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Strategic foresight capability as an enabler of management innovation

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ABSTRACT

Purpose. To investigate strategic foresight capability and its role in enabling the process of management innovation.

Approach. The research follows a narrative literature review, divided into three phases, during which the key topics – strategic foresight, management innovation and managerial cognition – are researched for their potential interaction.

Findings. Each individual has an innate capability for foresight. In organisations, strategic foresight capability is developed and sustained by both managers and employees. Managerial cognition is the basis for developing strategic foresight capability; therefore, it is vital for it to be addressed prior to reviewing the application of strategic foresight. Well-developed strategic foresight capability acts as an enabler for management innovation, which, in turn, ensures an organisation's sustainability. The research identified a connection between strategic foresight capability and management innovation.

Value. This conceptual paper investigates strategic foresight capability and its role in the process of delivering management innovation. The study has set a basis for further research towards defining strategic foresight capability in the context of managerial dynamic capability. In particular, this is true for organisations that have a long history and are thus exposed to the challenges of upcoming business environment changes.

Keywords: strategic foresight capability, management innovation, managerial cognition, dynamic managerial capabilities

INTRODUCTION

Innovation is often regarded as a tool ensuring the long-term sustainability of an organisation. This is true for various types of innovation, including management innovation. Therefore, it is important to discuss the factors which impact the development of capability to deliver innovation. In order to successfully utilise innovative intentions, it is important to understand their roots.

Innovative intention is a product of cognitions involving normative assessments, attitudes and belief-based analysis of past experience leading to reasoned action (Miniard and Cohen, 1983; Fishbein and Ajzen, 1975). Some researchers argue that innovative attitudes and intentions are often influenced by the situation rather than by an organization's cultural values (Camelo-Ordaz *et al.*, 2011; Rokeach and Kliejunas, 1972).

A significant amount of literature discusses the relationship between management cognition and the ability to deliver innovation (Ajzen, 2002; Zlatanović and Mulej, 2015; Alabduljader, 2019); nevertheless, it often omits intermediary factors like organizational, team and individual capability to ensure innovation. These factors are closely linked to management practices throughout the organisation. The executed management practices reflect the existing managerial capabilities. Managerial capabilities are vital for business performance and sustainability, fostering an environment for innovation to thrive. One such managerial capability is related to strategic foresight.

Strategic foresight is a rather new discipline that evolved in the late 1950s and gained popularity in recent decades. According to Rohrbeck, the strategic foresight concept is rather complex and has not been clearly defined – it is viewed as a process, a tool, and a capability and is weakly linked (Rohrbeck *et al.*, 2015) to the current business environment.

The field for research of strategic foresight is vast and as indicated in the systematic literature review by Iden *et al.* (2017), the focus is on strategic foresight's application methods rather than the added value and motivation for its application. Manral (2011) emphasises that despite the previous research, better understanding of the management of the micro-processes by which innovations unfold is still called for.

In this conceptual paper, for the purpose of better understanding the role of strategic foresight in delivering innovation, it is viewed from a managerial capability perspective. A certain skill set and mindset is required to master strategic foresight. This presents a crucial need to understand the cognitive capabilities of managers and the potential correlations among managerial cognition, strategic foresight and management innovation.

Ettlie *et al.* (2014) explain that from an organisational perspective, cognition is approached by two separate domains: entrepreneurial and managerial. In this article, the managerial

domain is discussed, thus offering interdisciplinary insights for discussing strategic foresight, as the authors have addressed the disciplines of psychology and business with the aim to define the potential relationship.

The authors put forward an assumption stating that strategic foresight cognitive managerial capabilities have a direct impact on the application of strategic foresight in an organization, thus ensuring management innovation. The higher the strategic foresight cognitive managerial capabilities, the higher the added value from management innovation delivered to the stakeholders.

To investigate this assumption, the authors address the following research question: Does managerial cognition capacity have an impact on the application of strategic foresight?

As previously mentioned, this conceptual paper strives to be interdisciplinary in nature; therefore, as a research method, the authors have selected a narrative literature approach. The study is based on the research of leading authors and thinkers in the areas corresponding to the research question. Nevertheless, in order to limit any biases and reflect on the scientific discussion, the authors have looked at other related research.

