafting organizations and strategies that continuously create value. In lieu of systematic understanding, "luck" is regarded as a primary source of value creation in much of the literature. Second, the typical study in strategy focuses on a "strategic tactic" – a single input to the process of strategy development. How should the firm manage its network of relationships? Where should the firm locate activity X? How should the firm organize activity Y? In essence, strategy research has moved away from the field's foundational questions to focus on tactical decisions to be made under definable circumstances.

Re-emphasizing the strategic question of value creation highlights the unique and central role that organization plays in crafting strategy. If the objective of the firm is to create or increase value, then effective strategy and organization cannot merely entail establishing a competitive advantage (Porter, 1996), but rather must entail a constant search for entirely new rent streams -- in essence, a steady stream of competitive advantages. Hence, strategic management is as much about crafting an organization that can readily

identify new value opportunities (and build strategies to appropriate that value), as it is about discovering a singular strategic position that delivers sustained competitive advantage. Firms that are effective at creating value make their own luck, by crafting strategies *and* organizations that provide paths for new value creation. More precisely, value creating firms relentlessly uncover "strategic problems" to solve, whether embedded with customers (or potential customers), with suppliers, or within their own firms. For us, this agenda of relentless and deliberate value creation is the unique contribution of strategic organization.

In this essay, we hope to plant the seeds for a new approach to research in strategic organization. Our agenda is three pronged. First, we propose that the problem-solving perspective (PSP) offers a particularly effective lens for an emphasis on value creation. The PSP takes elements of the "problem" as the unit of analysis for the study of strategic and organizational questions, and decomposes managerial challenges into problem identification, search for problem solution, and creation of strategies for appropriating returns accruing to the solution. To the extent that problem identification overlaps with value creation, the PSP can fruitfully guide research in this area. Second, we lay out our assessment of the key theoretical elements necessary to understand problem identification. The primary requirement is that strategy scholars pay more heed to *processes* that enable actors to deliberately find new sources of value instead of relying on luck to do so. Central to the perspective is recognition of organizational processes that overcome biases -- cognitive, motivational, and informational -- that contaminate the finding of new sources of value. Third, we make some initial steps at developing a research roadmap by categorizing various problem identification processes and proposing guideposts for systematic research on this question.

Identifying a problem occurs in ways other than in the deliberate approach described. For instance, serendipity can occur. Alternatively, some problems are identified collectively through a process of social construction (Schneider 1985). In other instances solutions may be in search of or may even create problems (Cohen et al. 1972). While we acknowledge these and other alternative mechanisms for identifying problems, our focus is on the deliberate category described below.

We first introduce our perspective on deliberate value creation, drawing on the PSP. We focus primarily on problem identification because, similar to value creation, it has been relatively under-emphasized in the extant literature. We provide an overview of the importance of decision-making processes that underlie problem identification as well as the link between problem identification and rent generation. We next note commonalities between this approach and organizational learning, elements of Austrian economics, and dynamic capabilities, but argue that the PSP lens offers a more comprehensive approach to value creation than the alternatives. Finally, we introduce a set of questions that could give rise to a new research program to advance the study of value creation from a strategic organization perspective.

A Problem Solving Perspective on Value Creation

Deliberate Value Creation

The Problem Solving Perspective (Nickerson & Zenger, 2004) shares the assumption of the knowledge-based view that the key managerial objective is to create valuable new knowledge (Barney, 1984; Wernerfelt, 1984; Teece, et al., 1997; Conner & Prahalad, 1996; Kogut & Zander, 1992). By creating new knowledge firms uncover new means to convert inputs into valued outputs (Arrow & Hahn, 1971; Nelson & Winter, 1982). Consequently, the manager's organizational task is to craft an organization that efficiently *generates* and

