

THE IMPACT OF SUSTAINABLE DEVELOPMENT KNOWLEDGE ON COMPETITIVENESS OF ORGANIZATIONS

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Abstract

This article analyzes the effect of knowledge of sustainable development on organization's competitiveness. Theoretical analysis based on various researches of different countries showed that organization's knowledge and continuous improvement are the key factors that help to create sustainable development, leading to a competitive advantage and better performance of the organization. It was found that knowledge related to sustainable development, helps organizations to gain recognition of stakeholders and thus increase the competitive advantage. Therefore, in order to achieve it, organizations have to improve their knowledge constantly and apply principles of sustainable development into organization practice.

Keywords: competitiveness, competitive advantage, sustainable development knowledge

JEL classification: D80, L19, Q01

Introduction

Due to continuous expanding global market, more and more organizations face a competitive struggle, which increases the interest of finding new ways to a competitive advantage. The long-term success of these days organization depends on its abilities, effective knowledge management and using sustainable development practice. Various authors state that sustainable organization is a competitive organization.

The practical application of sustainable development principles in activities of industrial enterprises is becoming an important aspect of business competition. On the other side, sustainable development opens new business opportunities, e.g., development of more environmentally friendly products and processes. Additionally, application of preventive environmental management measures helps to increase productivity, to reduce the use of natural resources and associated costs, to reduce costs for waste management and pollution control, to reduce risks, etc., i.e. to improve environmental, economic and social performance and thus provide a competitive advantage.

Knowledge on sustainable development and preparation of sustainability reports motivates enterprises to analyze their activities and helps to identify opportunities for improvement of their environmental and economic performance. On the other side, sustainability reporting contributes to raising public awareness in sustainable development and have positive impact on sustainable development of the country.

National sustainable development strategies is the main policy document dealing with the targets of country sustainable development. It is also the main document for raising public awareness of sustainable development and providing knowledge on sustainable development to broad population of the country. The participatory approach is being applied in developing sustainable development strategies. This participatory approach means that all community should take part in defining the main challenges and aims of sustainable development of the country. It is possible to make assumption that countries having ambitious and well-developed sustainable development strategies are also the most competitive.

The paper aims to analyze the effect of knowledge of sustainable development on organization's competitiveness. The main tasks to achieve the aim of the paper:

- To analyze conceptions of knowledge on sustainable development and organizations competitiveness;

- To analyze interfaces of knowledge of sustainable development and competitiveness;

- To analyze the results of empirical studies dealing with interfaces of sustainable development knowledge and competitiveness;

- To analyze the impact of sustainable development knowledge on competitiveness of the country.

Overview of the research literature

Concepts of knowledge management, sustainable development and organization competitiveness

Knowledge of the environment, in which companies compete today, is structurally much more complex than those that existed few centuries ago. The main reason was a sudden increase of the amount of knowledge, the fragmentation level of knowledge, and the increasing globalization of knowledge (Atkociuniene, 2013).

Modern organization is understood as a business of information, which effectiveness is based on the coordination of information, and organizing of human and technological resources (Atkociuniene, 2008).

Knowledge organization is an organization that is able to create, gain and apply knowledge and change its behavior, evaluating new knowledge and perspectives (Jucevicius, Iloniene, 2009, p. 788). Key features of knowledge organization that is different from usual: the ability to obtain necessary ideas, to develop ability of thinking and creating, risk management, and adapting it all in order to make the product more competitive and meet the economic and social trends (Atkociuniene, Radiunaite, 2011, p. 58).

Knowledge management is as a planned, structured approach to manage the creation, sharing, harvesting and leveraging of knowledge as an organizational asset, to enhance a company's ability, speed and effectiveness in delivering products or services for the benefit of clients, in line with its business strategy. Knowledge management takes place on three levels, namely the individual level, team level and organizational level. It is a holistic solution incorporating a variety of perspectives, namely people, process, culture and technology perspectives, all of which carry equal weighting in managing knowledge (Du Plessis, Boon, 2004).

Knowledge management can help in increasing the productivity of employees, expanding their knowledge of available resources, and thereby encouraging the adoption of a more informed

decision. In an effective knowledge management, employees experience less stress when it is needed to do more with fewer resources. Knowledge management helps organization to become more competitive by using new knowledge to reduce costs and meet customer expectations. Knowledge management is not a control of the knowledge in a literal meaning. This is a creation of the environment conducive to knowledge processes and its purposeful, persistent, systematic management and development (Atkociuniene, 2013).

