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# THE NEED FOR INTELLIGENCE ABOUT BUSINESS AND SOCIAL ENVIRONMENT

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**Abstract.** In contemporary business environment we face seemingly intractable economic, institutional, technological and social challenges. Intelligence combines many of the most important features of many other concepts; it extends beyond management practices and economics. First of all intelligence is all about trends in the macro environment, changing „rules of the game", new inventions, politics and other global and regional processes that are important to business. Firstly, the key challenges coming from business and social environment and the need for intelligence are characterized. In further parts the potential of the intelligence function in assuring good knowledge about the trends and important processes taking place in the business and social environment are discussed.

**Keywords:** intelligence, business environment, economic intelligence, competitive intelligence, business intelligence, knowledge.

**Jel classification:** A12, A14, D60, D8, EO, L00, O10

## 1. Introduction

In contemporary business environment we face seemingly intractable long-term economic and social challenges. The flow of information is the "lifeblood of organizations", the dramatic increase and acceleration in volume of information poses challenges for day-to-day management in all kinds of organizations. All concerned need to understand the process of changing data into knowledge and then into intelligence (Economic Intelligence 2002).

The contemporary economy is symbolised by fast changing global economic environment, Dedijer modified the old Greek saying, "Everything changes", to the modern time by adding, "Everything changes faster", (Dedijer 2003). In recent years, the business environment has become more and more turbulent and uncertain due to political realignments, economic crises, technological innovations and natural disasters (Majid, Kowtha 2008). Environments pose important constraints and contingencies for organizations, and their competitiveness depends on their ability to monitor and adapt their strategies based on information acquired through competitive intelligence activities. Companies should become increasingly aware of the necessity to remain informed of their competitive environment (Nasri 2010).

Knowledge and intelligence is the key to gaining advantage in the "next economy" (Erickson, Rotchberg 2005), however, the most advanced entities understand that the key to success in today's environment lays not so much in knowledge as in intelligence (Jucevičius 2007). Studies in the field of intelligence are at the embryonic stage however, "there is a flow of events and ideas that link yesterday, today, and tomorrow in a continuous stream, new ideas, subtle shifts in themes, and emerging environmental events influence evolving management thought" (Wren 2004).

In the academic literature it is not easy to find publications devoted to the Intelligence phenomenon. On the contrary, knowledge management topic is very much on an agenda. Very often researchers use those worlds as synonymous, which is not quite correct even if there are many common features in both phenomenons. Environmental scanning, information gathering, market analysis, foresight and insight are the categories that often are used to describe similar things. The problem is that no commonly agreed language in a very broad field of "how to become knowledgeable?" exists in the research community until now. One of the aims of this article is to contribute to better understanding of such notions.

Knowledge about the environment is important both for a single company, an organization, a city, a region or even a state. Tools and approaches for getting such knowledge are similar even if the complexity is quite different.

The *aim* of the article is to discuss potential of the intelligence function in assuring good knowledge about the trends and important processes taking place in the business and social environment.

Paper relies on the scientific literature analysis.

## 2. Key challenges coming from the business and social environment

Globalization and emerging knowledge economy are changing the face of business and social environment in any geographical space or human activity. At the same time both globalization and knowledge economy are changing themselves. New economies and centres of knowledge and innovation are emerging with capital, ideas and people moving freely between the borders. One-size-fits-all strategies and approaches are unlikely to match the diversified field of competitive arena with local specifics.

It has become even clearer when the global crisis revealed the extent to which local economies and single businesses are interrelated globally.

From the macro economical perspective the world economy until recently was predetermined by a small network of power cities and regions while other regions were left peripheral. However, the transformation of the landscape of global economy is changing rapidly creating new rules of the competitiveness game. Underestimation of the importance of such trend or even ignoring it will cause trouble for businesses and even states and regions. Many different signals of such challenges easily may be already seen and require a special attention.

Different trends in business environment could be distinguished. Discussing even a part of them would require a separate study. Because the aim of this article is to discuss how application of the intelligence approach can contribute to creation of better understanding of what is happening in the environment and in expanding a bit of the comfort zone for businesses and social actors, few complex trends will be discussed.

Consequences and lessons from the recent global crisis will be counted as well as less discussed challenges will prevail.

One of the most crucial challenges is *increasing the competitiveness of local economies*. According to Porter (2011) the competitiveness is the productivity, with which a nation uses its human, capital and natural resources. It is not what industries a nation competes in that matter for prosperity, but how it competes in those industries. However, it is easy to see how opposite understanding prevails in many industrial policies in different countries. It is much easier and attractive to declare the priority on high-tech rather than on how to transform the value chain enriching business activities with sustainable resources. The wealth directly can be created only by businesses. However, the public sector is playing an important role in creating the most productive environment for business. Thus, good understanding of business needs and what drives its success is of high importance for public bodies.

