



Conjoining prescriptive and descriptive approaches

Prescriptive and descriptive approaches

Towards an integrative framework of decision making. A conceptual note

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Abstract

Purpose – Despite the level of knowledge that has been accumulated over the years on the intricacies of decision making and strategy development there have been no attempts in the literature of strategic management to consolidate the diverse perspectives in the field in order to develop a more reflective theory that imparts better understanding on the process of decision making. This paper attempts to integrate two key viewpoints in order to take full advantage of their combined strengths to overcome their individual weaknesses and so develop a framework for decision making that portrays a more accurate and dynamic methodology in its process and it is more complete in its contents.

Design/methodology/approach – The paper is based on a critical examination of the relevant literature and includes the author's view on the subject.

Findings – The paper makes explicit the technical and cognitive aspects of the process of decision making and provides a holistic framework for strategy development.

Practical implications – Educators and companies that accentuate single-perspective approaches to decision making create an environment that hinders individual performance and effective management practice.

Originality/value – The work brings together timeless academic thought and reflection in order to develop an integrative framework for decision making to elevate understanding and management practice.

Keywords Decision making, Strategic management, Corporate strategy, Business environment

Paper type Conceptual paper

Introduction

One of the most important issues in the field of strategic management has been, and still is, to illuminate the process of strategy development in order to provide a “road map” for decision-making that enables effective strategy formulation.

As such, over the years, a vast amount of theoretical and research-based literature has been devoted to discussing the complexity of strategic decision-making. However, the subject is broad and has a tendency to widen with time as more authors join the debate.

The field of strategy from its early days, because it spawn from economics, and in particular from the branch of Industrial Organisation (IO), was subject to an economics-based view that business environments are objective (Hodgkinson, 1997) and that managers are rational utility-maximising individuals (Calori *et al.*, 1992). It was thus assumed, in line with economics, that managers possess similar knowledge, that all reason in a similar logical way, all notice the same threats and opportunities



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and all pursue similar goals (Stubbart, 1989). Consequently, competitive landscapes were seen as external objective settings and business organisations were considered to be detached from their industries and markets.

As a result, this viewpoint led to the preoccupation that strategic management is about prescribing strategies for positioning a business in a given industry structure, having first carried out a thorough economic analysis, based on the implicit notion that industry structures are relatively stable and easily identifiable. Hence, the prevailing view in strategy development was first to identify relevant opportunities and threats in the organisation's external environment and then address the company's strengths and weaknesses in order to achieve the desired strategic fit. As such, the technical process of strategy was emphasised and the human element was overlooked and became an implicit factor in the background. Because of the formality of the practice, business strategy was seen as a top-to-bottom activity where plans of action were formulated by management and implemented throughout the organisation observing a strict chain of command.

However, as time progressed and academic thought and reflection evolved, scholars began to question this approach articulating that it is simplistic, biased and incomplete, and it does not reflect the complexity of decision making in contemporary business organisations neither it takes into account the fast paced and continuously changing competitive terrains. As a result, over time, a number of additional perspectives were introduced in the field eventually forming the various schools of thought in strategic management (Mintzberg *et al.*, 1998).

In particular, the cognitive perspective saw the external environment and the firm as being interconnected and argued that industry structures and market boundaries are socially constructed (Porac *et al.*, 1995) through a process of competitive enactment (Weick, 1995). In other words, industries and markets form and change over time because of companies' actions and counteractions. After all, it is people who create all business transactions and it is people whom thing for, energise and drive organisations. As such, it placed the individual at the centre of the strategy process, and in due course it championed some considerable advances to understanding decision making and strategy development much more holistically than before. In addition, the cognitive perspective views decision makers struggling to generate a complete picture of their environment having only limited access to information and incomplete knowledge (Beyer *et al.*, 1997; Paton and Wilson, 2001). Managers, in their decision-making process simplify complex and imperfect models of competition (Miller and Chen, 1996), based on their cognitive styles (Sadler-Smith *et al.*, 2000), limited cognitive capacity, and limited and biased information (Ireland *et al.*, 1987). Consequently, this causes the development of subjectively constructed views of business environments, competitors (Grinyer, 1992) and operational models (Tyson, 1999).

