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DECODING RESPONSE UNCERTAINTY

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Abstract

Response uncertainty defined as not knowing how to respond to a known event has been identified as the major uncertainty faced by decision makers, especially where organizatioal action is unavoidable. However, a granular understanding of response uncertainty is missing in the existing literature. This paper contributes to the uncertainty literature by providing a granular understanding of response uncertainty. It identifies focus, stance, and selection as three types of 'response uncertainties'. To overcome these uncertainties, firms develop 'configurational capability' to identify target area, 'positioning capability' to position themselves with respect to competitors, and 'causal-logic capability' to establish routines to identify solution for a given problem.

Keywords: Uncertainty, Organizational Capabilities, Strategic Decision making, Emerging economies

Introduction

Decisions relating to resource acquisitions are strategic and are taken under conditions of uncertainty. When firms compete in a 'strategic factor market' (Amit and Shoemaker, 1993) to procure a resource, the value of that resource is not known with certainty. The value of the resource differs across firms based on assessment of how their strategy relates to it (Barney, 1986). Greater the accuracy of assessment, greater is the rent the firm can garner from the resource (Amit and Shoemaker, 1993). However the assessments are often incorrect. Can firms avoid making mistakes in their assessment? The task is not easy as organizational decisions in such situation are likely to be prone to biases (Tverskey and Kahnemand, 1974). The decision maker may tend to consider fewer options and prefer heuristics (Walsh, 1995). Apparently decisions under uncertainty are made with poor understanding, limited cognitive skills, and inadequate information. The presence of uncertainty gives rise to imperfections in organizational decisions rendering them less effective than the desired level of effectiveness.

Not surprisingly, the topic of managing uncertainty has been central to both decision making and uncertainty literature. Several ways of improving decision effectiveness under uncertainty have been suggested. These suggestions range from mitigating (reducing) uncertainty to exacerbating (increasing) uncertainty. The concept of uncertainty delineated in these studies reflect diversity in definitions (extent of variability or quantum of risk or lack of confidence), objectives (reduce uncertainty or attain equilibrium or increase uncertainty), and taxonomy (external or internal or based on contextual trigger). However, the divergence of opinion among researchers has been an impediment in building a common approach to respond to uncertainty especially when uncertainty is very high.

For long, Milliken's (1987) conceptualization of uncertainty as state, effect, and response uncertainty and its recent quantification by Ashill and Jobber (2009) have been the guiding principles for understanding uncertainty. As per their approach it is difficult for decision makers to (a) forecast future under state uncertainty, (b) assess impact of future events on organization under effect uncertainty, and (c) craft suitable organizational response under response uncertainty. However, the advent of entrepreneurship literature has given uncertainty management a completely new orientation by showing that decision makers live happily with uncertainty. Entrepreneurial thinking emphasizes making uncertainty an ally instead of an enemy (MacMillan and McGrath, 2000). It is in this context that the concept of response uncertainty acquires importance as organizations cannot stop responding to environmental changes even when uncertainty is high. In fact the entrepreneurial mindset strategizes for continuously creating opportunity in an age of uncertainty. They neither try to manage it nor exacerbate it. They simply move on and carry on with decision making. We think that this phenomenon is quite widespread even in large non-entrepreneurial settings and need to be explored.

It is in this context that I examine the question of "What is response uncertainty?" Research on organizational responses that enable firms to overcome the challenges associated with high response uncertainty and achieve higher decision effectiveness is sparse, especially in emerging economies. In fact the environment in emerging economies is known to have aggressive competition, very high incidence of knowledge outsourcing, and an evolving regulatory regime. (Coff, 1999).

The paper is organized as follows. In the first section, I reviews the literature on strategic decision making and uncertainty. This paper identifies specific dimensions of response uncertainty. It presents the findings and concludes with a discussion on the implications of the research.

Literature review

Decision making situations as defined in terms of probability (the chance of it happening) are of three types. Certain situations are those where decision makers are sure about the outcome of their interpretation (perception), outcome of discussion on perception (decision/action), or outcome of process of action (consequence). In other type of situations, certainty eludes decision makers and therefore they assign certain probability to different outcomes. These probabilities can be objective (known) or subjective (best guess).