The narrative literature review as a research method was conducted in three phases. During the first phase, the authors scanned such databases as Scopus, Emerald Insight, and Web of Science in order to determine leading research items and scholars. The search was executed by using keywords matching the topics of this conceptual paper: strategic foresight, management innovation and managerial cognition. During the second phase of the literature review, the authors added additional keywords to the search – management innovation and cognition – since the results of the first phase indicated the need to broaden the scope of the literature review. The third phase focused on identifying correlations in the literature among the three key topics – strategic foresight, managerial cognition and management innovation – with a focus on identifying how strategic foresight enables management innovation.

MANAGEMENT INNOVATION

Management innovation (Hamel, 2006; Birkinshaw *et al.*, 2008; Mol and Birkinshaw, 2014; Walker *et al.*, 2010) or managerial innovation (Favoreu *et al.*, 2018; Damanpour, 2014) is defined as the adoption of management methods, organisational and operating practices and behaviours that are new to the organisation and aim to improve organisational performance (Walker, 2006; Mol and Birkinshaw, 2014; Damanpour and Schneider, 2008). To put all of the above in simple terms – it is about changing how managers do what they do (Hamel, 2006).

The concept of management innovation is becoming increasingly popular in the literature (Alabduljader, 2019), as the current, rapidly changing environment demands nonstop execution (Rosario *et al.*, 2013) in order to ensure business sustainability. However, Alabduljader (2019) argues that nonstop management innovation is required instead. Management innovation comprises a novelty introduced in an established organisation, causing organisational changes and thus bringing benefits to the stakeholders in the short or long term.

Attainment of business goals in the context of an uncertain environment requires innovation in management principles and processes to establish a long-lasting advantage and enhance an organisation's competitive advantage. But not everything might be as simple as it seems. Alabduljader (2019) argues that the novelty or the newness of something gives rise to a discussion, as it is unclear against what referential frameworks it is being measured.

The opinion leaders – Birkinshaw and Hamel in their research (Hamel, 2006; Mol and Birkinshaw, 2014; Birkinshaw *et al.*, 2008) – often refer to management innovation as being the “state of the art” within the organisational context. However, the question whether it is enough to look at managerial innovation through the lens of the organisation or rather the external environment remains open for further research.

Despite the ongoing discussion, scholars have strived to identify the characteristics of management innovation as follows (Hamel, 2006; Walker, 2006):

- A bewitching problem that demands fresh thinking, a challenge for management orthodoxy;
- Novel principles or paradigms that have the power to illuminate new approaches;
- A careful deconstruction of the conventions and dogma that constrain creative thinking;
- Examples and analogies that help redefine what is possible;
- Changes in internal operating methods and social interactions, representing a part of an ongoing programme, executed systematically.

Hamel (2006) emphasises that the only way to change how managers work is to reinvent the process that is governing the work, e.g. such management processes as strategic planning, hiring and promotion, internal communication, project management, etc. Even though management innovation has allowed companies to cross new performance thresholds, few companies have a well-boned process to proceed with management innovation. A number of companies have formal methodologies when it comes to product innovations. Currently, it is very popular to execute various improvements in existing business processes or to create new ones in order to increase efficiency and reduce costs. However, innovation capability is required to proceed with any type of innovation within an organisation.

Alabduljader (2019), following an extensive literature review, extracts drivers which can influence the degree of innovation in the organisation, the most important of which are referred to as talents and skills. Zlatanović and Mulej (2015), apart from this, also emphasise that the internal culture of the organisation, accompanied with the understanding of the external environment, are among the main enablers of management innovation. According to Alabduljader (2019), innovation can enable an organisation to outdo its competitors. He also notes the importance of the work environment in fostering innovation and innovative intention. Innovative intention is a form of the broader construct of behavioural intention represented by an individual's likelihood to perform a particular behaviour or class of behaviours (Ajzen, 2002).