Shortcomings of the literature

Despite the level of awareness that has been created over the years on the complexity of decision making and strategy development, there has been no attempt in the literature to bring together the knowledge accumulated from the genuinely diverse perspectives in the field, in order to develop a framework that serves as the basis with which to advance a better theory in the area.

Aim of the paper

This article seeks to integrate the two approaches under review in order to take full advantage of their combined strengths to overcome their individual weaknesses and so develop a framework for decision making that is more inclusive, without allowing a single perspective to dominate particular strategic aspects.

Decision making is a complex and vitally important process in strategy development that fully justifies a careful examination of the subject to gain a better understanding of how managers formulate strategies in order to develop a more cohesive and reflective theory.

The rational viewpoint on decision making

(The rational viewpoint is also called prescriptive, scientific and/or linear 2.)

It is an organisational requirement that managers have to be analytical and rational and have the ability to make timely, accurate and objective judgements. In fact, such a notion is well entrenched in current management practice and reflects the military roots of business strategy (Cummings, 1993). Embedded in the philosophy of the prescriptive schools of thought, the scientific approach sees managers gathering information for a clearly defined problem, analysing the situation, and developing formal plans of action based on a rational planning approach to achieve the objective (Hill and Jones, 2001).

Indeed such advocates of scientific management, Buchanan and Huczynski (1997) articulate, share a common belief: if one understands something, one should be able to develop a law, rule and procedure for it. As such “behaviour within a firm is not random, but goals are clear and choices are made in a logical way. In making decisions, the objective is defined, alternatives are identified and the option with the greatest chance of achieving the objective is selected” (p. 670):

A clarification on the process of strategy

The essence of strategy is ensuring the long-term survival and success of the firm, by establishing an effective position in the market and by developing superior capabilities, in order to maintain performance and win over competition. Consequently, a fundamental part of strategy in the quest for sustainability is identifying, pursuing, and achieving objectives, in line with the company’s direction given the prevailing conditions in the wider environment and the specific challenges and opportunities in the competitive landscape.

To that end, the strategy process is the link between all these stages and it is concerned with making this happen. If the objective is viewed as a destination, strategy development can be considered as the journey towards that destination. Thus the process involves generating the necessary information, making sense of the competitive terrain, and coordinating all relevant aspects in the journey in order to arrive successfully at that destination. For that reason, the process is the most difficult part in the overall framework of strategy development and the most time consuming.

However, particular attention needs to be paid to the term “strategy process” because the word process tends to draw attention to administrative tasks to the detriment of other aspects that, in the context of strategy, are critical to superior performance. Strategy process is a much bigger and vastly complex issue that needs to be appreciated in full in order to enable effective decision-making and application.

Despite the fact that the arguments on the subject account for a large amount of literature in the area, the topic has not been broken down to its most integral components to aid understanding, and therefore, there still is a lack of clarity of what actually process is.

In this article, the process of strategy is viewed as consisting from two distinctive yet interrelated activities; the technical process of strategy and the cognitive process of strategy. The technical process is administrative, and it is concerned with procedural matters such as what needs to be done and when in order to complete the process and thus develop the strategy.

Thus from a technical point of view, strategy development becomes a sequence of activities that can be observed as a linear progression through a number of distinct steps (de Wit and Meyer, 2004), between the key elements of strategy (analysis, choice, implementation and evaluation). From this perspective, the process can be seen as the flow of information (historical, current and forecast data) through interrelated stages of analysis in order to achieve the objective (Pearce and Robinson, 2005). Hence the technical process, regardless of potential difficulties in different bureaucratic systems, is relatively straightforward.

The real problems, however, arise on the second part, the cognitive process of strategy, because it involves the how. The cognitive process of strategy is concerned with individual perceptions and how they affect decision-making and strategy development. Clearly, different people do things in a different manner and reach decisions following different methodologies. Thus the term "strategy process" includes two key areas that are interrelated. One can only develop and manage the technical aspects of strategy, if one knows what needs to be done and how. The latter, of course, is subject to individuals' cognitive abilities and other constraints. For example, gathering the necessary data, reading and interpreting information, understanding the competitive environment, identifying and appreciating challenges and opportunities in the context of the organisation, and so on.