Concept of sustainable development is divided into three equal components-environmental, economic and social developments. In other words, sustainable development is a particular compromise between the environmental, economic and social goals of society in case to achieve global welfare for present and future generations (Ciegis, 2009).

The concept of sustainable development by most of the authors is considered as a major concept of contemporary society development. In addition to achieving of economic benefits, voluntary environmental initiatives and social responsibility have to be emphasized at the enterprise (Streimikiene, Kovaliov, 2007; Ciegis, Grunda, 2007).

Sustainable development involves an increasingly wider circle of problems. Currently it is being discussed about sustainability in a world-wide context (requiring organizations to change their behavior in regard to stakeholders) and a variety of sustainability strategies to be implemented at different levels. Environment and organization are closely related: long-term success of the organization depends on how it is able to integrate harmoniously into the environment, feel the social sentiments of stakeholders and implement a sustainable business (Bagdoniene et al., 2009).

Sustainable development can be considered as a process in which the long-term economic growth, sustainable social development and rational use of environmental resources are ensured by integrating economic, social and environmental objectives (Domarkas et al., 2012).

In the context of knowledge management sustainability means: turning the economic goals into the knowledge objectives; obsolete knowledge refusal; necessary knowledge identification and preservation; retaining people with valuable knowledge; using knowledge in the infrastructure; transformation of non-expressed knowledge to expressed concepts and models; inducement of knowledge division. Organization in order to become a sustainable business needs to integrate sustainable development ideas into organization's culture and involve everyone-from employees and customers to suppliers, associates and investors (Atkociuniene, 2013).

More and more often green business and green management is mentioned in a sustainable development conception. According to Tran (2009), this should not be understood as a new style of business management, but focusing more on environmental consideration in organization performance. Organizations, which try to become sustainable, have to change, learn and grow (Simanskiene, Pauzoliene, 2011).

Competitiveness is understood as a dynamic state, which needs a constant supervision. Its concept is defined differently depending on what object and purpose is selected. Some authors equate competitiveness with productivity, profitability, or other effective resource utilization. Competitiveness may also be considered as both micro (enterprise) and macro (regional) level. In this case, the competitiveness of the company shows occupied market share and profitability, while the region/state competitiveness is closely associated with the region's productive use of available resources; and the international success of the state industries is directly dependent on the environment in which the company branches compete (Cincikaite, Janeliuniene, 2010).

It may be stated, that competitiveness is a mutual communication between several entities, during which a certain market advantage, providing the opportunity to dictate their terms, is obtained. However, in order to have a successful communication, the optimal quality of service or product is needed, as well as low price and motivated staff (Cincikaite, Janeliuniene, 2010).

To be successful, a company has to be able to develop a consistent competitive advantage, which requires flexibility and rapid response to changing circumstances. This would allow

company to take precedence over competitors and achieve productivity and profitability, providing opportunities for the company development. Competitiveness of the company is closely related to the efficiency of the company's management operations and searching new management approaches. Success of competitiveness is increasingly dependent not only on the production function, but particularly on the management quality and efficiency. (Marcinskas, Diskiene, 2001).

Organizations market position and competitiveness is determined by all internal and external factors. Therefore, in order to gain and maintain market advantage over other entities, it is necessary not only to identify the determinants of competitiveness, but also to choose data and valuation methods properly, which make it a regular assessment of current competitiveness by providing direction to increase it (Liucvaitiene and Peleckis, 2011).

Summarizing statements by various authors it may be said, that competitiveness is understood as a dynamic state, attaining a certain advantage over other market entities, giving the opportunity to dictate its own terms, is only successful if responding rapidly and flexibly to changing circumstances. Contemporary organizations are acting in a complex, constantly changing environment in which the amount of knowledge and its change is increasingly affecting the success of organizations. Therefore, knowledge management is the creation of the proper environment for knowledge processes that provides the ability to create, gain, apply knowledge, and change organization activities, evaluating new knowledge and perspectives, and is one of the ways to achieve a competitive advantage.

Analysis revealed that sustainable development is a key concept of the development of modern society and a long-term success rate of the organization. The core of sustainable development is achieving the economic objectives of business by integrating sustainable social development and rational use of environmental resources. Therefore, in order to implement a sustainable business and gain a long-term competitive advantage, the idea of sustainable development has to become the organization's culture.

Interfaces of knowledge of sustainable development and competitiveness

Knowledge organization has considerably more opportunities to succeed in a difficult to forecast and quickly changing environment that is created by economic globalization processes. In order to survive and compete in the society of knowledge, organizations have to learn how to manage their intellectual property. In other words, for organizations seeking to gain a long-term global competitiveness is no longer enough only to dispose of the internal and external information sources. Contemporary organizations have to use completely what they know, not only what they have (Ruzevicius, 2005).

