BUSINESS ENVIRONMENT SCANNING: PREREQUISITE FOR SUSTAINABLE LEARNING COMPANY

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Abstract:
*The overall corporate performance is dependent upon various constituents, both internal, as well as external. The long term sustained competitive advantage can therefore be based on continual scanning and reflection upon environmental constituents. Despite the fact that most of these changes come from initiatives within, it is essentially the impulses from the external environment that drive the redesign of organizational mental models following modifications of other organizational constituents. In that sense, the learning company represents a suitable platform on which basis the modern business can be developed, since it offers guidelines for the design of organizational constituents based on the systems approach, enhancing behavioral diversity on the basis of intensive self organization. Since the underlying assumption of the paper is that the modern corporate environment is highly uncertain, the basic managerial task is to find ways to cope with the perceived uncertainty. In order to respond to these changes companies need to adopt new patterns of thinking and behavior, especially managerial. The aim of this paper is to provide clear guidelines for individual managerial behavior as their behavior is determined by their relationship with the environment and with others in the organization thereby affecting the behavior of the entire company**.*

Keywords: business environment scanning, learning company, managerial behavior, competitive advantages

JEL classification codes: D83, M12, M14

Introduction

Every company interacts with the environment in order o acquire, process, distribute, create and use necessary resources in the value creation process. Resources are used to build core competencies, which are capabilities that are valuable and unique from a customer's point of view, and also inimitable and non-substitutable from a competitor's point of view (Hitt *et al.*, 2008). The most valuable and inimitable resource is a composite of tacit and explicit knowledge developed through the process of individual, team and organizational learning. Knowledge has already been identified as a source of innovation, customer benefits and sustainable competitive advantages (cf. Lei *et al.*, 1996). Knowledge is firstly created in the

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* The paper was realized in the framework of the scientific project «The development of management in the function of the integration of Croatian economy into the EU» supported by the Ministry of Science, Education and Sport, Republic of Croatia.

individuals' minds on the basis of information collected. Information and knowledge are afterwards shared in the process of socialization and ultimately codified. By means of socialization knowledge is converted from tacit to tacit, externalization renders the possibility to transform the knowledge from tacit to explicit, combination can ensure knowledge transfer from explicit to explicit, while internalization enables the transformation of explicit knowledge into a new tacit form (cf. Takeuchi and Nonaka, 2004). Even though tacit knowledge is generally considered a supreme source of competitive advantages due to its inimitability, explicit knowledge can also hold such value when its use depends on other inimitable organizational features such as organizational structure, culture, leadership etc. that render possibilities for its unique combination.

The process of learning can therefore be considered a dynamic organizational capability. According to Teece *et al.* (1997, p. 516) dynamic capabilities represent the "firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments". Pettus *et al.* (2009, p. 188) also state that "capabilities involve the organizational processes by which resources are utilized to create growth and adaptation within changing environments". Nobre and Walker (2011) expand the notion further and claim that cognition, intelligence, autonomy, learning and knowledge management represent the set of organizational capabilities. They also propose cognition as the core ability of the organization since it is the main source of intelligence, autonomy, learning and knowledge management in the organization. Environmental uncertainty can therefore be influenced, governed and reduced by individual and organizational cognitive abilities. It should be mentioned that managerial cognitive ability is especially important because it determines the quality of the environmental scanning process.

Environmental scanning activities act as a provider of information for the individual learning process. Individuals learn by attributing meaning to information using existing knowledge and mental models that determine their interpretation, which creates new forms and patterns of knowledge and belief, ultimately influencing the way individuals and organization as a whole respond to environmental stimuli. The process of learning is determined by managerial and individual behavior, which can inhibit or disable learning. By actively working on improving the environmental scanning process, managers show learning stimulating behavior, which is then more easily translated into similar individual behavior followed by increased rate of learning and change.

With few exceptions (such as Tan and Litschert, 1994; Elenkov, 1997) most prior research on the relationship between environmental uncertainty and chief executive scanning behavior has been conducted in the USA. The purpose of this research is to explore the relationship between perceived environmental uncertainty and environmental scanning behavior further by designing a model, which will serve as a basis for an empirical research on the sample of Croatian companies. The model attempts to explore the connection between perceived strategic uncertainty of the external environment and chief executive scanning activities with the purpose to asses the extent of influence that such scanning activities have on organizational performance within the learning company framework.

