A Study on Cognition and Management

Sonu Garg, Associate Professor

Department of Management Studies, Vivekananda Global University, Jaipur

Email Id - Sonu.Garg@vgu.ac.in

ABSTRACT: *The intersections of cognitive science and management/organizational sciences as research areas are discussed in this review; surveys on managerial cognition, cognitive biases in managerial decision making, entrepreneurial cognition, and overall organizational thoughts are surveyed and discussed in this review. The intersection of these disciplines, as well as cooperation of academics from different fields, is seen to be productive and promising in terms of formulating and answering research problems from a fresh perspective. Cognitive management is regarded as one of the most creative concepts in contemporary management. Tools that influence human cognitive capacities are used to carry out management tasks in cognitive management. The method of managing organizational knowledge, which is feasible in the information society and most successful in a social context, is referred to as cognitive management. Cognition refers to the mental processes that go into thinking, such as paying attention to information, processing it, and organizing it to produce meaning, which is the foundation for acting, learning, and other human activities. Information processing capabilities and brain processes influence and control one's perceptions, language, and, eventually, actions, according to cognitive research. The significance of perceptions, assumptions, and social signals is highlighted by an emphasis on thinking. It highlights biases in information processing and communication meaning creation. Finally, it prepares the ground for learning since human adaptability is based on innovation and creativity and behaving.*

KEYWORDS: Cognition, Management, Managerial Cognition, Organizational Cognition.

1. INTRODUCTION

1.1 Management and cognition:

The cognitive sciences have nothing to say about management and organization, which is unexpected. The present author, a cognitive scientist with a PhD in organizational studies, is astonished to learn that connecting these disciplines from the perspective of cognitive science is uncommon, if not non-existent. On the other hand, there is a long list of cognitive research studies performed from the opposite side, namely management and organizational studies. As a result of recognizing the need for such a research agenda, it was decided to approach management and organization from a cognitive scientific perspective, which differs from cognitive psychology and general cognitive approaches in that it takes an interdisciplinary approach and attempts to understand the elephant as a whole, rather than just its feet or tusks. Although the study of managerial cognition is not new, the fact that it has been studied independently by academics from different disciplines has stifled its growth as an emerging subject in management and cognitive sciences. The importance of cognition for intrinsic motivation in organizations was studied in one of the first studies. Three different types of management cognition and their effects on shareholder losses in reality, research on cognitive biases was important to management cognition research, but he chose to focus his study on decision makers in general rather than managers specifically, which allows him to apply his results to other domains such as political decision making. The study examines top managers' efficacy beliefs, which relate to a manager's confidence in his or her ability to complete a certain job. Polaroid's transition from analog to digital photography serves as a case study for how management cognition may contribute to technical developments in a business[1]. Adopt a cognitive approach in their study on international entrepreneurs to define reasons to internationalize and mental models of international entrepreneurs. Similarly, it describes an entrepreneur's overconfidence bias in terms of both personality and environmental variables. Managerial cognition factors such as "strategic cognition," "managerial openness to networking," and "managerial openness to new technologies," according to an empirical study of R&D management in the pharmaceutical sector, maximize creative practices. Another research looking at innovation and R&D management focuses on the receipt and interpretation of uncertainty through managerial cognition. on the plane The focus of the study is on how CEOs' cognitive frameworks (referred to as "executive cognition") play a role in retaliation decisions, while stressing the importance of institutional factors in tandem with managerial cognition to demonstrate how managers' cognitive representations influence strategic actions. Managerial cognition, along with managing social capital and management human capital, is one of the "three fundamental foundations of dynamic managerial skills" that should be studied. Distinct entrepreneurial cognition, cognitive resources, and mental representation as separate factors for a more comprehensive study goal. Managerial moral cognitions, on the other hand, have received less attention. , for example, assesses a manager's so-called "moral awareness" based on their answers

to moral vignettes developed using a social cognition paradigm. In this context, one of the most popular methods for studying management cognition is cognitive mapping. Other important factors, according to an editorial in a special issue on entrepreneurial cognition, include opportunity assessment, planning fallacy, and regretful thinking.