Prescriptive models provide a logical order of matters and require managers to follow such a methodology, by thinking how best to approach the task. Such models view managers as rational-utility maximising individuals (Bierman and Fernandez, 1998). According to Stubbart (1989), such an assumption has an overriding advantage. It allows decision making to be transformed into a branch of mathematics, which is the rigorous theory of rational choice. Certainly, one view of strategic management is that strategy can be managed through a rational planning process involving steps such as developing objectives, setting performance requirements, analysing the environment to identify external threats and opportunities relatively to internal strengths and weaknesses, and selecting the best way forward out of a set of identified alternatives. Then, deploy resources to commence implementation, and at regular intervals, evaluate performance to take corrective action to compensate for undesirable variances in performance – clearly, a straightforward methodology with the process of decision making being at its best.

The cognitive viewpoint on decision making

(This viewpoint is also called descriptive.)

However, in strategy, the hard facts derived from scientific analysis go only so far, as from then on, human judgement takes over to interpret findings and determine their relevance. Subjective judgements by planners and managers are a major component in the process of strategic planning (Barnes, 1984). According to Wissema *et al.* (1980) and others (c.f. Reger and Huff, 1993; Hodgkinson, 1997) managerial characteristics such as creativity and intuitive-irrational thinking are important and are being increasingly recognised in the literature of strategic management.

Jankowitz (2001) concurs and adds that many occupations require people to draw on their experience to make decisions based on subjective judgement, as opposed to the rational deductive chain of logic, due to either gaps and/or overload of information as

well as time and cost constraints. However, despite its limitations, the rational model has many advocates and this method of management is perceived by many to be the best way of managing organisations.

Calori (1998) also questions such an approach and articulates that rationality is commonly associated with notions of logic, analysis and reasoning, but when applied to decision-making a number of important issues emerge. First, decisions are the result of a logical analysis of all available information (assuming, though, that data are available to be retrieved and that information can be easily generated through formal analysis). However, this implies that business environments are relatively stable (where information is valid between time periods) and that there is enough time, money and other resources at hand to carry out the required analysis. Second, the evaluation of alternatives is analysed in terms of their expected value to the decision maker. However, different individuals place different values on the same alternatives (even assuming that they agree on the range and type of alternatives), and their 'best' solution may differ completely from that of their colleagues. Third, rationalistic models also assume that there is an awareness of some problem that needs to be solved. However, in the process of generating solutions they neglect human feelings associated with problem recognition and formulation, such as emotions, morals, discomfort and anxiety, and the human tendency to distort reality to avoid such levels of anxiety. Finally, rationalistic models assume that decision-makers are rational and utility-maximising individuals, and argue that individuals obtain and use all information available to them, when making decisions. Thus, actual outcomes are consistent with predicted outcomes and though people make errors, these errors are random.

The validity of the rational approach has been questioned by many over the years and research in cognition has already proven that individuals have a limited capacity of information-processing abilities and "world views" are largely subjective in nature. Such rational models communicate in their methodology how decisions should be made and not how they are actually made and thus are likely to be limited in their application (Weick, 1995; Jennings and Wattam, 1998; Jankowitz, 2001).

The counter arguments, however, do not claim that managers are irrational but rather that they operate within cognitive limits like all humans (Stubbart, 1989). To this end, Hrebiniak and Joyce (1984) have developed the principle of intended rationality where they see managers trying to be rational when formulating and implementing strategies but which are bounded by cognitive and information-processing abilities, given the myriad of considerations that they are confronted with. Making a decision based on rationalistic principles is probably possible only in the most restrictive conditions. For example, where everything is clearly defined and identifiable and all variables are easily accessible. However, in environmental conditions characterised by ambiguity and uncertainty, such prescriptive views suffer from severe limitations. Consequently, the cognitive approach takes these views into consideration and attempts to bridge the limitations of the prescriptive perspective by providing some parameters with which to explain, and contextualise, the process of decision-making more realistically. These are summarised below.