The second challenge is an *ageing society* (Harris, Albury 2009). It is very much a truth for most European countries and especially to less advanced like Lithuania. This profound demographic shift will increase the number of people affected by poverty and unemployment. This will cause big problems related to social inequalities and conflict between generations. In all cases such situation will not favour the attractiveness of business environment.

The third challenge is *climate change and increasingly degraded environment*. This is one of hottest topics for discussions between researchers from different fields of knowledge. Even if there are very few commonly agreed issues the understanding of fundamental consequences of climate factor is high. However, the answer to the question what really are the consequences for businesses, regions, states and the whole world will be, remains unanswered. The winners will be businesses and the regions, which will find the radically new solutions by faster and better understanding of the nature of the problem. It means – who will be more intelligent.

The fourth challenge is related to *changing rules of the game for business*. The challenges are even more complicated due to some paradox character of trends. For example, with China becoming a "World factory" and mass production being a crucial factor for competitive advantage, increasing fragmentation of mass markets and growing power of demanding customers with higher expectations is clear. One can agree that global companies remain dominant and even increase the economic power in the world. At the same time the power and importance of small-specialized companies having distinguished competences and know-how is increasing. Globalization calls for unification however; the company that wants to succeed in international markets has to fit to a very specific cultural environment of different countries and even regions. All this requires knowledge and specific tools for it's acquiring.

For manufacturing firms successful competitive strategies are becoming inherently more complex in nature. Such strategies appear to involve the simultaneous pursuit of a number of themes including (Jervis 1997):

- The erosion of the distinction between manufacturing and service;
- The hyper competition - the pursuit of both differentiation and cost reduction strategies and services;

- An emphasis on innovation in products, process and business systems or models;
- The increasing importance of partnerships, alliances, networks and clusters.

All those trends imply fundamental changes both in business environment and strategies applied. Knowledge about the nature of such trends and challenges requires new tools and approaches. One of newest in the academic field of research however, for decades used by business practitioners is the concept of intelligence. The second part of the article will reveal the essence of that concept.

### 3. The concept of intelligence

The socio-economic environment is increasingly defined and described in terms of information. The most advanced organizations understand that the key to success in today's environment lays not so much in knowledge as in "intelligence".

Even the notion of intelligence is differently interpreted by the researches. Intelligence combines many of the most important features of many other concepts. Different aspects of the intelligence phenomenon are discussed in scientific literature. Probably the biggest attention so far has been paid to military and business, especially competitive intelligence (Bernhart 1994; Ettore 1995; Fuld 1985, 1995, etc.). Dedijer (1993, 2003), Jequeir (1987), Toffler (1991) and others are stressing on social aspects of intelligence. Beal (2000), Choo (1998). Raymond and Lesca (1995) focus on the organizational learning as a fundamental issue in acquiring and understanding the knowledge about their environment. But in general, studies in the field of intelligence, especially the network – type one, are at the embryonic stage. Intelligence is at the heart of a systemic and continuous process at strategic level dealing with the collection, interpretation and sharing of market-related, political, technological and social information in order to assure developmental processes. Also, it is the art of monitoring weak environmental signals that tell us whether the social system (institution, organization, region etc.) is on the right track or not.

Baumard (1992) suggests "intelligence can be seen as a product, a monitoring process, an activity or type of knowledge, it is obvious, that intelligence is not a synonym of information", according to him, intelligence means the ability to use knowledge in perception and problem solving, in activities, knowing, and a specially organized system (Baumard 1992). The other definition of the intelligence is "actionable recommendations arising from a systematic process involving planning, gathering, analysing, and disseminating information on the external environment for opportunities, or developments that have the potential to affect a company's or country's competitive situation" (Calof, Skinner 1998).

The concept of intelligence is more practical rather than theoretical construct. It originates from the military field of knowledge. This concept has been expanded to other fields of human activities by Dedijer (1987, 1993), who in the scientific literature sometimes is named as the "godfather" of social intelligence. Accordingly, there may be different types of intelligence: political, technological, economic, business and social intelligence (Hedin, 1992). The concept of intelligence, as applied here, extends beyond management practices and economics. It sees the world as a shifting variety of social systems and each system as a communication network with its own "personality" and culture, interacting in a variety of ways, and exercising its intelligence function in the service of its goals (Dedijer 1993). Dedijer (1993), Jequeir and Dedijer (1987), Toffler (1991) stress the technological and social aspects of intelligence. At least three levels of intelligence can be identified. These are human or individual, organizational and societal (country, government).

The intelligence revolution leads to increased demand on intelligent individuals, intelligent products, intelligent materials and machines and intelligent corporations (Dedijer 2000).