"How do entrepreneurs think and make strategic decisions?" is an example of a question. Why do some people see possibilities for new goods or services that may be successfully utilized while others do not?" or "How do these differences contribute to competitive advantages and disadvantages?" are some examples of research questions in entrepreneurial cognition. As shown in the next question, acquisition may be another route for research: "How do entrepreneurial people develop (acquire) their cognitive structures and contents?" As previously stated, one of the most frequent study topics related to management cognition is that of mistakes and biases in decision making[2]. In that sense, the idea of "error management" is a helpful one. The concept of implicit social cognition, which is unconscious and unintended, is used to expand on management biases, providing a socially critical perspective and investigation of managerial prejudices. Another popular study topic in cognitive science of management and organizational studies is the concept of cognitive styles; however, there is no agreement on the construct's definition and breadth, making comparisons and debates challenging. Organizational cognition is another important research area for the study of management cognition. Analyze how context and cognition interact in sense making in a business in their research on situated cognition. In the same line, 'organizational regulatory, normative, and cognitive components' for organizational transformation. In organizational contexts, the impact of team need for cognition (defined as "the propensity to participate in and enjoy effortful cognitive activities") on team performance. Organizational cognition is important and essential to make sense of organizational complexity and ambiguity, just as it is for managerial cognition. Demographic traits of top managers are used as proxy for cognitive factors. The difficulty in gaining access to senior management sometimes leads to the use of proxies rather than direct measures. However, as argues, demographic factors may be deceiving since they provide information about top managers' history but not their present circumstances or future plans.

1.2 Managerial Cognition:

The concept of managers as information processors was the first link between cognitive sciences and management/organizational studies. This is when the computer analogy comes in handy. The connections between two study fields, on the other hand, grew increasingly complex and reasonable in the following decades: Various aspects of managerial cognition, such as "mental representations, mental models, beliefs, resource and strategic schemas, attention, perception, interpretation, reasoning, and emotion regulation" have been investigated so far, according to their comprehensive review of research on managerial cognition, managerial social capital, and managerial human capital. Managers' attention focus and causal logics as main elements of managerial cognition are studied. A disconnect is observed between the economic view, which claims that industry structure is the most important determinant of strategic action, and the cognitive view, which claims that managerial cognition is the most important determinant. Managers are seen as rational in the economic perspective, but have limited rationality in the cognitive view, with the potential of biases, mistakes, and fallacies. a comprehensive approach that considers both factors as well as their interconnections, such as the impact of industry structure on managerial cognition and vice versa[3]. They argue that both are critical for strategic action and that there is a bidirectional connection between industrial structure and management cognition based on their empirical study. The effectiveness views of top managers are studied as a cognitive variable. Organizational efficacy beliefs, group efficacy views, and self-efficacy beliefs are the three types of effectiveness beliefs he identifies. In his conception, the term "group" refers to the senior management team. Bandura's well-known social cognition theory inspired this paradigm. Emphasizes that group effectiveness is not the same as the sum of individual members' efficacies, since they interact and resources given to the group rather than to each person have a significant role in group efficacy. Another important element is group cooperation. As said, in a dysfunctional instance of within-group conflict, the group as a whole may have a lower degree of effectiveness than the sum of each individual member's efficacy. The same may be said for organizational efficacy views.

In this context, Armstrong reviews decades of research on cognitive styles in organizational and managerial settings, noting that cognitive styles have been studied using the components of field independence-dependence, extraversion-introversion, sensing-intuition, thinking-feeling, judgment-perception, adaptation-innovation, analysis-intuition, rationality-experientialist, linear-non-linear thinking, and linear-non-linear reasoning. The first topic is person-environment fit from a cognitive standpoint, which is the focus of the majority of the study. Such studies, which have an HR emphasis, aim to find the optimum fit between

employee profiles and job kinds[4]. The second topic looks at how national culture influences cognitive styles. This opens the door to a discussion of national cognitions (e.g., Japanese cognition, American cognition, etc.), which is no longer a popular topic since it ignores a number of important factors such as individual variations and cultural variety. The third topic is similar to the first, except that the subject of fit is limited to teams rather than companies as a whole. The fourth topic focuses on the ease or difficulty of learning in terms of cognitive styles, as well as the impact of business trainers' cognitive styles on their teaching. In organizational contexts, not only learning styles but also teaching styles are studied. The sixth topic focuses on how cognitive styles may either restrict or assist decision-making processes in corporate contexts, such as risky decision-making, commitment escalation, and framing effects. The sixth theme is more difficult to describe and operationalize since enigmatic words like creativity, invention, and intuition are difficult to define and operationalize. The cognitive styles concept is used to describe entrepreneurial thinking in this line of study. Consumers are divided according to their cognitive types in the seventh theme, and marketing, advertising, and sales strategies are created and executed appropriately[5].