Innovative intention is characterized as the degree of readiness to engage in various forms of behaviour targeted at individual, group, and organizational levels for effecting improvement, goal attainment, and change; and ranging from behaviours associated with the early phase of idea generation to eventual implementation and learning (Tidd *et al.*, 2001; Shalley *et al.*, 2004; Woodman *et al.*, 1993). As noted by Anderson *et al.* (2014), the topic of how innovation and creativity should be enabled in the organisation in a systematic and sustainable manner – innovation behaviour – has not been sufficiently addressed.

In the context of innovation behaviour, the dynamic capabilities framework is considered to be rather limited as it does not present a sufficient linkage between development capabilities and organisational strategies (Ambrosini and Bowman, 2009; Helfat and Peteraf, 2009).

Ekvall (1997) states that those organisations striving to be recognised as innovative face the continuous challenge of replacing repetitive business process routines within increasingly uncertain actions and environments, thus leading to innovation. This is, however, not an easy task as managers often fall back on their habitual routines rather than change them towards the process of innovation (Cavagnou, 2011). Damanpour and Schneider (2006) generalise innovation as a process consisting of four phases: awareness, adoption, implementation and institutionalisation / routinisation.

Further research on innovation and dynamic capabilities reveals that innovation capability is characterised as one of the critical components of dynamic capability (Wang and Ahmed, 2007). Furthermore, innovation capability is even referred to as a form of dynamic capability (Anderson *et al.*, 2014). Recent studies identify several managerial micro-foundations, such as leadership characteristics. However, research regarding managerial cognitive and personality characteristics influencing the development of a firm's dynamic capabilities remains limited (Helfat and Peteraf, 2015; Hodgkinson and Healey, 2011).

Anticipatory activities influence the cognitive capabilities of the organization to sense and make sense of changes, risks, opportunities and the need for strategic shifts (Rhisiart *et al.*,

2015). Foresight activities, when properly deployed in a day-to-day activity and as a capability embedded in an organization's culture and structure, can help to identify signals that cannot be detected using the habitual and dominant search logic of businesses (Schoemaker and Day, 2009). The role of foresight in enhancing dynamic capabilities has been explored for innovation in firms (Rohrbeck and Gemünden, 2010).

Separate concepts have been identified: 'foresight attitude' – the learning cultivated by individual managers – and the programmed 'foresight activity' within the organizational setting (Bootz, 2010). Deployment of strategic foresight activities has an important role in the overall innovation processes – in visioning (Sarpong and Maclean, 2012) and in guiding strategic innovation (Rohrbeck and Gemünden, 2011). Nevertheless, as research has identified, management innovation can only be enabled on the Mature and World-class maturity levels as only on those levels have executives, and the organisation as a whole, mastered strategic foresight capability.

Based on the previous discussions, it turns out that strategic foresight and management innovation have strong relationships. From the authors' point of view, strategic foresight can be considered as an enabler or a tool of management innovation in the organizational context.

FORESIGHT AND STRATEGIC FORESIGHT

Foresight insists on the necessity to live creatively (Klakurka, 2016) and is referred to as the core knowledge-based competence within the organisation (Major *et al.*, 2001) which is mainly applied to improve the perception of opportunities (Bezold, 2010). In order to enhance perception capabilities, Klakurka (2016) suggests engaging in processes that would allow individual expression and collective awareness of creative possibilities. These processes, once created, should be included in the long-term strategic planning activities. Moreover, these processes should be predictive and creative (Tevis, 2010).

On many occasions, foresight is executed as a process of recreating historical events (Burrows and Gnad, 2018). Such an approach is backed by the assumptions that the future is created based on past events, which leads to the belief that the future is predicted rather than foreseen, thus highlighting the disorganisation of the academic environment (Rohrbeck, 2015) and perception that foresight has evolved in isolation from the research body of business strategy (Major *et al.*, 2001). This opposes other scientific discussions in which foresight considers the future to be an open space that is yet to be built (Djuricic and Bootz, 2019) based on the sensing of market transformations (Klakurka, 2016) or future markets (Micic, 2010) and perceiving them as the reality of the future. Miller (2011) goes even further, stating that the main challenge is not to find ways to "know" the future but rather embracing the novelty of not knowing the future. This strongly correlates with

cognitive biases, which, in the organisational context, comprise managerial cognition, leading to the anticipated application of strategic foresight.