Technical rationality

This approach, is rationalistic in manner, and assumes that the decision-maker deals with an issue that has known properties and objectives. This method presumes that

environmental conditions are stable, issues are easily diagnosed and agreed among members, objectives remain fixed over time, information is widely available and without limitations, cognitive ability is not a problem, all alternatives can be identified and are feasible, and there are no other problems such as behavioural, time, and cost issues (Finley and Greene, 2000).

Bounded rationality

Based on the work of behavioural proponents such as Simon and March in the late 1950s and 1960s, Williamson (1985) developed the concept of bounded rationality further in order to enhance understanding of the strategy process in environments that lack clarity. Bounded rationality assumes that although the issue is relatively well defined, there is still some need for refinement due to various imperfections. This approach is relatively rational but within known boundaries and constraints of variables such as cost, time, cognitive abilities and information availability and thus seeks a "good enough" (satisficing) option, rather than a perfect one.

Logical incrementalism

Research into the decision-making process (Quinn, 1978) revealed that most strategic decisions are made outside formal planning systems, thus outside the perimeters of bounded rationality. Logical Incrementalism takes the view that top managers do not understand all of the organisation's activities or all environmental conditions and thus decisions applicable to all subsystems of the organisation would be inappropriate. This approach assumes that managers have a clear understanding of the organisation's long-term goals but only a limited capability to realise them, due to strategy-making and implementation constraints. Lower-level managers are thus involved in strategy formulation and encouraged to propose strategies. In this way, change takes place incrementally, it occurs through trial and error and aims are achieved through co-ordination.

Search for error

In conditions characterised by uncertainty, Collingridge (1980) argues that instead of looking for the right decision as in the technically rational approach, a search for error is most effective in identifying the wrong decision to begin with. A possible difficulty here could be recognising what constitutes a wrong decision in the first place. However, one may identify this, based on the desirability or undesirability of such decisions. Therefore, if an error can be found, it is relatively easy to rectify it right from the beginning, rather than arriving at inappropriate decisions, where errors are embedded and difficult to recognise and correct after implementation. This approach requires a considerable amount of psychological adjustment and the acknowledgement of errors is considered to be an advantage.

Dialectical enquiry

In situations far from certainty, the best approach to decision-making is through open conversations. In this case, brainstorming meetings are set in motion and people exchange views and ideas in order to arrive at best perceived decisions. Then, another team of the same group plays the devil's advocate, where they try to find faults and invalidate these decisions. In other words, an open debate takes place where conflicting

views are discussed and creativity is encouraged with the aim of finding more appropriate alternatives that are acceptable by all (Schwenk and Thomas, 1983).

Muddling through

In complex business environments characterised by speed and chaos, Stacey (1996), having borrowed the term from Lindblom (1959), states that managers operate under conditions of organised anarchy. Consequently, they are forced to choose their own ends and means simultaneously instead of working from a central system. Therefore, in chaotic situations it may be the case that different managers choose the same solution for different issues for different reasons. In this manner, policies are judged not only for their effectiveness but also for their desirability, and if deemed appropriate are accepted throughout the organisation based on levels of members' support.

However, despite the many breakthroughs of the cognitive perspective on the issues relating to decision making, it is yet to bring together the knowledge accumulated over the years in frameworks and models that contextualise strategy development and strategic decision making. Clearly, this is a difficult task because of the multi-dimensional complexity involved in the process.

A brief comment on the literature of strategic management and a call for integration

To extend the latter comment, strategic management is no longer a young discipline since the first narratives in the area appeared in the 1950s. Clearly, it is now time for the many perspectives in the field to stop criticising each other as to which viewpoint is more accurate than the other, and start consolidating on the knowledge created by all in order to develop a much stronger theory on the science of management that aids understanding and elevates practice. The essence of strategic management is to be truly integrative in its approach to management. Therefore, if the discipline is to make an impact ways must be found to achieve that.

Towards an integrative framework of decision making

Consequently, in this section, an attempt is made to integrate the rational and cognitive viewpoints on the aspects relating to decision-making in order to develop a framework that portrays a more accurate and dynamic methodology in its process and it is more complete in its contents. To that end, Figure 1 has been compiled to highlight these features in a clear and straightforward manner.