protects knowledge (Conner & Prahalad, 1996; Kogut & Zander, 1992; Madhok, 1996). The manager, however, cannot specify *a priori* the knowledge she wishes to obtain, because more often than not, this knowledge does not yet exist. What the manager can instead do is identify valuable problems – those which, if successfully solved, yield knowledge that will significantly improve the organization's performance. Once a problem is identified, the manager then organizes a search for solutions that optimizes the likelihood, speed, and cost with which valuable solutions are discovered. Finally, the manager seeks to appropriate a portion of the solution's value. Central to the PSP is an attempt to understand the characteristics of problems, and of organizational structures and policies, that facilitate successful problem selection and solution. Specifically, the PSP seeks to identify a discriminating alignment between organizational forms and problem characteristics to optimally manage value creation and capture. Focusing on value creation components of PSP, we first introduce the issues surrounding problem solving and then devote the rest of our effort to a discussion of problem identification.

The key question for *problem solving* is: how can managers organize an efficient search for high value solutions to an identified problem? The efficient approach to solution search depends on the complexity or non-decomposability of the problem, the extent to which non-decomposability generates knowledge-formation hazards, and the efficacy of various governance mechanisms for encouraging searches appropriate for the level of problem complexity. Some problems can be solved through the combination of independent, modular searches, and consequently require minimal organizational control. Other problems require knowledge sharing across actors as well as coordinated search; for such problems, various forms or hierarchy are optimal to efficiently manage the attendant knowledge-formation hazards.

The key question for *problem identification* is: how can managers organize a search to identify and select a problem whose resolution can be expected to generate significant value? Although not yet fully formed, the PSP approach to problem identification examines organizational characteristics that facilitate or impede problem identification, with a strong focus on processes. It seeks to understand how various processes affect the discovery of various kinds of problems. As we describe below, in many instances organizational structures and their attendant processes have profound implications for the identification of problems. Thus, we choose problem search as an appropriate unit of analysis and study how and why processes shape the width, depth, and speed of the resulting stream of problems discovered and identified.

Of course, deliberately identifying a problem involves forethought about the firm's ability to assemble knowledge sets to solve the problem and hence create value as well as its ability to capture value from the solution. Thus, managers should not want to select problems for which they have little chance of cost effectively discovering a solution or for which their firm has little chance for capturing value. Problem choice therefore should be influenced by solution search and value capture possibilities. However, since prior research in the PSP has focused on the organization of knowledge for problem solving (Nickerson and Zenger 2004; also see Macher 2006), and much of the extant strategy literature focuses on issues of value capture, we suppress below detailed discussion of these influences.

Problem Identification: Contexts and Domains

Why is it so difficult to identify novel problems? Put differently, why can't a manager simply organize the search for a problem according to the same prescription by which she organizes the search for a solution to an identified problem? At first glance, the two search processes may appear quite similar. However, searching for a novel question or

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identifying a novel problem can entail far more uncertainty than searching for a solution. Searching for an unknown solution to a formulated problem provides at least a benchmark against which various solution attempts can be evaluated. In contrast, when searching for a problem and its formulation there exists no analogous benchmark against which to evaluate alternative problem formulations. It is not surprising, then, that Einstein and Infeld (1938, 92) claim that "[t]he formulation of a problem is often more essential than its solution. … To raise new questions, new possibilities, to regard old questions from a new angle, requires creative imagination and marks real advance in science."

The nature of searching for a problem thus frequently resembles a search for an "unknown unknown". Using the metaphor of knowledge landscapes (Nickerson and Zenger 2004, Hsieh, Nickerson, and Zenger 2007), solving a problem involves searching *on* a largely unseen knowledge landscape while searching for a potentially valuable problem involves searching *for* potentially valuable and largely unseen landscapes.

Such uncertainty does not merely increase the amount of resources necessary to search, but also qualitatively alters the type of effort required. In our view, it is precisely in such unconstrained-search contexts that biases are likely to be particularly severe impediments—impediments that contaminate efforts to discover and identify problems. These include the well-known biases of anchoring, perceptual bias, information distortion, dominance, groupthink, primacy, satisficing, and conflicts of interest, among others. Such biases, whether cognitive, motivational, or informational, if not counteracted, can contaminate problem discovery and identification, by narrowing, slowing, and making shallow the stream of problems found. Put in common business vernacular, these impediments may diminish the identification of growth opportunities and increase

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competitive threats. If not counteracted, these biases hamper problem identification processes and hinder if not halt the discovery of new problems.