Continuous development of knowledge leads to consider the impact of the increasing amount of knowledge for organizations. An increasing complexity of knowledge environment is treated as a threat by most of companies. However, it is revealed that using the dynamic evolution of knowledge helps to create new competitive opportunities. Companies generating innovations begin to realize that intensive use of knowledge for production makes the opportunity to increase its value. If company has a well-developed knowledge base and acts in the environment where knowledge is extensively used, there is an opportunity that the specific competence of the company will obtain its own dynamics and thereby will create new strategic opportunities (Atkociuniene, 2013).

Knowledge management can be defined as organization's processes, approaches, methods and systems used to design, develop, update and integrate knowledge-based resources into opportunities, in order organization could quickly and effectively use that opportunities, and in this way increase and maintain a competitive advantage. Knowledge management in the XXI

century has a key role in increasing the number of innovations, promoting sustainable development and thereby improving the performance of organizations (Moustaghfir, 2013).

For organizations, that are seeking to gain a sustainable competitive advantage, it is appropriate to understand and analyze the knowledge management not as separate elements of the knowledge management, but as a coherent management system, consisting of the organization's knowledge management systems, knowledge management infrastructure, technological infrastructure, the knowledge sharing culture, competencies, continuous learning and innovation (Atkociuniene, 2013).

In terms of sustainable development's impact on corporate success, it is important to note, that both the environment and business are closely related, therefore, the long-term business success depends not only on well-established traditional factors, but how organization is able to integrate harmoniously into environment, feel the social sentiments of stakeholders and implement a sustainable business. In order to achieve long-term competitiveness, one of the most important tasks of modern business is a development of its activities in relation to environmental sustainability and social interests, which are currently identified as essential for successful business development (Pauzuoliene, Simanskiene, 2011).

Tran (2009) claims that organizations, which start to protect the environment and promote sustainable development, observe the increasing competitive advantage. Integration of sustainability into the concept of knowledge management facilitates the process of continuous improvement, promotes better management of the organization and helps to ensure the recognition of stakeholders. The inability to integrate sustainability principles into organization's business strategy may lead to a loss of competitive advantage and business opportunities, which would affect the long-term performance (Robinson et al., 2006).

Thus, knowledge management and sustainable development are closely related with the main aim of the organization - a long-term competitive advantage. Organizations of knowledge, developing their activities, according to the basic principles of knowledge management, such as effective management of intellectual property, have more opportunities to compete successfully in the constantly changing environment of knowledge, and may take advantage of the dynamic evolution of knowledge in order to create newer competitive opportunities. Meanwhile, sustainable development, involving economic, environmental and social well-being achievement, is often mentioned as one of the key factors in determining the further success of the organization.

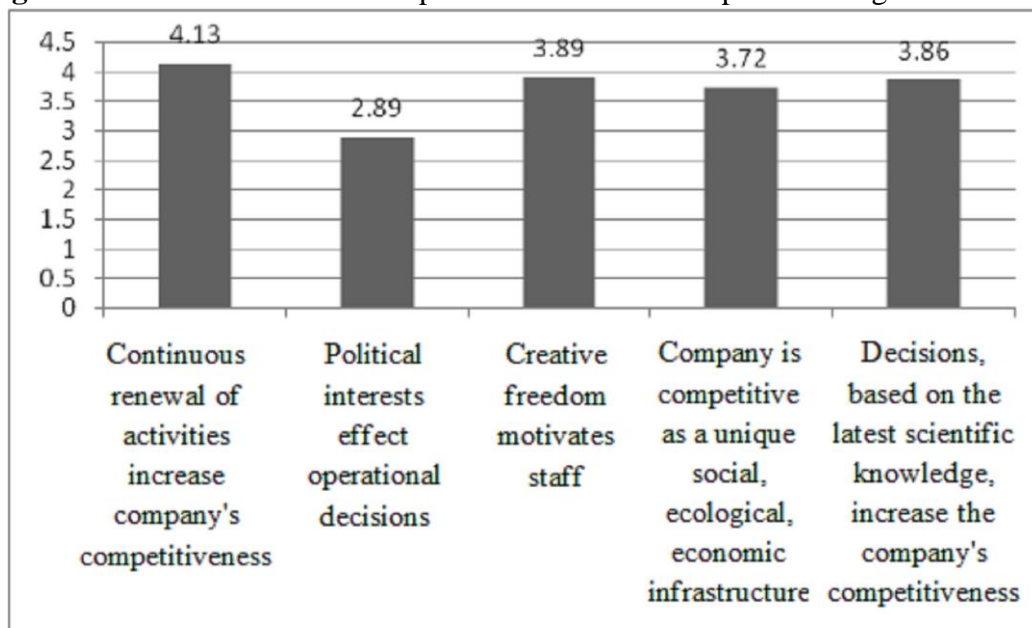
The analysis of studies that examined the impact of knowledge of sustainable development on organization competitiveness

