Strategic Decision Making

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Introduction

Strategy is about making decisions—decisions such as which industry to enter, how to position the firm and its products, which resources to develop or to buy, who to hire, and which organizational structure to use. It is no surprise, then, that much research within the strategy field has studied how strategic decisions are made and how they can be improved. The literature addressing these two questions falls under the rubric of strategic decision making (SDM). This literature focuses on the processes leading to a decision (e.g., how different opinions are taken into account) rather than on the content of the decision (e.g., which strategy framework to use to devise the firm's positioning). This entry presents some of the fundamental concepts and tools studied in the field of SDM and ways in which they might be applied by managers.

Nature of SDM

Before discussing the research on SDM, it is fair to ask how strategic decisions differ from other kinds of decisions, thus addressing why SDM research is useful and necessary. To do so, we start by looking at the two main bodies of literature that inform SDM: decision theory and the psychological research on judgment and decision making, and show that one must be careful when interpreting their findings in the context of SDM because of several characteristics inherent to strategic decisions.

Decision theory is a mathematical approach to making decisions. According to this theory, the decision maker must make a choice among various actions ($a \in A$); the world can be in one of many states ($x \in X$); and each of these states has a probability of occurring, which may depend on the chosen action ($\mathbb{P}[x|a]$). Finally, the decision maker experiences a payoff or utility depending on the state of the world and the decision taken ($U(x, a)$). The goal of decision theory is to select the action that maximizes the expected utility (i.e., $\max_a \mathbb{E}[U(x, a)|a]$). However, strategic decisions are hard to analyze using this approach because:

(i) strategic decisions are usually made under ambiguity (the probabilities $\mathbb{P}[a|x]$ are un-

known);

(ii) the set of possible actions (A) is not known a priori, but it is discovered "on the way" via a search process, usually over a vast solution space;

(iii) strategic decisions are usually not made by a unique decision maker but by a group of people, such as the top management team, board or directors, or a chain of employees along which a proposal is passed and evaluated, so there may not be one utility function ($U(a, x)$) but many;

(iv) because there may be several utility functions, decisions are made by a process fraught with politics and power, considerations out of the scope of decision theory; and,

(v) even if there is agreement regarding the utility function, the different decision makers may have different assessments about the possible actions, states of the world, and probabilities, so the problem of how to best aggregate these perspectives becomes paramount.

The other body of literature that informs SDM is the psychological research on judgment and decision making. This research has been highly successful in identifying the ways in which humans systematically deviate from the perfect rationality benchmark set by decision theory. The research on judgment and decision making has mostly been developed via lab experiments involving test subjects facing simple choices. The applicability of the judgment and decision making literature to SDM is hampered by a number of additional issues:

(i) strategic decisions are unstructured, non-routine, high stakes, and hard to reverse (e.g., how should the Kennedy administration have dealt with the Cuban missile crisis?), which is quite different from the typical decision experiments used in the judgment and decision making literature;

(ii) unlike most decisions in a lab setting, strategic decisions are complex, involving many sub-decisions and constraints, and thus the task of the decision maker is to make some key architectural choices that will determine waves of other interdependent choices;

(iii) many problems are unclear or ill-defined, and thus the formulation of the problem (usually a given in the judgment and decision making literature) becomes central;

(iv) because of their complex nature, strategic decisions are difficult to implement, thus SDM pays particular attention to the determinants of implementation, which is outside the scope of most studies on judgment and decision making; and

(v) strategic decisions are made within organizations, thus notions of power, incentives, expertise, and organizational structure, conditions difficult to replicate in lab settings, play important roles.

These differences and limitations of scope and focus reveal some of the distinctive characteristics of Strategic Decision Making and suggest that conceptual frameworks are necessary beyond those provided by either decision theory or by studies on judgment and decision making.

Some Factors Influencing SDM

Following the work of Herbert Simon, researchers generally agree that SDM is a process with three main stages: (i) identifying a problem, (ii) developing potential solutions to the problem, and (iii) selecting (ideally) the best solution.

One implication of this process is that once a problem has been identified (e.g., how should our firm expand internationally to maximize profits?), the chances of making a successful decision depend on coming up with many potential solutions and on having effective tools for evaluating these solutions.

Perhaps the main point of agreement among SDM researchers is that how decisions are made impacts the outcome of these decisions. Accordingly, the rest of this section summarizes how different characteristics of the individuals and the processes used to make strategic decisions affect the outcome of these decisions. The summary is structured according to increasing levels of analysis: it progressively moves from individual- to organizational-level characteristics. Given that this is a huge literature, this brief summary cannot make justice to

all (not even a small fraction) of the findings, so priority is given to widely accepted findings with direct managerial application.

The role of individual biases

For most of its history, the human brain has evolved to deal with the daily tasks of hunter-gatherers, not with the challenges of managing a multi-billion dollar corporation. Thus, it is not surprising that untrained individuals make systematic errors when dealing with complex strategic decisions. Some of the biases that are most pervasive in SDM are: overconfidence (being overly optimistic), availability (focusing on data that has recently been observed), and confirmation (favoring evidence that supports the decision maker's preferred theory).