Social intelligence is capability of a society or an organisation to learn about its environment and itself and to foresee the future. It is ability to adapt effectively to the challenges of social changes. Social intelligence contributes to a better understanding of the present world dynamics and complexity (Dedijer 2000). Intelligence of social system is not about to be informed it is about the analysis of the gathered information and using it in for decision-making (Dedijer 2003).

Intelligence is first of all about the trends in macro environment, new inventions, changing the "rules of the game", politics and other global and regional processes that are important to the business. The second layer of intelligence is industry; three different aspects should be covered by the intelligent activities: industrial sector, industry of suppliers and industry of customers. The third layer of intelligence is company level, three groups of interest to analysis and understanding could be distinguished: competitors, suppliers and customers (Jucevičius 2005).

In general terms, intelligence could be described as the skill of guessing right when supported by available information and individual (organizational) culture. This definition implies that intelligence is an unseen quality, which can be both general and unitary in its nature. It can be

social, technological, political, business, general, know-how, etc. On the other hand, business intelligence is an overall concept of competitor, technological, environmental, political intelligence (Jucevičius, 2007).

## 4. Economic intelligence

Schumpeter states "the economic deals with the problem how people behave and what economic results they produce by behaving as they do" (Schumpeter, 1949, p. 203-204, cited in Foss 1997). Economic intelligence - the ability of using knowledge as the basis of economic advantage - has become a key-factor of national competitiveness, competitive advantage of nation's lies in their abilities to strategically handle strategic knowledge, for their administrations, their industries, their people, their economic wealth and social welfare (Baumard 1993).

Economic intelligence is a new way of looking connected to Competitive Intelligence, Knowledge Management and Technology Watch, but something different and in the end, what really counts is an understanding of the human dimension (Economic intelligence 2002, p.15). Regional intelligence can be defined as the capacity of a region to both anticipate socioeconomic change and manage the knowledge derived from such change for the purpose of developing policies, know-how and innovation to eventually become a centre of competence or a key contributor to the competitiveness of existing regional companies (Regional Intelligence and Competitiveness 2004). Definitions show that there are four major periods in the evolution of the Economic Intelligence concept (Briciu et al. 2009):

- The first period, corresponding to the 1980s and early 1990s, where the definitions are primarily focused on processes, tools and techniques that are described in detail (for example the definitions of Wilensky 1967, Martre 1994);
- The second period, which covers the 1990s, where the definitions concerned primarily the use of economic intelligence or strategic vigil and its overall objectives;
- The third period, which began in the late 1990s, has emerged the concepts of co-management and collective intelligence, organizational learning and collaborative work;
- The definitions of the fourth period began in the 2000s, and include in addition to previous notions, those of cultural identity, regionalism and the concept of "economic defence".

Thus, Economic Intelligence concerns the set of concepts, methods and tools, which unify all the coordinated actions of research, acquisition, treatment, storage and diffusion of information, relevant to individual or organization in the framework of a strategy. These processes are coherent, permanent and interactive and can induce real changes in decision-making mechanisms. The development of Economic Intelligence in enterprises can affect all the dimensions of the business. Economic Intelligence, based on a set of structured methods and tools, will bring about important changes in individual and collective behaviour (Briciu et al. 2009).

Today economic intelligence is recognised as a professional tool for strategy and management for states and companies in the globalised world, its implementation is based on three main pillars (Ravel 2010):

- The mastering of strategic information, which means its early collection, analysis and treatment, in order to understand and anticipate one's external environment; this first step is often called 'watch' and is indispensable to the two other pillars;
- Economic security, which is defensive and directed at protecting economic assets, especially immaterial ones;
- Influence active or offensive, which means to be at the cutting edge for seeking opportunities and innovation and to be able to act on one's environment (regulations, norms, image…) and not only be passively dependent on it.

Those three pillars have been defined in order to make it easier to understand and implement the concept, although they are actually interdependent (an example: for a company, failing to anticipate a new crucial European norm in its sector is the result of a poor watch that might put it at risk, revealing a lack of influence and network as well). Thus, it is the same for states at the international and multilateral levels (Ravel 2010).

## 5. Creating the understanding how to develop an intelligent entity

Business organizations are intelligent entities. An understanding of this provides new ways of interpreting events and patterns, and offers new principles useful in deciding actions.

Organizational intelligence is the intelligence achieved collectively by a group of people, by an organization. It is not the sum of all of the individual's intelligences, but is the unique intelligence of the group as a whole. This intelligence is in no way given, or fixed; it can be influenced along several of its dimensions, better fitting it to specific needs. Particularly as a result of advances in information technologies, the competitive potential of such improvements is rising rapidly (Morris 2004).