Although our logic is not fully worked out, we envision that the salience of impediments with respect to problem identification varies with the nature and context of problems being sought. For instance, the search for value-creating problems that involve a reduction in manufacturing cost occurs in a context in which the type of problems sought may be more modular and local, on average, thus requiring fewer but deeper knowledge sets for their solution. In such situations, anchoring, conflict of interest, and dominance may represent the principal biases contaminating and limiting search for value-creating problems because these biases may be more likely to be present among individuals with deep but differing knowledge sets that collectively are trying to identify problems. For instance, one possibility is that in such a domain individuals with differing deep knowledge sets are likely to possess different mental models along with strong identities that lead to anchoring, conflicts of interest and the use of dominance to identify problems. In other contexts in which the problems sought are novel and, if solved, could lead to entrepreneurial opportunities or radical innovations, perceptual bias, information distortion, groupthink, primacy, and satisficing are likely to be the principal impediments that contaminate search. We imagine that the salience of these biases arises because individuals with broad knowledge sets may not be able to fully comprehend deep information and therefore distort it, happy to discover any problem and therefore latch onto the first acceptable one. At this point, these categorizations are hypothetical – no taxonomy of the relationship between the nature and context of problem identification domain and type of impediments that contaminate search has yet been fully fleshed out. Nonetheless, our reading of a variety of literatures encourages

us to believe that a taxonomy is within reach. In turn, such a taxonomy will support future research that comprehensively informs our understanding of problem identification.

Problem Identification: Processes

Just as particular contexts may be especially susceptible to particular biases, we believe that particular biases may be especially remediable through the application of particular processes. If so, then this suggests a motivating question for the study of value creation in strategic management: What processes enable the identification and selection of problems that ultimately reveal value-creating solutions for the firm? Put differently, when and under what conditions will specific processes mitigate specific impediments to effective problem identification? These questions are relatively new to strategy, although they have been raised in other fields such as the study of creativity.

By processes, we mean individual, group, or organizational activities and efforts that aid in discovering problems which, if solved, create value. Processes, by definition, comprise a set of facts, circumstances, or experiences that are observed and described or that can be observed and described and are marked by gradual changes through a series of states. This technical definition of process highlights several important elements. The facts, circumstances or experiences are, or can be, observed and described, which implies that they can be verified and monitored by participants or observers. Observability suggests that most, strictly cognitive processes, are not under consideration. Moreover, observability of the process states implies that the process can be designed, evaluated and improved upon— important features that can give rise to creating organizational advantages. Second, a process involves a series of changes, which implies that one step in a process is differentiated from another by some type of state change. A series of changes may also have implications for

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the cost of reaching a particular state—costs may vary depending on where in the process you start.[1]

From a behavioral standpoint, most organization theorists have not considered how problems are discovered and chosen. For instance, the behavioral theory of the firm (Cyert and March 1963), which adopts a process-oriented perspective, assumes the existence of a problem. Similarly, processes found in the literature on organizational behavior such as nominal group technique, brainstorming, the Delphi process, and dialectic process all assume that the problem is given and provide detailed processes about how groups search for and choose solutions. Processes for discovering and choosing problems are much less studied. To advance the conversation, it may be useful to offer a few illustrations of broad types of processes for identifying and choosing problems. In doing so, we segment processes for identifying problems into two broad classifications: analytic and synthetic processes.