It has already been highlighted that the existing body of literature does not reflect the consensus on the definition of strategic foresight. Therefore, the authors propose understanding strategic foresight as a complex concept to create and maintain a forward view (Rohrbeck *et al.*, 2015; Slaughter, 1999), sense opportunities and improvements (Saarikko *et al.*, 2014) and assist decision makers in forming the organisation's future course of action (Vecchiato, 2012; Slaughter, 1999).

One of the roles of strategic foresight is to challenge the mental models and existing assumptions (Heger and Rohrbeck, 2012) of managers. However, strategic foresight as a capability for future value creation and sustainability is often resisted by managers; the same is true for the existing body of literature (Vecchiato and Roveda, 2010). Instead, they tend to rely on tools and methods as the magic recipe to prepare them for the challenges of the future. Such behaviour is linked to the epistemological challenge strategic foresight is associated with (Miller, 2011) as well as personality types and their capabilities (Morrow, 2003).

DYNAMIC MANAGERIAL CAPABILITY FOR STRATEGIC FORESIGHT

Based on the research by Morrow (2003), it can be assumed that strategic foresight capability has to be dynamic in nature, but it does not necessarily have to possess dynamic capability characteristics. Dynamic capabilities refer to the organisation's ability to enhance competitive advantage and, thus, sustainability for the future.

Teece *et al.* (1997) define dynamic capabilities as the ability of an organisation to develop and reconfigure both internal and external competences to address the rapidly changing environment. Three key characteristics have been outlined for dynamic capabilities: sensing, seizing and transforming. Both strategic foresight and managerial cognition have roots within dynamic capabilities (Eisenhardt and Martin, 2000; Wilkens *et al.*, 2016). Dynamic capabilities enable companies to shape the environment they are operating within (Teece *et al.*, 1997). Thus, managerial cognition is a key enabler of capabilities within the organisation, fostering the capability for strategic foresight, which is viewed as the dynamic managerial capability. From the authors' point of view, application of strategic foresight requires the presence of managerial dynamic capability to sense and seize the opportunities for transforming the organization to create the desired future.

Dynamic managerial capabilities help managers to cope with unpredictable changes and present managers with an ability to create, expand, or change the resource base of an organisation (Helfat *et al.*, 2007).

It is often argued that strategic foresight should be integrated into the dynamic capabilities framework as it helps to operationalise it. The practical application of the dynamic capabilities framework leads to enhanced performance and thus the sustainability of an organisation (Eisenhardt and Martin, 2000; Pulsiri and Vatananan-Thesenvitz, 2018). Nevertheless, recent literature on the topic reveals two directions: one follows the assumption that strategic foresight is a dynamic capability itself; the other is more specific and relates it to a dynamic managerial capability.

Strategic foresight as a dynamic managerial capability enhances the decision-making processes in organisations (Helfat and Adner, 2003; Helfat and Martin, 2014; Vecchiato, 2012), leading to management innovations. In addition, dynamic capabilities lead to ensuring sustainability in uncertain environments (Rohrbeck, 2012). However, it should be emphasised that management innovation is possible only at a certain strategic foresight managerial capability maturity level.

Nevertheless, the authors emphasise that despite strategic foresight possessing similar characteristics as dynamic capabilities, it should not necessarily be considered as a dynamic capability itself. Strategic foresight capability has to be dynamic by nature as there are several strategic foresight levels requiring development of strategic foresight capability. Therefore, the authors have reflected on the framework of dynamic capabilities to illustrate the similarities and benefits for organisations. As previously mentioned, in the current body of literature there is no common approach to the phenomenon of strategic foresight; therefore, the authors conceptualise the view on strategic foresight.

Slaughter (1996) developed a model reflecting the foresight implementation levels within a social context. Years later, a similar model was developed by Grimm (2009), explaining foresight maturity levels. This conceptual paper follows Grimm's foresight maturity levels since Grimm's approach is more organisation-oriented in comparison to the social approach described by Slaughter. The authors assume that there is a correlation between the strategic foresight and management innovation – this correlation is illustrated in Figure 1. It is also clear, based on the strategic foresight's literature review, that a certain mindset is required to master strategic foresight. The authors have integrated the cognition levels (Bloom *et al.*, 1995) into the Figure 1 to illustrate the connection to strategic foresight levels introduced by Grimm (2009).