1.3 Cognitive Biases in Managerial Decision Making:

The origins of the biases are in the fact that decision makers see the issues at hand as unique, ignoring their previous statistical baselines and generic nature. This exposes biases such as excessive caution on the one hand and exaggerated optimism on the other. According to the rational model of classical homo economics, they are sometimes risk averse and other times risk seeking when they are not meant to be. In addition, they are vulnerable to framing effects. There are also cognitive biases in management decision-making. The effect of socio-cognitive biases on different social groupings is highlighted. Although obvious prejudices are simple to detect and address, hidden biases are more difficult to address. Top executives are sometimes unaware of their own social prejudices. As a result of implicit cognitive processes, the majority of biases go unnoticed. Investigates moral cognition among business managers and academics from a relatively convergent viewpoint. Business executives are reported to be less concerned with moral problems than academics. Cognitive biases and mistakes, contrary to long-held and popular views in relevant academic areas as well as daily life, are not always harmful to decision-making. Some biases may help us avoid making more expensive errors[6].

1.4 Entrepreneurial Intelligence:

"Do entrepreneurs think differently than other business people?" is one of the most important questions to address in an academic study of entrepreneurial cognition. Entrepreneurial possibilities are discovered, evaluated, and exploited via cognitive processes. Entrepreneurial cognition may be divided into three categories: economics-based, personality-based, and strategy-based. The economics-based approach to entrepreneurial cognition has been challenged since it is less empirical than required, concentrates on result variables while neglecting process problems, and seldom addresses the micro issues that are important for entrepreneurial cognition. Second, personality-based methods mostly failed because they were unable to identify personality and demographic characteristics that differentiate entrepreneurs from the general population. Third, rather than attempting to explain entrepreneurial thought processes, the strategy-based approach spends much of its time focusing on organizational consequences of entrepreneurial action. The continued focus on entrepreneurs as super-heroes, which has echoes in individualistic success myths in 'the global West,' does not seem to be backed up by solid scientific data or thorough descriptions. At this academic and philosophical crossroads, we see cognitive sciences' contribution to entrepreneurial research as especially promising, since we are excited about a long-overdue cognitive understanding of the field. The cognitive method focuses researchers on the thought processes of entrepreneurs, including different modes of thinking, scripts, scenarios, schemas, skills, talents, and cognitive assets, as well as cognitive deficiencies, biases, fallacies, mistaken beliefs, illusions, and mistakes. In this context, describe entrepreneurial cognition as "knowledge structures that individuals employ to make evaluations, judgements, or choices regarding opportunity appraisal, venture formation, and growth[7]."

1.5 Organizational Cognition: on the opposite side of the table, one of the first works in organizational cognition research. They look at staff cognition rather than management cognition. They define employee empowerment as a boost in intrinsic work motivation. Although this idea may be disputed today, since it conflates work circumstances with motivation, this study is significant because it proposes that making meaning of the job is directly linked to employee motivation. Consider organizational cognition as both a crucial mediator between the organization and the environment and a vital organizational resource[8]. The significance of schemas and context interactions in situated cognition as applied to organizations, with a focus on event schemas, self-schemas, and rule schemas, as well as institutional/cultural context, artifact context, physical context, and socio-dynamic context[9]. In her study on change management, she identifies three

organizational components that must be considered in order for a change strategy to be effective. Regulative change (a.k.a. 'have to' type of change in which staff changes because they are asked to), normative change (a.k.a. 'ought to' type of change in which staff changes because of changing norms (i.e. "everyone does it this way" mentality), and cognitive change (a.k.a. 'want to' type of change in which staff wants to change) are the three types of change. The third is particularly important for cognition and management study since how a new strategy is accepted, understood, and interpreted by employees is essential for a successful change management plan[10].