Analytic processes

An analytic process is a sequence of steps—what might also be described as a structured set of steps—that an individual or organization takes to produce stimuli helpful in identifying problems. For instance, the statistical quality control revolution launched the discovery of numerous processes that stimulate the identification of deviations or waste, uncover their root cause or causes, and search for solutions to eliminate them. The quality revolution over the past 20 years has generated a variety of such processes under a variety of labels, including statistical process control, total quality, lean manufacturing, Six Sigma, and Quality Function Deployment. Each describes a set of specific and detailed process steps

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[1] We generally view processes as a specific class of routines. The key differentiators between processes and routines, more generally, is that the former are specific, observable, and, therefore, improvable.

through which organizations discover and identify problems to solve. We use the term analytic to describe these processes because the process steps disassemble and decompose the value chain to quantitatively evaluate each step. The net result is that analytic processes identify problems that, if solved, incrementally reduce cost or enhance quality through variance or waste reduction in particular steps of value chain. To the extent that analytic processes are outwardly focused on satisfying customers, the customer preferences being considered are familiar and clearly defined. Thus, analytic processes focus on reducing defects, lowering cost, or increased well-defined quality metrics. The typical result of analytic processes, therefore, is value creation through incremental innovation of an existing business model. These processes normally depend on an environment in which production is repeated, the production process can be defined and characterized, and customers have experience with the product or service. Obviously, these processes are useful—otherwise they would not be so widely applied. However, these processes typically generate problems for which solutions represent incremental advances within an established paradigm. They typically rely on easily obtained metrics where "better" is uncontroversial – lower cost, fewer defects, etc. In some ways, analytic processes search on a landscape to find a higher peak rather than searching for landscapes.

The degree to which analytic processes generate strategic rents is tightly linked to the firm's skill in identifying a steady stream of problems and then rapidly generating valuable solutions. While identifying and solving a single problem is unlikely to deliver strategic rents, strategic rents are likely to flow to those firms that develop a sustained capability at problem identification and problem solving. For instance, it is undeniable that Toyota's lean manufacturing process enables it to earn strategic rents because no other assembler has been able to match its sustained ability to continually identify and solve manufacturing problems

associated with reducing waste. Motorola, credited with first implementing if not inventing Six Sigma processes, is claimed to have saved more than $17 Billion in production costs by 2006 (Wikipedia 2007). It is widely accepted that General Electric generated competitive advantage in many of its business units through its commitment to Six Sigma processes. The early development, adoption, and thorough execution of analytic processes have provided Toyota, Motorola, and GE with a stream of problems and solutions that have generated enormous value for these firms. The inability of many of their competitors to generate an equivalent stream of problems and solutions has contributed to sustaining their competitive advantages.

While some of these analytic processes are well-known and have been transferred between firms, we believe that the theoretical micro-foundations of these analytic processes remain understudied by strategy scholars. For instance, what aspects of these processes enable firms to identify a stream of problems and solutions? Why do some processes and their implementation lead to a superior ability to create and capture value? Put differently, we can ask why aren't problems identified and chosen with similar frequency without these processes? One plausible explanation is that the cognitive and other biases mentioned above act as important impediments. That is, biases such as anchoring, perceptual bias, information distortion, dominance, groupthink, primacy, satisficing, and conflicts of interest, unless counteracted, inhibit the discovery and solution of problems. If processes provide mechanisms for overcoming these biases then we need to understand from an organizational point of view what kinds of processes and when these processes enable a stream value creation and capture. We also need to know from a strategic view how some firms' implementations of these processes generate a wider, faster, deeper stream of problems and solutions than competitors' implementations. We know of little specific research that

assesses alternative processes for their bias-reducing benefits and the linkage between analytic processes and strategy. The consideration of individual and group biases may be even more relevant to our second class of processes: synthetic processes.

Synthetic processes

Our second classification we call synthetic processes. Similar to analytic processes, synthetic processes represent sequences of steps that produce stimuli that can lead to problem identification. We define synthetic processes differently from analytic processes by suggesting that they generate inductive, exploratory synthesis in identifying novel problems in contrast to the deductive approaches of analytic processes. While analytic processes disassemble and decompose, synthetic processes are designed to actively combine and integrate. Synthetic processes have much more to do with asking novel and, what might be called, catalytic questions[2] in response to ambiguity, even creating ambiguity, than with relying on deviations from repeated activities. Processes that focus on discovering novel customer problems and that ultimately lead to the identification of entrepreneurial opportunities or radical innovations fall under this category.