The role of the information aggregation process

Making good strategic decisions involves much information, all of which is unlikely to be available in just one mind. For instance, because of their different backgrounds, managers may assess a given strategy differently. Further, managers may have different ideas about what strategies are available to the firm, and some strategies may only be discovered if the knowledge of different managers is combined. All of this emphasizes how relevant it is to aggregate information that resides in the minds of different decision makers. Otherwise, some valuable strategies may be inaccurately analyzed or not analyzed at all.

The role of organizational structure

One key characteristic of organizational structure that affects SDM is the degree to which an organization is centralized or decentralized. In a centralized structure, top management makes decisions, communicates them to the rest of the organization, and monitors its implementation. In a decentralized firm, top management lets the strategy emerge from different parts of the organization by acting as a facilitator or sponsor. Centralization is useful when decisions are interrelated, when information from disparate sources must be aggregated in order to make good decisions, and when a few high-stakes decisions are relevant. Decentralization is helpful when the information and decisions of different parts of the organization are not interrelated,

when decisions must take into consideration local information, and when many fast-paced decisions must be made.

Another way in which centralization and decentralization affect SDM is in the types of projects that get to be accepted. In a centralized firm, projects must pass several screens before being accepted (e.g., the whole chain of command), while in a decentralized firm decisions are accepted locally (e.g., by the engineer and her closest supervisor). This difference in the number of screens that a project must pass before being finally accepted or rejected has three effects. First, centralized structures will accept fewer projects than decentralized structures (i.e., only very good projects will be good enough to be accepted by everybody involved in the long chain of command). Second, centralized structures will make fewer errors of commission than decentralized structures (i.e., more inspections make less likely that a bad project will go undetected). Third, decentralized structures will make fewer errors of omission (i.e., fewer inspections will decrease the chances that good projects get wrongly rejected).

The choice of which structure to use depends on which type of error is costlier. For instance, decentralization may be the right structure for organizations where innovation is important (e.g., R&D labs), as accepting a few bad projects may be a low cost to pay when compared to the cost of missing many good projects.

The role of politics

Because strategic decisions are usually made by multiple individuals who may have competing interests, conflict may emerge among the decision makers. When there is conflict, decision makers usually engage in political tactics (such as coalition formation, bargaining, agenda control, and strategic use of information) and the preferences of the most powerful tend to win. Since the preferences of the most powerful do not necessarily reflect what is best for the organization, political conflict constrains the search process, and thus decreases the effectiveness of SDM. Additionally, as most people dislike politics, politics increase frustration and animosity among managers, which further reduce organizational effectiveness.

Importance

Because the most important job of top executives is to make strategic decisions, the study of SDM can have vast implications. Even small improvements in a few decisions can have a large impact on outcomes such as profitability, innovation, and economic development. The following addresses some of the ways in which managers might productively use insights from the SDM literature at various levels of the organization.

Individual level

Managers should be on the watch for biases, and should put in place mechanisms to avoid these common errors of individual judgment. Techniques aimed at minimizing the effect of individual biases include:

1. Use formal analysis tools such as: decision trees, influence diagrams, and mathematical models (e.g., spreadsheets, simulations, game-theoretic analyses).
2. Use frameworks (such SWOT or Porter's five forces) and checklists.
3. Take an outsider's perspective. Try to remove the actual decision maker from the narrow confines of their situation and consider how an outsider would make the decision.
4. Educate the decision makers on SDM, statistical thinking, and decision making biases.

Group level

Some of the techniques aimed at effectively combining information across individuals include:

1. *Expand the pool of ideas.* Before delving into the details of a given decision, spend time and resources on expanding the set of potential options. Tools here include: brainstorming sessions, scenario planning, the Delphi method, asking decision makers to "consider the opposite," using experts, and crowd-sourcing.
2. *Increase the critical analysis of ideas.* Tools here include: assembling a team with a diverse set of expertises, increasing the number of decision makers, introducing outside

experts, designating a devil's advocate, and encouraging open and frank communication atmosphere that encourages cognitive (not political) conflict.

Structural level

In general, organizational structure offers a powerful way to "hard-wire" decision-making processes in the organization. For example, if the goal is to minimize errors of commission, then employing centralization, a hierarchical organization structure, and granting veto power to some key parties seem good ideas. If the goal is to increase the number of alternatives considered before making decisions, it could make sense to create a planning department, institute the role of devil's advocate, and create a strategic committee that includes people from different parts of the organization. In addition, a "perfect" decision is worthless if it is not well implemented. Thus, implementation is inextricably linked to SDM. One finding here is that successful implementation is more likely when the implementers agree with the decision being implemented. Thus, mechanisms such as consensus-building and selecting implementers from the decision-making team improve the chances of success.

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