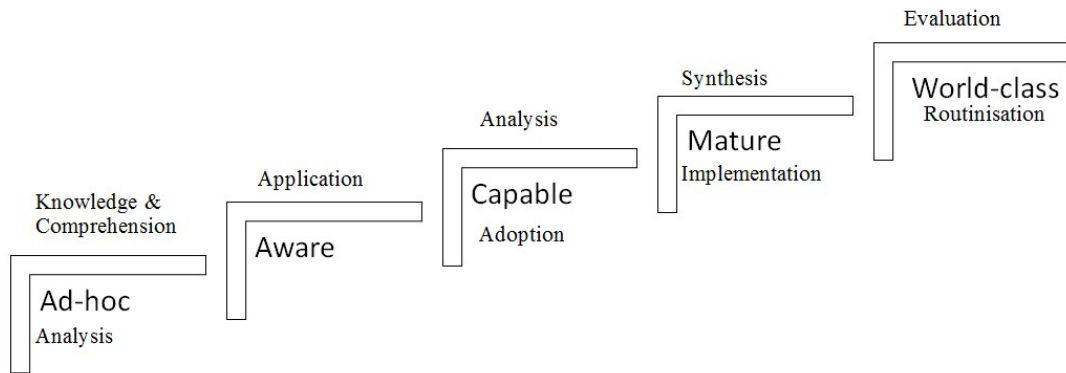


Figure 1. **Strategic foresight's correlation with cognition and management innovation** (Bloom *et al.*, 1956; Teece, 2007; Grimm, 2009; Damanpour and Schneider, 2006)

MANAGERIAL COGNITION

As discussed previously, strategic foresight has characteristics of dynamic managerial capability, which can be present on an individual, group or organisational level. Every manager has an innate ability for foresight, but it has to be enhanced for it to become a managerial capability, which is dynamic by nature. Therefore, it is crucial to understand where this capability originates from and what the main drivers are as well as under which conditions it leads to management innovation. Thus, cognition, particularly managerial cognition, has to be investigated.

The mind is an information processing system (Haugeland, 1981); thus, cognition, in a broad sense, can be characterised as the possession of the conscious and unconscious mental processing of knowledge (Brymer *et al.*, 2011) or, in a more simplified way, how people work with information to solve problems (Ericsson, 2003). From the authors' point of view, cognition is broader than knowledge; it has to be related to understanding and raising awareness about the particular phenomena and tools available for delivering solutions to a problem.

Cognitions have evolved together with interactions with the world; this process includes both shaping the surrounding world and being shaped (Weick, 1995). These interactions are based on domain-specific cognitive skills (e.g. divergent thinking, sensemaking, sense giving) as outlined by Mumford *et al.* (2015). This fosters the opinion that there are different levels of knowledge and awareness required for managerial cognition to be able to utilise the sensing, seizing and transforming stages of dynamic capabilities.

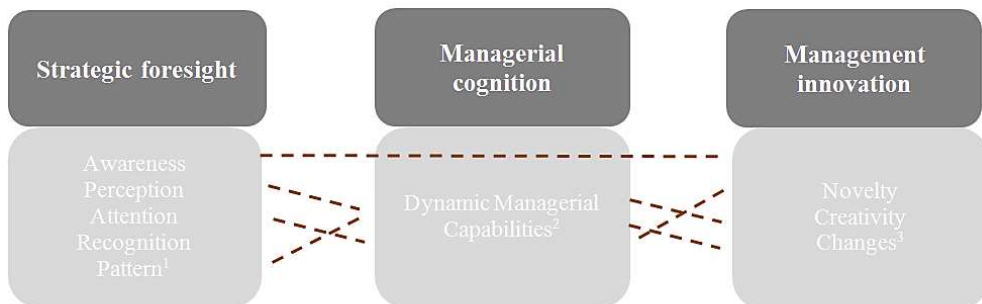
Gioia and Chittipeddi (1991) argue that sensemaking and sense giving skills are of particular importance for successful leadership as they represent an integration of several

mental models. Both skills are required for application of strategic foresight, particularly in sense breaking events (Pratt, 2000). Mumford *et al.* (2015) rightly note that within the literature of leadership, leaders are described as those who do not need to think; rather, they must act.