An essential difference between analytic and synthetic processes is the nature of stimuli that launch problem identification. For instance, whereas analytic processes commonly rely on deviations and waste from repeated activities to stimulate the finding of problems, synthetic processes involve stimuli from less structured environments. Entrepreneurs seeking new questions and managers seeking new growth opportunities represent situations where individuals are seeking stimuli for the identification of new problems. Alternatively, one might differentiate synthetic from analytic processes by suggesting that the former seeks out interesting and catalytic questions where analytic

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[2] We thank Jeff Dyer for introducing us to the terminology of catalytic questions.

processes generate questions through deviations generated by repeated activities either in the firm or between the firm and its environment.

Another essential difference between analytic and synthetic processes involves the choice of problem to solve. As noted above, analytic processes engage stimuli from deviations and excess waste, and consequently tend to identify problems that are well-structured: eliminating a bottleneck, reducing work in process, or reducing output variability of a machine. Synthetic processes are less constrained and problem identification less certain and more ill-structured. Synthetic processes may generate a wide range of alternative problems, many of which are substitutes, while others are complements, and still others are quite independent from one another. In selecting problems managers must decide not only which questions represent design challenges to create value but also for which problems their organizations have a reasonable likelihood of solving at a low enough cost to create and capture value.

We view new business strategies as primarily shaped and created through these synthetic processes. Such processes are much more likely to look outwardly toward customers and explore the fundamental "problems" customers face in their efforts to create value. A key outcome of such processes is identifying which customer problems to solve. Or, perhaps after sorting through various customers' problems and the related opportunities, synthetic processes may help decide upon which customers to focus. Alternatively, if internally focused, these synthetic processes may explore the broad interconnection of activities within the firm and thereby identify systemic "problems," which if solved, could generate significant breakthroughs in the value created for customers or in the costs incurred in serving them.

While we are unaware of research on synthetic processes for problem identification with respect to organizations, a few synthetic processes have been introduced into related literatures. For instance, the evolving literature on creativity suggests that creativity is hard work and commonly social and collaborative; seldom do breakthrough innovations occur as a "burst of creativity from a lone genius" (Sawyer 2006, 258). One such process encompasses four stages; these are preparation, incubation, insight, and verification (Sawyer 2006, 59). While some researchers suggest the creative process is not linear, others have argued by analyzing sketches and notebooks leading up to the insight that each innovation resulted from a connected, directed, rational process (Weisberg 1986, 1993). A variety of processes for creativity have been identified and these processes may provide an interesting and useful foundation for the development of processes for problem identification in strategic management. We also might think of the tools in strategic management such as industry analysis, capability analysis or activity analysis as inputs to a synthetic process. While the tools of strategic management are relatively well specified, the processes by which managers discover new questions are much less studied.

Alternative Approaches to Value Creation...and Why They Fall Short

The above perspective has obvious links to several other literatures. Perhaps reflecting our own biases, we comment here on only a few of these relationships, notably organizational learning, Austrian economics and the entrepreneurship literature, and dynamic capabilities.

Organizational Learning:

Our terminology of analytic and synthetic processes has obvious parallels with the literature on exploration and exploitation and the study of organizational learning. A significant topic in the organizational learning literature explores the problem of balancing

exploration and exploitation as exhibited in distinctions made between refinement of an existing technology and the invention of a new one (see March 1991, 72). Analytical and synthetic processes do parallel exploitation and exploration but with specific and important differences. Perhaps the most significant difference is that the latter tend to focus on the tradeoff between processes at the organizational level whereas the former focuses on the identification and solving specific problems. These different units of analysis have important implication for the types of questions that are answered. Rather than focusing on the balance between processes, which is a focus in the exploration-exploitation literature without ever delving into the details of these, the PSP's objective is to explore in a deep and detailed way processes as mechanisms for overcoming various individual and group biases. As such, we are interested in discerning the full sets of alternative analytic or synthetic processes and when a particular analytic or synthetic alternative might be the most efficacious.

