An Overview of Cognition Roles in Decision-Making

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INTRODUCTION

The ability to make choices is regarded as essential to human action to modern life individually, collectively and in the corporate context. A central theme in present-day organization theory is the endeavor to understand decision-making by individuals, groups and organizations. It is seen as a representative activity in organizations (Hodgkinson & Starbuck, 2008). The study of decision-making "has a long history encompassing a variety of perspectives, philosophical positions and prescriptions (…) and it is not without controversy" (Miller & Wilson, 2006, p. 469). The most common distinction drawn is between the normative and descriptive approaches.

In the normative approach, the problem is well defined and there are axiomatic theories that describe what decision a rational person should take in order to maximize a given gain. The descriptive approach, meanwhile, is not interested in what rational agents ought to do, but in what they actually do. The main aim is to understand and explain how individuals process the available information in order to decide (Shafir, 1999). Keren (1996) says of these approaches that there is an unresolved dialectic tension. Decision theory originate it in the normative domain; and for a long time it was beliefs that normative theory covered not just what should happen, but also what actually happens. The normative and descriptive facets were assumed to be one and the same. The evidence "accumulated in the last 40 years has unequivocally shown that this assumption is unwarranted" (Keren, 1996, p. 169). In most cases, human behavior appears to diverge consistently and systematically from the normative descriptions.

In the search for descriptions that adhere more closely to the human decision-making process, this text briefly contextualizes the human perspective in the study of decision-making. It then proceeds, on the basis of a review of the literature on cognition during decision-making, to propose the formulation of a model that identifies the roles of aspects of cognition, and their inter-relations, during the decision-making process.

BACKGROUND

Some models of decision-making involved in descriptive approaches, approximating to how decisions are really taken. However, advances in the understanding of the cognitive process have been partly incorporated into organizational applications. Although cognition figures among the earliest focuses for research (Thagard et al., 2007), it is still a subject with many open questions in all the fields where it is considered. Very recently (as compared with other fields) organization-related inquiries entered this group of interested parties (Spiegel, 2013).

In order to understand decision-making "completely," and improve it, the underlying decision-making processes and the variables that affect the process must be examined (Roberts, 2002). Ola Svenson writes: "Human decision making cannot be understood simply by studying final decisions. The perceptual, emotional, and *cognitive* process which ultimately lead to the choice of a decision alternative must also be studied if we want to gain an adequate understanding of human decision making" (Svenson, 1979, as cited in Roberts, 2002, p. 6).

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On this question, Simon (1985) argues that: "Nothing is more fundamental in setting our research agenda and informing our research methods than our view of the nature of the human beings whose behavior we are studying" (p. 303). Even when the focus is the outcome of the decision-making, ultimately it is the process that leads to it and allows it to be defined. While previous research was concerned with decision-making inputs and outputs, attention is now shifting to probe inside the "black box," to examine the real processes involved in generating results from inputs (Roberts, 2002).

In that context, the hypothesis of this study is that the understanding of decision-making agents' cognitive processes gives the basis necessary for understanding their decisions better. Once they are understood, that is believed to give access to the foundation underpinning description of human decisions (Spiegel, 2013).

MAIN FOCUS

Given the importance of opening the "black box," this article presents the results of a review of the related literature. It offers a structured presentation of the present state of our understanding of how cognition functions, and of its roles in relation to decision-making. In order to conceive the model, search strategies were adopted to permit a systematic research process.

Figure 1 summarizes the literature search method underpinning the review. It shows the main sources of articles and books, and the keywords used. Note that one key characteristic of the search was the use of the "snowball" method, which consists in researching the literature by tracing references. One reference in a text points to other texts, and references in those texts point to a larger set of texts, and so on. The arrows in Figure 1 indicate that procedure.

Figure 1. Literature search method