Managerial cognition highlights such managerial capabilities or mental capacities as sensing opportunities, seizing activities for mobilising resources and reconfiguring resources.

The ability to sense new opportunities depends on how sharp a manager's early perception of the weak signals of the environment is as well as attention to the related opportunities – sensemaking (Helfat and Peteraf, 2015).

Sensemaking is required for enforcing new business developments which are recognised but not yet implemented in day-to-day practice as existing key performance indicators delay the introduction of new practices (Wilkens *et al.*, 2016). Furthermore, researchers note that an open-minded attitude, as a pre-requisite for sensing opportunities, is not always present in new business development. However, mental models need to be challenged in light of the changing environment (Rhisiart *et al.*, 2015). Signals might get missed as organisations tend to have their own interpretation of the world according to their own 'cognitive categories' (Tsoukas and Shepherd, 2004).



¹Baum, 2004; Lycan and Prinz, 2008; Sternberg, 2006

²Helfat and Adner, 2003; Helfat and Martin, 2015

³Hamel, 2006

Figure 2. Interaction among managerial cognition, strategic foresight and management innovation

The existing scientific literature on managerial cognition has largely focused on understanding the subjective interpretation of an organisation's external environment by senior executives (Manral, 2011). Manral (2011) further explains that most of the research on the impact of cognition on an organization's internal environment in which innovation is fostered remains within the domain of psychology. Thus, one can conclude that the drivers or other aspects of innovation have not been uncovered fully.

The changing environment constantly forces managers to face complex problems requiring significant cognitive efforts (Uotila, 2015) and swift decision-making skills. Cognition provides new categorisations and interpretative frameworks for everyday situations (Uotila, 2015). Neisser (1976) recognises cognitions as mental templates that individuals use to form meaning in the context of the information environment. He explains that during this process individuals strive to connect three contexts: the past, the present and the future. During the cognition process, one can either enable an alternative view to the world or create path dependencies (Vergne and Durand, 2011), influencing the decision-making process in the whole organisation. Managerial cognitions are recognised as a specific field of analysis derived from the micro-foundations of dynamic capabilities (Wilkens *et al.*, 2016).

CONCLUSION

This conceptual paper strived to address the interrelations among management innovation, strategic foresight and managerial cognition.

1. As previously discussed, strategic foresight capability is fostered by cognitive processes which, in turn, have roots in micro-foundations of dynamic capabilities, referred to as processes and routines based on capabilities (Teece, 2007). Nevertheless, it is worth noting that for strategic foresight to become a dynamic capability, managers have to master the ability to sense opportunities and to seize and transform the organisation and its resources to adapt to the expected changes. The literature review reflected on the RQ regarding the impact of managerial cognition on application of strategic foresight. The conceptual paper addressed the potential interrelations among strategic foresight, managerial cognition and management innovation. This study has created the basis for further research to identify the exact linkage between two complex concepts – strategic foresight and management innovation – as well as to identify the role of managerial cognition in the process of innovation. Nevertheless, investigating strategic foresight from the perspective of dynamic capabilities provided valuable clues towards identifying the relationship between two concepts: managerial cognition and strategic foresight. Further research is still required; nevertheless, based on the similarities among the levels of managerial cognition and strategic foresight, it can be concluded that the former has a significant impact on the implementation and application of the latter throughout an organisation. This is because there are certain sets of understanding, attitudes and skills required for managers to master strategic foresight.

2. Looking through the prism of dynamic capabilities, managers require not only the sensing capability; they must also possess the skills required to seize opportunities and effectively transform the organisation. Thus, it can be concluded that the higher the level of managerial cognition, the higher the level of strategic foresight application that can be

achieved. The higher the management's awareness of challenges and opportunities, the higher the probability that the organisation will foster an innovative environment. Thus, management innovation can only be enabled on certain strategic foresight maturity levels – Mature and World-class – as on these levels, managerial cognition abilities have the highest capacity.

This paper shall serve as an introduction for broader research to address the influence of managerial cognition on strategic foresight.

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