Learning companies as complex adaptive systems

Current business developments indicate that the existing management models are outdated and that a paradigm shift is necessary. Complexity theory seems to be the most suitable in the

attempts to describe and explain modern business as well as suggest management guidelines. Complexity theory acknowledges the non linearity in system behavior, which is manifested in both deterministic and chaotic behavior (Baets, 1998, p. 24). Behavior of a modern enterprise as a dynamic non-linear system strongly depends on the initial conditions (material, financial, human or informational input). Alternations in the initial conditions, so frequent in modern business often push the enterprise out of balance and demand different behaviors and management models in order to ensure the system survival. In order to be sustainable modern companies should be developed as complex adaptive learning systems. Complexity can be interpreted as a state characterized by multitude of independent agents interacting with each other, producing a plethora of systemic interactions which, when supported, lead to spontaneous self-organization and learning based development taking place through multi level feedback (cf. Waldrop, 1992, p. 11). Such a system can posses qualities of being inherently self sustained and ultimately self transcending (Fitzgerald and van Eijnatten, 1998). These are the basic features of the learning organization concept.

Numerous authors and practitioners have suggested the idea of a learning organization as a framework or an environment where all members continuously learn and take action to increase organizational knowledge and use it to improve organizational performance (Senge, 1990; Slater and Narver, 1995; Garvin, 1993). The learning organization concept has also been suggested as a strategy undertaken to improve organizational performance and competitive advantage (Weldy, 2009). Modern competitive environment demands that companies constantly reassess the fundamentals of their competitive advantages, which requires the ability to permanently adapt, develop and innovate at all organizational levels. That requires developing an environment where all organizational members constantly update their knowledge to develop organizational knowledge base, implement it into the value creating process and therefore enhance organizational performance.

Two branches of research can be identified in the field of learning: the organizational learning perspective, where authors take interest in perceiving the learning processes in organizations, and the learning organization perspective, which is oriented at modeling the organization which would enhance the learning process. A learning organization is an entity, which characteristics should be clearly defined. Generally speaking, the essence of the learning organization is about the process of gaining, sharing and utilizing knowledge accumulated by individuals in order to meet strategic goals (Murray, 2002). According to Johnson (1998, p. 143) learning organizations are designed to anticipate and react to changing external and competitive environments in a positive and proactive manner.

Even though organizational learning is a process that enhances the learning organization capacities and capabilities, the perspective of this paper is to focus on the type of an organization itself, encompassing its processes within the framework. Learning company is therefore an organization, which has implemented systems, mechanisms and processes that increase the ability of achieving sustainable competitive advantages based on the results of learning on the individual, team and organizational level, enabling companies to stay alert to changing customers' preferences and providing insight into latent opportunities for product development (Rupčić *et al.*, 2010).

Despite the fact that authors have not reached a consensus on defining the learning organization, it is undisputed that its fundamental characteristic is a learning orientation. Learning orientation involves the overall organizational engagement and reflects the value the company places on promptly responding to environmental changes but also constantly

challenging patters, procedures, systems and mental models that direct the company's relationship with the environment (Rupčić, 2006). It is directed at stimulating adaptive and introducing generative learning as corporate core competencies. It accentuates the propensity to generate intelligence and knowledge and ensures its organization-wide understanding and implementation. According to Baker and Sinkula (1999) a learning orientation is conceptualized as a set of values that influence the degree to which an organization is satisfied with its theories in use, mental models, and dominant logic, which may or may not have their base in the marketplace. Companies that are implementing the learning orientation therefore constantly question the implemented procedures, assumptions and courses of action embedded in mental models. That is why Slater and Narver (1994) defined a learning organization as one that continuously acquires, processes, and disseminated knowledge about market, products, technologies, and business processes, and this knowledge is often based on experience, experimentation, and information provided by customers, suppliers, competitors and other sources. Environmental and business scanning process activities should therefore be embedded in the learning organization framework in order to yield a higher positive synergistic effect on the corporate performance. By implementing the adaptive and generative organizational learning routines a company would be able to better challenge the market setup, detect latent needs, provide superior value and more often produce breakthrough innovations with the potential to transform the market (Rupčić *et al.*, 2010). It is important to identify key factors that facilitate or hinder the development of the learning organization capacity. The environmental scanning process is surely one of the most important ones for it provides essential input for learning on all levels.

Business environment scanning – prerequisite for developing a learning orientation

The company as an entity can retain its equilibrium in terms of survival only if the inside behavioral variety matches environmental variety. That is why the scanning system should provide good quality information, preferably anticipatory information so that a company can respond to the future developments in the environment by creating novel entrepreneurial behavior. It is obvious that the whole process is largely dependent upon good communication channels, but also knowledge and learning, especially fostered in the learning organization concept. That is why the conceptualization by Jensen (2005, p. 61) should be considered: a learning organization is an organization that is organized to scan for information in its environment, creating its own information, and encouraging individuals to transform information into knowledge and transfer it among individuals and teams. The most important source of information indicating novel entrepreneurial opportunities is business environment. That is why management should be responsible for implementing a good quality environment scanning process.