Multiple explanations for uncertainty (Lipshitz and Strauss, 1997) include turbulence (Emery and Trist, 1965); unpredictability (Cyert and March, 1963), and complexity (Galbraith, 1973). in external environment. It also arises due to lack of knowledge for decision making (Duncan, 1972; Lawrence and Lorsch, 1967). For this study, we have adopted the definition given by Duncan (1972) for uncertainty. *He defined uncertainty as inability to assign probabilities with any degree of confidence with regard to how environmental factors are going to affect the success or failure of the decision unit in performing its function.* This definition is different from how decision theorists (Knight, 1921) have defined uncertainty. This definition not only recognizes lack of information or complexity as the source of uncertainty, but also highlights the fact that the important question in highly uncertain situation becomes one of how sure or confident decision makers are in their probability assessment. Such decision making situations are cases of subjective probabilities. Decision choices are difficult to make due to uncertainty and therefore firms grapple with problem of crafting appropriate responses for highly uncertain situations.

There are three main issues or challenges associated with the concepts of risk and uncertainty. The first issue is of definition, the second pertains to sources of risk and uncertainty, and the third revolves around means to cope with them.

In management literature, there is a lot of ambiguity surrounding the use of terms risk and uncertainty. Not only have they been used interchangeably indicating confusion or overlaps on definitions, but also there are related problems of their measurements. The two terms have been defined in numerous ways. Exhibit-1 gives compilation of definitions by Lipshitz and Strauss (1997). However, for this study, we adopt the following distinction between risk and uncertainty, which in our view, is more appropriate for studying risk and uncertainty associated with strategic decision making. Uncertainty is defined as a state of lack of information and/or the clarity about the impact/effect of an available alternative on the desired outcome. For example, uncertainty about say which technology to choose could emanate either from lack of information about the technology or about the degree of its impact on the outcome. Thus it is a case of subjective probabilities. Risk is defined as the exposure to the chance of injury or loss. Risk arises due to choices made. Choices are difficult to make due to uncertainty. Therefore, it is uncertainty which gives rise to risk.

The second issue about the sources of risk and uncertainty and the third issue of coping in a way are interlinked. Firms' coping responses to uncertainty depend upon the characteristics of the uncertainty source. Task (Thompson, 1967) and environment (Lawrence and Lorsch, 1967) have been identified as two important sources of uncertainty. Task uncertainty (Thompson, 1967) arises due to innate nature of task, viz. task interdependence and task complexity and thus increases coordination and information processing requirements. Environment as a source of uncertainty has been the subject area of theorists for decades. These theorists have examined link between organizations and environment. Much of the research in this stream focuses on adaptation to changes in the environment, however, the focus of different studies have varied in terms of source, coping mechanisms, and outcome. For example, the focus of Classic studies (March & Simon, 1968) was on external elements for source, internal for coping, and on equilibrium as the outcome.

Similarly, for transition studies (Child, 1972), while the focus of source was both external and internal, for coping, it was internal only. The linkage between sources and coping was intended to improve performance. Process studies (Duncan, 1972; Van de Van, 1975) in this genre follow the same focus as that of the transition studies except for the fact that here organizational efforts were aimed at reaching a state of equilibrium and not on improving performance.

The above observations lead us to a natural question on how to manage risk and uncertainty in the framework of competitive advantage? This type of analysis would require disaggregating the concept of uncertainty along sources, viz., Environmental, technological, competitive etc (Dess and Beard, 1967) and along dimensions viz., State, effect, and response types (Milliken, 1987).

Firms' coping responses to uncertainty depend upon the characteristics of the uncertainty source. An uncertain situation has been characterized in many ways. For example, some scholars have characterized it in terms of source of uncertainty, viz. task environment (Thompson, 1967) or general environment (Lawrence and Lorsch, 1967). Others have characterized it in terms of complexity of situation (Galbraith, 1973). some have characterized in terms of comprehensibility of uncertainty. What is comprehensible is objective, what is less comprehensible is subjective, and one which is not at all comprehensible is pervasive. Milliken's (1987) classification of state, effect and response further explicates pervasive uncertainty. Three types of uncertainties that affect decision making are: state, effect, and response. *State uncertainty* refers to the inability to understand or to predict the state of environment due to lack of information. *Effect uncertainty* describes decision maker's inability to predict how environmental changes will affect their organizations. *Response uncertainty* reflects executives' inability to determine what response options are open to their firms and/or the potential consequences of selecting a given response option. It can be inferred based on literature review that the findings are contradictory (Miller and Shamsie, JOM, 1999) and these arise because the uncertainty construct has been analysed at an aggregate (Jauch & Kraft, 1986; Milliken, 1987) level. This requires decoding the concept of uncertainty. Despite several decades of research we cannot claim that the concept of uncertainty is fully understood. Most attempts in the past have been on mitigation. While this approach definitely has value enriching the practice by expanding our understanding, it has failed to capture situation where uncertainty is not managed rather accepted as reality and lived with. The concept of pervasive uncertainty where uncertainty cannot be reduced has to be seen in this perspective.