Kutkaitis and Zuperkiene (2011) studied the expression of the concept of sustainable development in logistics organizations of Lithuanian seaport. In this case, authors of the study found out that managers of seaport logistic organizations of Klaipeda city consider that sustainable development is associated with continuous renewal of activities and competitiveness (see Figure 1).

Authors stated that most of the port managers understand sustainable development as a social responsibility, organizations positive attitude to learning and performance improvement through a lifecycle. It should be noted that the constant renewal of performance is not possible without the recent knowledge; therefore, it also highlights the importance of knowledge management.

In order to achieve long-term competitive position in the market, it is recommended to develop activities by integrating principles of sustainable development, to expand the perception of sustainable development, and increase the use of sustainable development principles; the results are benefits for the organization and its members.

Figure 1: Evaluation of the concept of sustainable development in organizations



Source: Kutkaitis and Zuperkiene (2011)

Lee (2009) conducted a study of small and medium-sized Korean companies and discovered that sustainable management system helps companies to gain a sustainable competitive advantage.

Authors concluded that green management system provides companies with significant benefits, for example, helps to save costs, due to application of the environmental standards, increase the good image of the company, improve relations with the local community and other stakeholders, helps to stand out among other companies, and thus ensures a high level of competitive advantage.

Chen and Chen (2012) in their study analyzed the benefits of green management, which leads to a competitive advantage. Authors investigated the northern, southern and central Taiwan hotels that perform a successful business by implementing green management system. The main findings of this study: the management system of the green hotel increases reputation and popularity; strengthens brand name effect; reduces business-operating costs; helps to attract competent staff. The study showed that sustainability and environmental protection increase competitiveness of green hotels.

Ali, Islam and Howe (2013) conducted a study in Malaysia, during which a Managing Department of manufacturing companies was questioned. The authors tried to find out the factors that affect organization's competitiveness and sustainable development. Research revealed that organization's knowledge and continuous improvement are the key factors that contribute to the creation of sustainable development leading to a competitive advantage and thus forming positive results of manufacturing companies. According to the authors, in today's globalized industrial environment, the primary purpose of manufacturing companies is a competitive advantage. To reach it, organization has to integrate sustainability both internally and externally, which requires the knowledge management and continuous learning.

Aigner and Lloret (2013) investigated top leading companies of Mexico, and tried to estimate how sustainable development is related to competitiveness of these firms. The study showed that leading Mexican companies are very active in various business areas in which environmental protection and sustainability are important. According to the authors, the vast majority of Mexican companies acknowledge that environmentally sustainable development has strengthened their competitiveness and ability to adapt to new market conditions. The

research revealed that sustainable, environmentally responsible development is closely associated with improved financial performance and competitive advantage.

An examination of the studies of other authors showed that the impact of knowledge of sustainable development on organization's competitiveness is analyzed in different parts of the world. A novelty and range of researches show the relevance of the subject.

Table 1: The researches of interfaces of knowledge of sustainable development and competitiveness

Authors	Year	Country	Research methods	Key Findings
K. H. Lee	2009	Korea	Qualitative methods: in-depth interview, document analysis.	Implementation of sustainable management system into organization helps to gain a sustainable competitive advantage.
A. Kutkaitis; E. Zuperkiene	2011	Lithuania	Quantitative method: questionnaire	Latest news, continuous organization renewal and sustainable development lead to a competitive advantage.
Y. C. Chen; Y. T. Chen	2012	Taiwan	Qualitative method: expert interview	Environmental protection helps to strengthen competitiveness of green hotels.
A. J. Ali; Md. A. Islam; L. P. Howe	2013	Malaysia	Quantitative method: online survey	Organizations knowledge and continuous improvement are the key factors that help in the process of sustainable development creation leading to a competitive advantage.
D. J. Aigner; A. Loret	2013	Mexico	Quantitative method: questionnaire	Sustainable development enhances the competitiveness of companies and the ability to adapt to new market conditions.