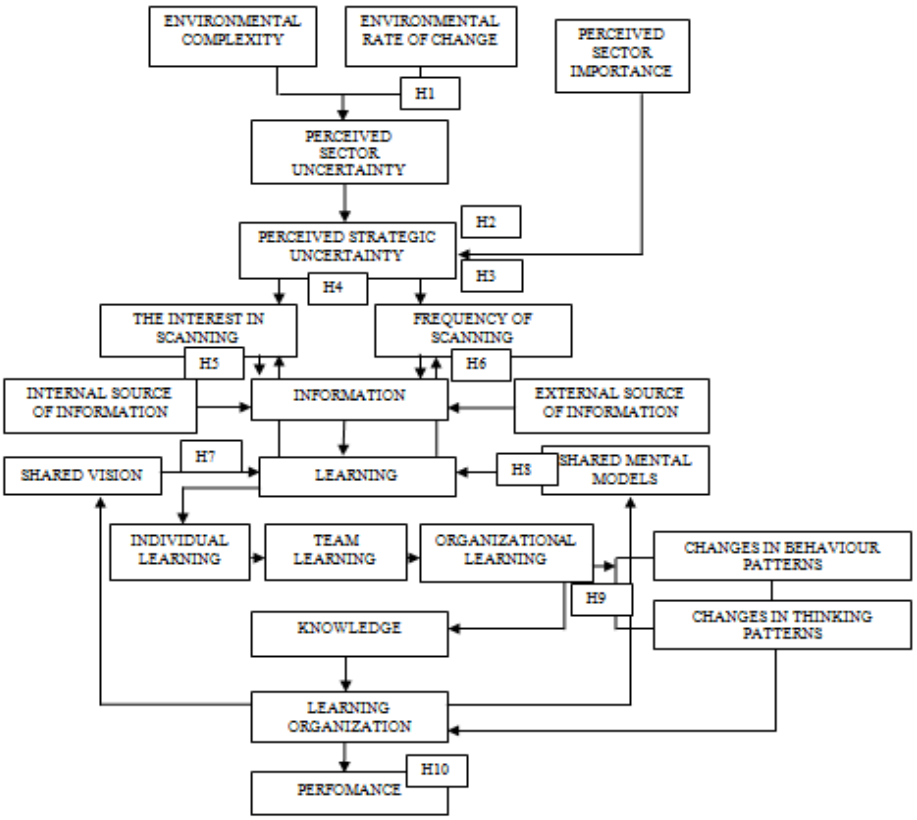
Scanning not only concerns seeking information to address a specific question, but also includes doing a broad sweep of the horizon to look for signs of change and opportunities. Environmental scanning is highly dependent on managerial or executive behavior. This paper postulates that the role of managers is crucial in that context and that its importance is mirrored in their behavioral patterns regarding the process of learning based on the open feedback system which is founded on the open relationship with the environment. Executives may scan the environment directly or learn from others in the organization. They may increase or decrease the frequency with which they scan, and they may select among information modes or channels. Scanning frequency is the number of times executives receive

data about the environment (Hambrick, 1981). Scanning mode pertains to the source or medium through which executives learn about the environment (Daft *et al.*, 1988). Mode is derived from Aguilar's (1967) designation of information sources as personal, impersonal, internal or external. Managers, especially top managers, are responsible for the interpretation process performing it spontaneously and intuitively but also promoting such activities among employees.

Scanning activities could range from gathering data deliberately such as by doing market research, to informal conversations with other executives, or reading the newspaper. Past research examines executives' scanning behavior in terms of the use of information sources and the amount of the scanning performed. Aguilar (1967) found that personal sources of information were far more important than impersonal sources. Keegan (1974) observed that for multinational companies, sources outside the organization were more important than inside sources. Daft *et al.* (1988) found that chief executives reacted to perceived uncertainty with greater scanning activities using multiple, complementary sources to interpret an uncertain environment. Because of a unique access to external information and an all-embracing access to internal information, managers function as an "information processing system" that receive information, direct their flow, and take action based on the assimilated information.