Discussion

Several ways ranging from mitigation to exacerbating uncertainty have been suggested. Despite several decades of research we cannot claim that the concept of uncertainty is fully understood (Ref) and therefore it continues to harangue decision makers. What exactly is the problem with concept of uncertainty? The existence of multiple definitions, multiple objectives (mitigation, equilibrium, increase uncertainty) and multiple measurements while add to our understanding, also create impediment in building consensus around a common approach towards handling uncertainty. Which in a way is captured by intent pointed out in academic literature that uncertainty has to be managed. Most attempts in the past have been on mitigation. While this approach definitely has value enriching the practice by expanding our understanding, it has failed to capture situation where uncertainty is not managed rather accepted as reality and lived with. The concept of pervasive uncertainty has to be seen in this perspective, When looked from this perspective, uncertainty reduces to avoidable/avoided versus unavoidable/ not avoided uncertainties. Avoidable/unavoidable refers to situation where factors determine decision. Thus state and effect uncertainty falls in the category of avoidable/avoided uncertainty. This can be because of several reasons. Organizations may lack capabilities. Time available for decision making may be less. Managers may feel that they are not important. In contrast response uncertainty belongs to unavoidable/not avoided category. Dimensions of response uncertainty. Firms develop capabilities. Function of capability as confidence enhancer.. practices like (consensus building around concepts and not heuristics.. which means organization culture is quite different). The advent of entrepreneurship literature has given uncertainty management a completely new orientation by showing that decision makers happily live with uncertainty. Entrepreneurial thinking emphasizes making uncertainty an ally instead of an enemy (MacMillan and McGrath, 2000 The entrepreneurial mindset strategizes for continuously creating opportunity in an age of uncertainty. They neither try to manage it or exacerbate it. They simply move on and carry on with decision making. We think that this phenomenon is quite widespread and need to be explored. Further in today's dynamic environment executives are supposed to think like entrepreneurs. This calls for new ways to think about uncertainty. The task of manager becomes that of an opportunity creator while living with uncertainty instead of mitigating it. Further in today's dynamic environment executives are supposed to think like entrepreneurs. This calls for new ways to think about uncertainty. The task of manager becomes that of an opportunity creator while living with uncertainty instead of mitigating it.

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AUTHORS	TERM	CONCEPTUALISATION
1. Anderson *et al.* (1981)	Uncertainty	A situation in which one has no knowledge about which of several states of nature has occurred or will occur
2. Anderson *et al.* (1981)	Uncertainty	A situation in which one knows only the probability of which several possible states of nature has occurred or will occur
3. Anderson *et al.* (1981)	Risk	Same as (1)
4. Anderson *et al.* (1981)	Risk	Same as (2)
5. Humphreys and Berkley (1985)	Uncertainty	The inability to assert with certainty one or more of the following: (a) act-event sequences; (b) event-event sequences; (c) value of consequences; (d) appropriate decision process; (e) future preferences and actions; (f) one's ability to affect future events
6. Lathrop and Watson (1982)	Risk	Potential for deleterious consequences
7. Lathrop and Watson (1982)	Uncertainty	Lack of information available concerning what the impact of an event might be
8. MacCrimmon and Wehrung (1986)	Uncertainty	Exposure to the chance of loss in a choice situation
9. Harrison (1995)	Risk	A common state or condition in decision-making characterised by the possession of incomplete information regarding a probabilistic outcome.
10. Harrison (1995)	Uncertainty	An uncommon state of nature characterised by the absence of any information related to a desired outcome.
11. Spradlin (1997)	Risk	The possibility of an undesirable result
12. Holmes (1998)	Risk	A situation which refers to a state where the decision-maker has sufficient information to determine the probability of each outcome occurring.
13. Holmes (1998)	Uncertainty	A situation where the decision-maker can identify each possible outcome, but does not have the information necessary to determine the probabilities of each of the possibilities.

Table 2.1: *Conceptualisations of risk and uncertainty (source: adapted from Lipshitz and Strauss, 1997)*