The basic direction of the framework has a sequential top-to-bottom approach, in line with the rational viewpoint, in order to provide the process a reasonable and practical step-by-step structure. However, that "skeleton" has been heavily complemented by the cognitive viewpoint in order to add the missing "muscle".

The process begins with the formulation of organisational goals and objectives. However, such an exercise is subject to the prevailing conditions of the business environment that, in turn, create environmental certainty or uncertainty. The greater the certainty of the environment the easier it is to define and formulate organisational goals and objectives. This becomes more challenging as the environment shifts towards uncertainty. In this case, relatively open goals can be drawn instead in order to provide a broad strategic direction, and specific objectives can be formed after the analysis has been carried out. Therefore, according to the level of certainty or

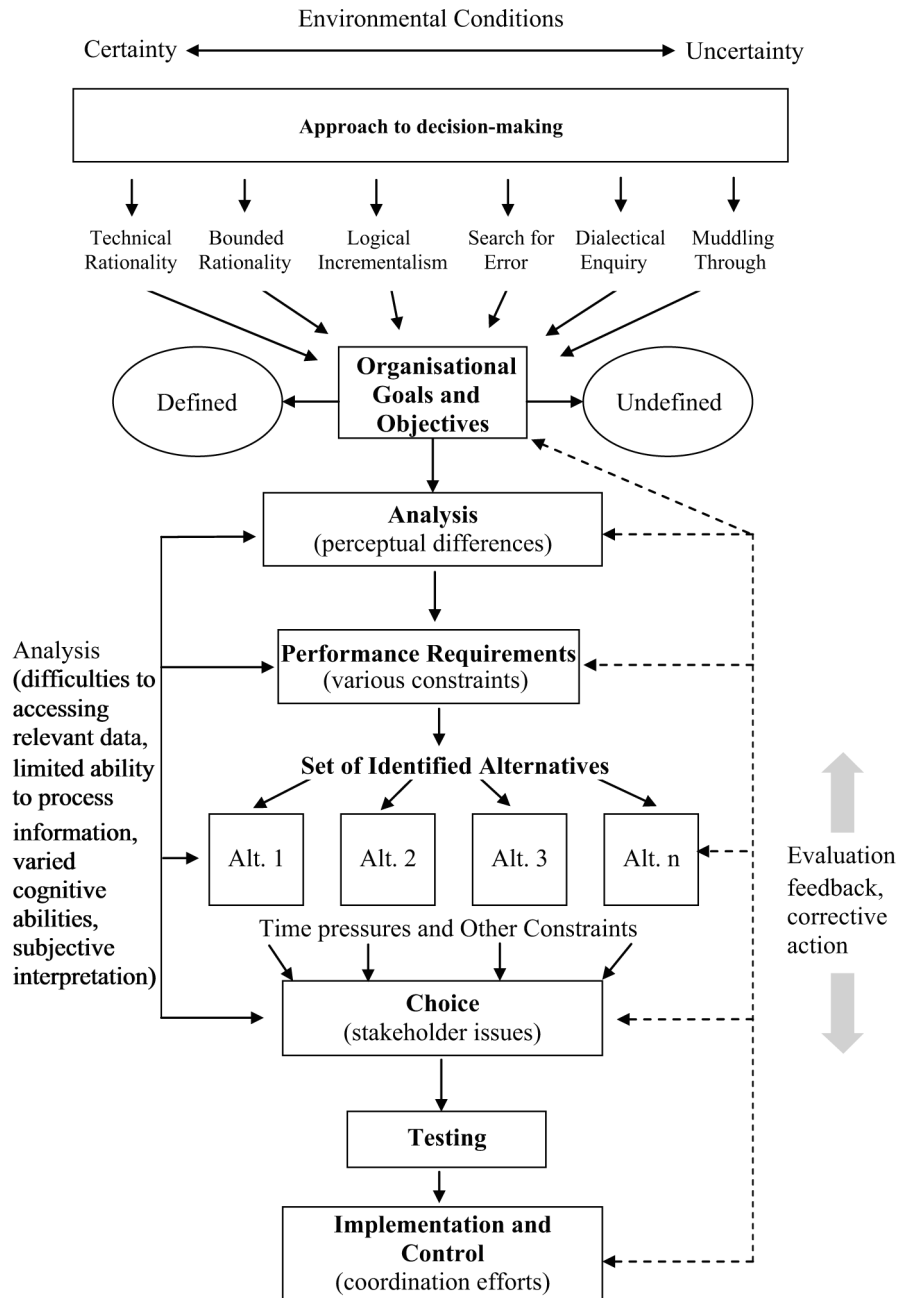


Figure 1.
A holistic framework of
decision making

uncertainty experienced in the business environment a suitable approach to decision making can be selected to attempt the task.