2. DISCUSSION

Although a multitude of studies have been aimed at bridging the gap between cognitive science and management/organizational research, some of the subjects remain understudied, as can be observed from this literature review. We've included a few examples for these understudied topics in this section: In management and organizational cognition, attribution mechanisms are seldom investigated. Entrepreneurial attribution patterns in both success and failure, for example, would be a fascinating study subject since how people make attributions has consequences for perseverance or demoralization. If individuals attribute their failures to stable variables, for example, their desire to engage in hazardous business transactions will be harmed, while a less stable element would not damage their motives since the failure will be ascribed to the specifics of the case rather than a general problem. More study is also required to link well-known publications on risk aversion and risk seeking to a range of management and entrepreneurial cognitive factors. Similarly, although a number of cognitive biases in management cognition and related topics have previously been studied, less well-known cognitive biases such as planning fallacy and post-purchase rationalization in sunk cost situations may be expanded in future works. In terms of organizational cognition, it's time to revisit the work of a cognitivist ethnographer: This paper is regarded as one of the forerunners of the concept of distributed cognition, which has served as a counterpoint to individualist explanations of cognition. To begin with, this book is one of the compulsory reads in graduate cognitive studies, and it is also in the area of management and organization study. Although the concept of distributed cognition is used in a lot of the studies mentioned in this literature review, more might be done at deeper levels of analysis. Extending the limits of cognitive science of management and organizations would need a cognitive ethnography approach and methodology, in particular.

3. CONCLUSION

This literature review presented and analyzed a number of works on managerial cognition, cognitive biases in managerial decision making, entrepreneurial cognition, and organizational cognition after presenting the intersections of cognitive science and management/organization as study areas. The diagram shows how the confluence of different disciplines, as well as cooperation between academics from diverse fields, may be productive and rewarding. Future studies will promote an integrative approach to management and organization that is more realistic. Researchers in the field of organizational cognition, in particular, have a lot of ground to cover. This is due to conventional scholarship's sole emphasis on individual cognitive processes. Although thinking cognitive processes in a collective manner will be theoretically and practically difficult, since it will be much more complex than conceptualizing cognitive processes at the individual level, the effort will be worthwhile. Because it will allow for a more accurate portrayal of real-life cognitive processes, which are not usually and necessarily at the individual level.

REFERENCES

[1]   T.-P. Uotila, "Eliciting Managerial Cognitions - The Role of Cognition in Management Research," *J. Econ. Bus. Manag.*, 2015, doi: 10.7763/joebm.2015.v3.184.

[2]   M. D. Ensley and C. L. Pearce, "Shared cognition in top management teams: Implications for new venture performance," *J. Organ. Behav.*, 2001, doi: 10.1002/job.83.

[3]   W. B. Miller, "Biological information systems: Evolution as cognition-based information management," *Progress in Biophysics and Molecular Biology*. 2018, doi: 10.1016/j.pbiomolbio.2017.11.005.

[4]   M. Augier and M. Thanning Vendelø, "Networks, cognition and management of tacit knowledge," *J. Knowl. Manag.*, 1999, doi: 10.1108/13673279910304005.

[5]   C. Heavey and Z. Simsek, "Distributed Cognition in Top Management Teams and Organizational Ambidexterity," *J. Manage.*, 2017, doi: 10.1177/0149206314545652.

[6]   M. D. McNeese, V. F. Mancuso, N. J. McNeese, T. Endsley, and P. Forster, "An integrative simulation to study team cognition in emergency crisis management," 2014, doi: 10.1177/1541931214581059.

[7]   X. Xue, Q. Shen, Z. Ren, and J. Ni, "Cognition and decision making in construction engineering and management: A case of construction project contract negotiation," *J. Converg. Inf. Technol.*, 2011, doi: 10.4156/jcit.vol6.issue3.26.

[8] X. Xue, "Cognition and decision making in construction engineering management," 2010, doi: 10.1109/ICCIT.2010.5711153.

[9] T. D. Hecht and N. J. Allen, "Shared cognition in top management teams : implications for new venture performance," *J. Organ. Behav.*, 2009.

[10] C. Baird, J. Lovell, M. Johnson, K. Shiell, and J. E. Ibrahim, "The impact of cognitive impairment on self-management in chronic obstructive pulmonary disease: A systematic review," *Respiratory Medicine*. 2017, doi: 10.1016/j.rmed.2017.06.006.