Source: Own systematization based on Lee (2009), Kutkaitis and Zuperkiene (2011), Chen and Chen (2012), Ali et. al. (2013), Aigner and Loret (2013)

Summarizing the analyzed studies of different countries it can be emphasized, that both qualitative and quantitative research methods are used for investigation the impact of knowledge of sustainable development on organization's competitiveness. Whatever method is used, the key findings of researches on this topic are very similar. All of the studies clearly shown that knowledge and continuous learning are essential for organizations seeking good performance.

Knowledge of sustainable development and competitiveness of the analyzed countries

The impact of knowledge of sustainable development is an important factor on organization's competitiveness. The sustainable development knowledge could also be important on the macro level for the competitiveness of different countries.

Competiveness of countries is ranked against each other using numerous indexes. However, they are mainly concentrating on economic performance of the country with some sustainability indicators. The World Economic Forum provides one of such rankings in its Global Competitiveness Report. The World Economic Forum calculates the index of global competitiveness (GCI) based on such variables as: institutions, infrastructure, macroeconomics, health and education, market efficiency, labor markets, financial markets, technological readiness, innovations. The ranking of the analyzed countries according to the GCI is presented in the table below.

Though economic development process is usually associated with the concept of competitiveness and 'development' is often understood as economic growth, only economic growth does not give the expected results to the well-being of society. During recent years

economic growth slowed down and living standards are not meeting the expectations. A society should give equal attention to the environment, economic development and social issues. Bilbao-Osorio, et al (2013) defines sustainable competitiveness as “the set of institutions, policies, and factors that make a nation remain productive over the longer term while ensuring social and environmental sustainability (p.53)”.

Table 2: Global Competitiveness Index by the World Economic Forum

Rank	Economy	Value
14	Taiwan, China	5.3
20	Malaysia	5.2
26	Korea, Rep.	5.0
41	Lithuania	4.5
61	Mexico	4.3

Source: World Economic Forum. Global Competiveness Report 2014-2015.

One of the indicators of knowledge of sustainable development is acceptance of national sustainable development strategies or incorporation of sustainable development principles in other policy documents. Berger, Gjorski (2009) distinguishes four types of national sustainable development strategies.

- 1) ‘Generic national sustainable development strategies’;
- 2) sustainable development principles are incorporated in comprehensive development strategies;
- 3) strategies concentrate on the environmental and natural resource dimension of sustainable development;
- 4) sustainable development considerations are included in country’s poverty reduction strategies.

Table 3: Sustainable development strategies and other policy documents

Country	National strategies and other strategies for sustainable development
Korea	The Korean National Strategy for Sustainable Development (2006)
Lithuania	The Lithuanian National Strategy for Sustainable Development (2003, updated in 2009)
Taiwan, China	<ul style="list-style-type: none"> • Agenda 21: Sustainable development framework for Taiwan; (2000, updated in 2009) • Action Plan for Sustainable Development; (2002) • Taiwan Declaration of Sustainable Development; (2003) • Sustainable Development Indicator System; (2003) • Taiwan Agenda 21 – Vision and Strategic Guidelines for National Sustainable Development. (2004)
Country	Sustainable development in other policy strategies
Malaysia	<ul style="list-style-type: none"> • National Economic Policy (NEP) • National Development Policy (NDP) • National Vision Policy (NVP)
Mexico	<ul style="list-style-type: none"> • National Development Plan (NDP) • National Program of the Environment and Natural Resources

Source: Own results

National sustainable development strategies as a separate policy document, according to Berger and Gjorski are found in countries, which want “to give more weight and awareness to sustainable development”. Other countries choose to develop the existing strategies incorporating into them sustainable development principles. While low-income countries usually focus on economic growth and investment in social infrastructure and some of them also try to integrate environmental issues into their poverty reduction strategies and to integrate policies across different sectors. In the table 3 that follows below, sustainable development policy documents in the analyzed countries are presented.

Countries are different from the point of view of their development, political culture, institutions, environment, thus, their understanding of sustainable development differ as well as form and content of sustainable development strategies.

The knowledge of sustainable development and competitiveness are related. According to Lapinskiene (2011) indicators of competitiveness reflect the main economic aspects and it also influence the policies of countries because „sustainable development strategies help to set the priorities in designing the welfare of individual nations (p.442)”.

Conclusions

It was found that knowledge related to sustainable development helps organizations to gain recognition of stakeholders and thus increase the competitive advantage. Therefore, in order to achieve it, companies have to improve their knowledge continuously and apply principles of sustainable development into organization practice.

The sustainable development knowledge is an important factor on the macro level for the competitiveness of different countries. National competitiveness embrace a number of factors, which not always include ecological sustainability and social issues. Existence of sustainable development strategies indicate that social and environmental sustainability influence economic policy decisions and have an impact on economic performance of the country.

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