The next step is the analysis of the environment. The analyst may decide to analyse the external environment first and the internal after (outside-in approach), or vice versa (inside-out approach). There is no right or wrong, as long as both analyses are carried out to enable the process of strategy development to continue. At this stage, however, up until choice of direction is made, a number of problems can occur as has been argued by the cognitive perspective and presented throughout this paper.

For example, time and cost constraints, or other factors, may not allow the gathering of the relevant data thereby creating gaps in information, or the data may be too much thereby creating overload of information. Individuals' varied cognitive abilities, subjective judgements, hidden agendas, conflict between team members, internal politics and negotiation efforts among stakeholders, organisational structures, cultural aspects and communication systems, can all be detrimental to effective strategy development. Though there are no easy answers on how to overcome these potential difficulties in the process of decision making, at least these matters are now made explicit in the framework in order to draw attention to aspects that cannot be ignored or overlooked.

Nevertheless, assuming that a decision has been reached and choice is made, the next step is to carry out a small scale testing of these plans in order to remedy initial problems, if required, and/or deploy the full set of allocated resources to commence implementation. However, it should not be forgotten that at this stage coordination efforts are ongoing, and potentially are also time consuming and problematic. Equally, systems for continuous feedback and evaluation should be in place in order to allow for corrective action, if undesirable effects in the implementation of strategies have been identified. In this case, it may be necessary to reverse the process upwards, (bottom-to-top) up to the point where the problem is identified and addressed accordingly. Clearly, the higher up in the process the problem is identified, the greater the drawback and organisational loses. It may also be that, in some circumstances, the company has commitments that do not allow for alternative actions without a significant expense, thereby suffering an opportunity cost.

Therefore, to conclude, the basic direction of the framework point out the technical process of strategy whereas the specific characteristics on each step point out the cognitive process of strategy.

Implications

Aspects relating to decision making and the process of strategy development are two of the most important subjects in strategic management. However, and despite the significant contributions to our understanding by the cognitive perspective on issues relating to decision-making, the mainstream literature still managers managers', at large, from a superhuman standpoint. This impacts the manner by which the topic is taught at business schools and, perhaps, the way that managers are forced to present themselves in their peer groups and super-ordinates. As a result, this creates an environment that hinders individual performance and effective management practice.

Yes, clearly, it is an organisational requirement that managers have to think and develop superior strategies relative to competition in order to outperform rivals. However, managers are people and people are limited by numerous constraints.

Therefore, it only makes sense for the literature in the area, and organisations alike, to embrace a holistic approach to the process of decision-making in order to support individuals in their efforts to become better managers. Thus, a conscious effort must be made to begin the process of consolidation and integration of the knowledge accumulated over the years by the various inter-disciplinary perspectives in the wider area of management for the benefit of all.

Future research

The process of decision-making is a well-researched and documented topic in strategic management from either a prescriptive or a descriptive perspective. However, it is believed that the valid arguments of the cognitive viewpoint on the different approaches to decision-making have not been fully embraced by the literature neither been properly contextualised in the process of strategy development. They thus remain contents in pending.

Future studies in the field can, perhaps, test out such managerial aspects on decision-making in different settings, so that a place is found for them in the literature. For example, examine the approach to decision-making that managers adopt to develop strategies under different environmental conditions.

Major events such as natural and man-made disasters that cause a change in the conditions of a business environment provide bold examples for such type of an investigation. Significant industry events that alter the dynamics of competitive terrains are equally good settings for research of this nature.

In the process, the concepts of the industry life-cycle (ILC) and/or punctuated equilibrium could be adopted, in order to standardise findings using established theories and thus impart a meaningful context in which to explain the different approaches to decision-making.

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Further reading

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