Managers can do the scanning themselves or promote such behavior in employees, especially if managers are trying to build a company as a learning organization. Environmental scanning in the learning company has several characteristics. It is well defined, systematically planned and executed, directed at systematic and comprehensive data. It relies on regular casual and formal information sources from all stakeholders. However, sources or methods of information acquisition require further information assessment, interpretation and manipulation. This requires face to face communication, involving dialogue, negotiation and often persuasion. In an enterprise developed as a learning organization this process comes naturally because such an organization thrives on dialogue, team work and communication. On the basis of previous statements a conceptual model has been outlined comprising a set of hypotheses linking desirable managerial behavior regarding the environmental scanning process in the learning organization setting with desired corporate performance (Figure 1).

Figure 1. Model of connections between environmental scanning and the learning organization



Source: Model adapted and expanded from Daft, Sumunen, and Parks, (1988, p. 127)

When discussing environmental scanning, major emphasis should be placed on the managerially perceived environmental uncertainty and complexity. The environment complexity together with the environmental dynamism (rate of change in the environment) constitute a major source of uncertainty in the environment (Duncan, 1972; Pfeffer and Salanick, 1978). Perceived environmental uncertainty refers to the absence of information with regard to organizations, activities, and events in the environment (Daft *et. al*, 1988). The following hypothesis can be constructed:

H1: *The greater the environmental complexity and environmental rate of change the greater will be the perceived environmental uncertainty.*

Strategic uncertainty can be defined as the perceived uncertainty in strategically important sectors (Daft *et. al*, 1988). When managers combine perceived environmental uncertainty with the importance of the each individual sector in the environment the result is the perceived strategic uncertainty. Sectors in the remote and task environments influence scanning and other organizational activities differently because these sectors differ in their degree of uncertainty (Daft *et. al*, 1988). Task environment sectors pose greater strategic uncertainty than sectors in the remote environment. There are two reasons for this expectation. First, the task environment normally changes more rapidly and is considered more complex and important than the remote environment. Second, the task environment seems to play a greater role in the strategic management as it is more relevant in the goal setting process (Thompson, 1967). Hence, the following can be stated:

H2: *The degree of perceived strategic uncertainty associated with the task environment sectors will be greater than those of the remote environment.*

Prior researches have shown that developing countries are characterized by a high degree of political and economic instability (Anastros *et al.,* 1980). Thus, political and legal sectors in these countries possess a high degree of environmental uncertainty (Sawyer, 1993). Croatia is considered to be a developing country, so a high degree of uncertainty associated with the political/legal and economic sectors can be expected. The following can thus be hypothesized:

H3: *The degree of strategic uncertainty perceived by Croatian managers and associated with the political/legal and economic sectors will be greater than in other sectors of the environment.*

Perceived sector uncertainty is a necessary but not a sufficient condition for scanning activities (Daft *et al.*, 1988). Unless the external events are perceived as important to organizational performance, managers may have little interest in them (Pfeffer and Salancik, 1978, Aaker, 1983). Importance is related to the notion of resource dependency, which is the extent to which the sector provides resources for the attainment of organizational goals (Hickson *et al.*, 1971). In a sector of low importance, external problems or opportunities hardly affect the organization's performance. In a sector of high importance, external events are perceived to be directly linked to operations and performance. The following hypothesis can be articulated:

H4: *The grater the degree of perceived strategic uncertainty of various environmental sectors leads to the greater managerial interest in scanning and greater scanning frequency of that sector.*

As complexity and rate of change in environmental sectors increase, the amount of uncertainty perceived by chief executives also increases. Consequently, it will result in increased scanning activities of environmental sectors to which managers attribute greater importance. Environmental uncertainty increases information processing within organizations because managers must identify opportunities, detect and interpret problems areas, and implement strategic or structural adaptations (Hambrick, 1981, Tushman, 1997). It can hence be hypothesized:

H5, H6: *The greater frequency and interest in the scanning activities of environmental sectors with high degree of perceived strategic uncertainty will result in greater amount of gathered information.*

Through the communication process, especially dialogue information is shared within the organization, forming a basis for learning on the individual, team and organizational level. The purpose of information sharing is building the individual and organizational knowledge base. Through the process of knowledge transfer organization is being transformed into a learning company. However, in order to be efficient and motivated, employees need to understand how their work contributes to the fulfillment of the organizational vision and mission. Building a shared vision among the employees, especially of a future desired state creates a tension that leads to learning (Senge 1990, 1992). The usage of outdated scanning mechanisms based on outdated mental models may result in invalid information on the nature of transaction relations between organization and the environment, leading ultimately to wrong decisions. Mental models are based upon the previously gathered information and

knowledge. In a company being transformed towards the learning organization the validity of mental models is constantly being discussed, leading to their permanent redesign. Thus a learning company, through building a shared vision and mental models, encourages shared learning and learning outcomes. The following can be stated:

H7, H8: *Organizations with developed shared vision and shared, constantly redesigned mental models will be better in knowledge sharing and learning.*

In order to be successful an organization needs to improve its capability to design novel strategic approaches to face changing environment conditions. New strategic concepts, especially emerging strategies in a learning company arise from individual suggestions based on their behavioral and thinking patterns, or in other words mental models. Mental models are similar to expectancies and schemas in that they are abstract representations of reality that define expectations and interpretations. Managers can change and improve an organization by discovering, sharing, challenging, and changing the schemas and mental models that guide how organizational members think (McGinnis, 1985). Managerially stimulated environmental scanning helps enhance information gathering, knowledge sharing and ultimately learning, above all individual. But it can also entice "emergent learning" as a knowledge flow that occurs through interactions between people (Harkema, 2004) first as an informal process which starts at the individual level and later evolves into a collective process through interactions. Learning changes the way people interact with the environment and respond to environmental stimuli. The following is therefore suggested:

H9: *Newly acquired knowledge, as a result of individual, team and organizational learning will result in changes in behavior and thinking patterns leading to novel strategic responses.*

No matter how organizations learn from their experiences and articulate strategic responses, their successful adaptation to environmental changes may only be judged by their performance (Huber 1991; Weick 1991). Effective organizational adaptation has already been linked to organizational learning (Fiol and Lyles 1985; Sammon *et al.* 1984). Given that knowledge is considered the only sustainable competitive advantage, it is expected that the company which operates as a learning organization will ultimately achieve better overall performance. However, a learning company and effective strategic response depend on the continuous process of information gathering. This means that organizational success is highly correlated with the appropriate amount of environmental scanning (Miller and Preisen 1977). The following can therefore be suggested:

H10: *Companies with enhanced environmental scanning which operate as learning organizations tend to achieve better overall performance.*

Environmental scanning should follow the guidelines of the system theory. It is undisputed that the implementation of a quality scanning system contributes to the development of a learning company. However, the implementation of the learning company concept further stimulates the quality of the scanning process through the organization wide implementation of the system thinking discipline as suggested by Senge (1990). Organizations and their members – managers and employees should permanently learn about the scanning process and modernize it. That is why learning company, which fosters learning on all relevant matters positively influences even the quality of the scanning process, which further stimulates the development of a learning company, as a never fully attainable goal. The learning company characteristics, especially the embedded mental models strongly determine

the scanning process by indicating what information to seek and where. It is the learning strategy formulated under the influence of learning company guidelines that determines criteria in the scanning process, since the information abundance requires a certain degree of efficiency in the scanning process or selective scanning. Its implementation also minimizes the probability that managers fail to utilize relevant information due to misunderstanding.

Conclusion

A learning organization is an open system. Open systems build relations and interactions with the environment with the purpose to scan and discover relevant changes. Open systems constantly asses the gap between where they are and where they want to be, striving to maintain a stable relation with the environment. When the measurement results in a state of inequilibrium, open systems change their internal structures when necessary in order to restore the equilibrium. This process, also called homeostasis, is self regulative and means that learning organizations have the ability to learn from the environment, using scanning activities for that purpose. However, environmental scanning process is highly dependent on the set of individual beliefs as well as organizational mental models that are of special importance in the learning organization. A learning organization is an organization where its members are highly aware of the environmental complexity, dynamism and uncertainty, making such assumptions a part of organizational mental models. Its managers are therefore inclined to scan more and promote such behavior among their employees.

While a number of studies have explored the fit between organization and environment, there is less knowledge about how impressions of the environment are formed among top managers who are responsible for responding with new strategies and structures. The proposed model attempts to explore the connection between perceived strategic uncertainty of the external environment and chief executive scanning activities with the purpose to asses the extent of influence that such scanning activities have on organizational performance within the learning company framework. The significance of the paper is based on the assumption that scanning is the first link in the chain of managerial perceptions and actions that enable an organization to adapt to its environment. It is therefore expected that managers focus their scanning attention on environmental sectors they perceive as possessing the greatest strategic uncertainty. The practitioners and executive managers should establish and develop a dynamic, formal and particularly sustained and well managed environmental scanning system if they want their companies to become learning organizations. Only an informed organization consisting of informed individuals having at their disposal anticipatory information can be capable of self organization and transformation in order to ensure its existence. The goal is to achieve characteristics of a complex self transforming system (Waldrop, 1992, p. 11): independent agents interacting with each other, systemic interactions which lead to spontaneous self-organization and learning through feedback. It is evident that an enterprise can reach the level of a self reinforcing complex system only through learning, *i.e.* through building itself as a learning organization.

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