Information Processing Approach in Organisational Cognitive Structures: Relationship between Top and Middle Managers’ Cognitions

Jukka-Pekka Bergman, LUT School of Business and Management, Lappeenranta University of Technology, Lappeenranta, Finland
Vladimir Platonov, St. Petersburg State University of Economics, St. Petersburg, Russia
Igor Dukeov, LUT School of Business and Management, Lappeenranta University of Technology, Lappeenranta, Finland
Pekka Röyttä, Environmental Modelling Group, Department of Fluid Dynamics, Institute of High Performance Computing, A-STAR, Singapore, Singapore
Pasi Luukka, LUT School of Business and Management, Lappeenranta University of Technology, Lappeenranta, Finland

ABSTRACT

Despite of increasing interest in social cognitive research in strategic management during recent years, few studies have examined the relationship between cognitive structures of top management and middle management. This study represents the information processing approach in managerial cognition research assuming that top management communicate their shared cognitions into the organization reducing ambiguity of operative environment faced by the other levels of organization shaping the operations of the organizations. The authors' empirical study examines managerial cognitive maps collected with a cognitive mapping method in a transportation company. In the study, top managers and middle managers separately evaluated sustainability management issues and their relevance for the company providing 75 individual cognitive maps. Based on this, the authors' study aims to fill the gap in research of relationship between top management and middle management cognitive structures and increase understanding on role of managerial cognition in strategic management research.

KEYWORDS
Cognitive Mapping, Cognitive Schemas, Distance Ratio, Dominant Logic, Middle Management, Shared Cognition, Top Management

INTRODUCTION

Since Simon’s (1955) research, cognitive explanations on decision making in organizations have gained the significance as research foci of strategic management. In decision-making, companies and their environments are seen as complex systems (Dooley & van de Ven, 1999). Such complex systems comprise a large number of dynamically interacting elements, where interactions are rich and individual elements are typically ignorant of the whole system’s behavior (Levy & Lichtenstein, 2012). Managers to cope with complexity make sense of the world by using partial mental models like recipes/cognitions gained from previous experience (Daft & Weick, 1984; Johnson, 1987; Stacy, 1995). These interconnected cognitions form individual and group level cognitive structures being relatively persistent representations of interrelating elements of information and their relationships (Walsh, 1995). Managers’ existing cognitive structures serve as simplified perceptions of knowledge being means of simplifying cognition in conditions of complexity and restricted information (DiMaggio,
In this paper, we study managerial cognitions to understand the interaction of top and middle managers in strategic-decision making and the role of different organizational levels in the emergence of shared cognitive structures that has prominent role in the strategic action (Prahalad & Bettis, 1986; Lyles & Schwenk, 1992).

This paper addresses several gaps existing in the literature on managerial cognition. First, despite of extensive strategic management research on cognitive structures in organization, there is relatively few studies testing the relationship between shared cognitive structures of top management and middle management (e.g. Walsh, 1988, 1995; Beck & Plowman, 2009). Second, these studies are mostly focusing on effects of shared cognitive structures of top management or middle management on company performance (e.g. Bettis & Prahalad, 1995; Dutton et al., 1997; von Krogh et al., 2000; Beck & Plowman, 2009; Kor & Mesko, 2013). Third, still there is a need for more evidence supporting the seminal insight of Prahalad and Bettis (1986), that top managers’ shared cognitive structure stores a shared dominant general management logic of the organization. Fourth, despite of extensive literature on the involvement of middle management in the strategic decision making (Wooldridge et al., 2008), there is a little empirical studies of the prevalence of top-down or bottom-up process in the actual decision-making (van Rensburg et al., 2014).

We address these particular research needs by exploring shared cognitive structures (Prahalad & Bettis, 1986) on two organizational levels: top and middle management levels assuming that the cognitive structures in organizations created and disseminated by the top management frame cognitions of other organizational members. Here, top management communicate their shared cognitions into the organization reducing ambiguity of operative environment faced by the other layers of organization as middle managers and consequently their cognitive structures are influenced by top managers’ shared cognitions.

In our empirical study, we examine managerial cognitive maps collected with the hybrid cognitive mapping method in a single organization context. The case company operates in transportation sector and has a dominant position in the national market. The company provides services both in the corporate and private markets. In the study, top managers and middle managers separately evaluated sustainability management issues and their relevance for the company providing 75 individual cognitive maps. Based on the elicited cognitive maps, our study aims to fill the gap in research of relationship between top management and middle management cognitive structures and increase understanding on the framing effect of top managers’ shared cognition on cognitive structures in organizations. Through this, we add evidence for the theory of dominant logic and the prevalence of top-down process in strategic decision-making.

We organize the paper as follows. First, we review the strategic cognition literature to explain cognitive diversity on managerial interpretations and the role of shared cognitive structures in organizations. Next, we use hybrid cognitive mapping technique and distance ratio to analyze relationship between cognitive structures of top management and middle management. Finally, we provide our conclusion and suggestions for the future research avenues.

THEORETICAL BACKGROUND

Shared Cognitive Structures

Cognitive research on strategic management studies has its basis in Simon’s (1955) research on the capacity of human cognition relative to requirements of information environments in which the individuals perform.

“Classical theory is a theory of a man choosing among fixed and known alternatives, to each of which is attached known consequences. But when perception and cognition intervene between the decision-maker and his objective environment, this model no longer proves adequate” (Simon, 1959).
Role of Web Interface in Building Trust in B2B E-Exchanges
www.igi-global.com/chapter ROLE-WEBSITE-INTERFACE-BUILDING-TRUST/52132?camid=4v1a