Austrian Economics and *Entrepreneurship*:

Much of the entrepreneurship literature resonates with, if not directly builds off of, the Austrian Economics perspective (e.g., Roberts and Eisenhardt.2003). Austrian economists and entrepreneurship scholars assume that man is rational but ignorant about unseen opportunities, which is consistent with the notion of Knightian uncertainty. This literature claims that discovering these unseen opportunities fundamentally involves alertness, as the entrepreneur through alertness uncovers opportunities for arbitrage—opportunities where certain factors of production are under-priced. The PSP adopts this baseline model of man but recognizes crucial and additional dimensions not embedded in the Austrian perspective. In our perspective we assume that man is boundedly rational and can suffer from a variety of biases. These assumptions give rise to our discussion of process and

organization as ways to overcome bias impediments to problem identification, which are not relevant in the Austrian perspective.

Our perspective assumes such synthetic processes can and do exist to enable the identification of novel problems. The entrepreneurship literature, particularly the Austrian perspective, also asserts the existence of processes of opportunity recognition but does not yet offer rich descriptions or comparative analyses of synthetic processes. Instead, this literature focuses on individual factors such as life experience, information search, social ties, absorptive capacity, cognitive processes, and a heavy dose of luck as the primary factors driving opportunity discovery. In particular, the notion that successful entrepreneurs are those whose synthetic processes and theories are superior is absent not only from the strategic management literature but from other literatures as well.

The PSP also differs from Austrian economics in its unit of analysis and its core terminology. Austrians assume the "opportunity" is the unit of analysis where the PSP distinguishes problem identification from problem solving. Although some may view the distinction as a semantic difference, we believe that an opportunity consists of a problem ultimately matched with a solution that creates value. Processes are helpful in both identifying problems and guiding solution search, theory crafting, and the exploration of new "means-ends" combinations (Casson 1982, Shane and Venkataraman 2000). Therefore, any focus by us on problem identification explicitly deals with only one half of the concept of opportunity discussed by Austrians and entrepreneurship scholars. Put differently we think we have a better chance of developing new insights by segmenting the search for new means-ends combination into two component processes—one for problem discovery and identification and the other for problem solving. Indeed, new research in entrepreneurship

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is beginning to pursue this path. McMullen and Shepherd (2006) introduce a new model of entrepreneurial action that is concerned with issues of stimulus, motivation, and knowledge.

Dynamic capabilities:

The problem solving perspective shares with the dyanamic capabilities perspective a focus on the process by which firms continually create and sustain competitive advantage. Teece et al. (1997) define dynamic capabilities as "the ability to integrate, build, and reconfigure internal and external competencies to address rapidly-changing environments." Thus, while the resource-based view focuses on the selection and analysis of rather static resources, the dynamic capabilities literature emphasizes the development and renewal of resources that deliver competitive advantage. In this regard, the theory is more organizational in its focus than the resource-based view, highlighting the ways in which firms create value through constant capability development and redevelopment.

This dynamic capabilities perspective, however, offers little theory surrounding the processes by which capabilities are formed, or around which capabilities are most appropriate for the changing environment. Moreover, this perspective is entirely reactive— firms assess changing environments and then develop capabilities isomorphic to that environment. Within the problem solving perspective, while the environment certainly plays an important role in shaping problem choice and solution search, managers within the problem solving perspective are actively shaping their environments as they seek to create value through their selection of problems and search for solutions. Moreover, this perspective aims to define the organizational attributes and processes that support the successful selection of problems and search for solutions. That said, recent work by Eisenhardt and colleagues bridges some of the distinction between dynamic capabilities and the PSP, by incorporating a focus on the process as the unit of analysis (Eisenhardt and

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Martin 2000) and by proposing a relationship between process structure and innovative performance (Brown and Eisenhardt 1997).

Processes and Strategy

For strategy scholars, studying the identification and development of analytic and synthetic processes is important to the understanding of creating and capturing value. To generate a stream of rents a firm must develop processes that generate problems (and solutions) faster, more frequently, and of higher quality than competitors. Shaping the nature of this stream of problems is a vital competitive concern and deserves a detailed micro-analytic understanding of underlying mechanisms. Firms fundamentally compete based on the quality of the analytic and synthetic processes in which they engage. More effective processes deliver greater opportunities for and success in value creation and capture. If all firms embed identical or equivalent processes within their organizations and implement these processes with similar consistency and efficacy, then the likelihood of firms identifying truly unique problems with truly unique solutions is compromised. While two firms with identically efficacious processes may identify unique problems and solutions and deliver competitive advantage to each, these unique competitive advantages are more likely to accompany firms with unique and more developed processes, particularly synthetic processes. Of course, developing unique synthetic processes may be more difficult than analytic processes given that we know much less about the former. That said, a firm that successfully builds effective synthetic processes may possess an unusually valuable and sustainable source of competitive advantages, in part because these processes are so poorly understood and thus exceptionally difficult to copy.

We believe that in most cases, processes, whether analytic or synthetic, are developed, introduced, and managed by organizations as opposed to being introduced across market

interfaces. We further believe that by managing processes, organizations craft strategies that create and, ultimately, capture value. An effective strategically-focused organization generates a steady stream of competitive advantages. These advantages begin by first identifying a steady stream of valuable problems. We argue that processes specific to a firm for identifying and choosing problems may be at the root of such effective strategy and organization.

Implications for Research in Strategic Organization

Our preliminary conclusion is that much opportunity exists in the literature on strategic organization to better explore and understand value creation. Based on the Problem Solving Perspective of value creation articulated herein, we identify several voids in the strategic organization literature and offer our thoughts on how to advance the field. To do so, in this essay we have suppressed discussion of governance related issues to emphasize the need to develop a theoretical apparatus for identifying, comparing, and evaluating processes.

Perhaps the most obvious opportunity arises from the fact that few strategy scholars have taken seriously the problem identification process (as opposed to opportunity recognition) as the unit of analysis for studying value creation. Moreover, few have conceptualized studying processes as mechanisms for attenuating problem identification impediments. Most studies of process in strategic management and organization investigate how problems are solved rather than how they are identified and chosen, or study processes from a perspective of organizational change. Those areas of management and operations that do offer descriptions of highly structured problem-identification processes, such as lean manufacturing and Six Sigma, provide neither a behavioral theory about when and why these processes are beneficial nor a theoretical apparatus for assessing the benefits of alternative

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processes. If such processes create value (and ultimately lead to the capture of value), why do they do so? What problem identification impediments do these processes overcome? How can we identify and assess new processes that might be sources of strategic advantage? From a perspective of creating *and* capturing value, can firms develop problem identification processes that provide them with unique streams of problems—and rents? If so, how can these streams be made wider, faster, deeper?

If alternative analytic or synthetic processes exist, as we strongly suspect, then what are the alternatives and when will alternative processes be superior in various contexts? What attributes of the problem identification contexts are relevant for choosing among alternative processes? What contextual attributes influence the design and choice of processes for problem identification?

Even though we recommend problem identification search as a useful unit of analysis, the desire of bundling multiple processes within an organization—say an analytic process as well as a synthetic process—raises additional questions about organization. Can a single organization sustain multiple types of processes with in the same organization? Under what conditions are processes complements versus substitutes? Does the adoption of one process impair the adoption and application of another process? Can a single organization sustain multiple and different analytic processes or synthetic processes? If so, under what conditions will processes conflict as mechanisms? The answers to these questions may have broad implications not only for the study of creating and capturing value but also may have a profound influence on the practice of management. Moreover, answering these questions may allow scholars to better integrate various perspectives such as organizational learning, dynamic capabilities, and transaction cost economics into a more comprehensive science of organization.

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