Understanding how to develop an intelligent institution is becoming one of the priorities for

researchers in many fields of social sciences. Most attention has so far been paid to this concept in the business world (Bernhardt 1994, Ettore 1995, Fuld 1985, 1995, Herring 1998; Underwood 2002, Yangblood 1998). The authors focus mainly on issues of business intelligence or competitor intelligence, trying to develop tools and approaches, which will allow a company to preserve its competitiveness. Choo (1998) and Friedman (1997) focus on organizational learning as the key characteristic of intelligence in an organizational setting. However, both qualities are interrelated and require not just individual knowledge but also organizational knowledge and well-developed internal and external networks and supporting infrastructure. Organizational intelligence refers therefore to many more than just intellectually competent individuals. The intelligence of the cluster or business system is more than intelligence of the single companies. Moreover this notion of organizational intelligence can be applied at every level from the small business to the region or even country.

Intelligence is an attitude, which not only provides knowledge, but spurs wisdom, because of its comprehensive view regarding the interrelationships of all aspects of business and, consequently, the behavior of entrepreneur, organization or social system as a whole. It generates a special kind of information product, which is content-specific and focused towards a decision-making situation and is highly evolved in terms of possessing considerably greater informative value that the original data extracted from the information sources. There is an essential difference between information and organizational intelligence as a quality or capacity of the institution. Information can be considered as value-added pieces of knowledge through meaningfulness for specific person or organizations (Hedin 1992). At the same time, intelligence is about having a skill of "guessing right" based on information and organizational culture. An effectively performed intelligence function will work as an early warning system. Business intelligence stimulates action.

At the dawn of the 21st century, industrial clusters were taking over entire areas of many global industries, such as manufacturing, R & D and product design. As a result, leading multinationals in different industries increasingly use industrial clusters for their benefit. These multinationals would typically involve industrial clusters either as leading suppliers or as key customers and innovators in the key areas of their value chain. All this suggests that companies and their groups in a single country will be integrated into the global business systems no matter if they understand that and how to do it, or not. *The strategic question is whether to be a source or a part of partnership. And this is very much about the intelligence.* Emerging knowledge economy even sharpens the situation.

Intelligence is always about gathering and using knowledge. In that respect there is two competing concepts: knowledge management and intelligence. Even if the both processes are quite similar the knowledge targeted one is different. Knowledge management function is mainly about making best use from the internal knowledge resting in the organization, business system, city or the state. At the same time intelligence is about getting knowledge from the external environment. Such a difference requires different mentality and especially the tools.

Knowledge management and intelligence serve as an important precondition for creating and supporting innovation processes. Innovation in general terms could be understood as a process of transformation of knowledge into social or economic value. As it has been mentioned earlier due to radically changing business, social, technological, environmental and political environment, finding innovative solutions of how to deal with constantly evolving new challenges are an important precondition for success. However, an adequate absorptive capacity of external knowledge has to be developed by the business organization or public institution.

## 6. Absorption the external knowledge

Organizations are gradually abandoning the idea, that the generation of new knowledge is mostly an internal process (Escribano *et al.* 2009). Both practitioners and academics, increasingly recognize that competitive advantages no longer rely on internal knowledge alone, but rather originate from absorbing external knowledge. This in turn is based on learning processes, which are directed at exploring, assimilating, transforming, and exploiting external knowledge (Camison, Fores 2010; Lane, Koka, Pathak 2006; Lichtenthaler 2009; Gebauer, Worch, Truffer 2011; Volberda, Foss, Lyles 2010).

In a dynamic and turbulent environment, knowledge represents a critical resource to create value and to develop and sustain competitive advantages (Teece *et al.* 1997). Absorptive capacity was defined originally as a firm ability to recognize the value of new information, assimilate it, and apply it for commercial purposes (Cohen, Levinthal 1990).

While the early conceptualizations focused on R&D - issues, later research broadened the concept to developing absorptive capacity at the organizational level (Tsai 2001; Lane *et al.* 2006;

Lichtenthaler 2009). The absorptive capacity concept shows sufficient flexibility to be applied to different units of analysis and in a variety of research fields such as industrial organization, organizational learning, strategic management and innovation management (Zahra, George 2002).

Lane and Koka (2006) suggest absorptive capacity research has underscored its potential to be a major construct in organizational research. Absorptive capacity refers to one of a firms fundamental learning processes: its ability to identify, assimilate, and exploit knowledge from the environment, these three dimensions encompass not only the ability to imitate other firms products or processes but also the ability to exploit less commercially focused knowledge, such as scientific research. Developing and maintaining absorptive capacity can reinforce, complement, or refocus the firm knowledge base (Lane, Koka 2006). Dynamic capabilities enable companies to respond to changes in the business environment (Teece 2007), according Gebauer, Worch, Truffer (2011), the concept of absorptive capacity is embedded in the debate on dynamic capabilities (Helfat *et al*. 2007; Teece 2007).

Rapidly changing environments, technologies and rules of competitiveness exacerbate the problems organizations face in attaining self-sufficiency in knowledge creation. An inward looking approach to knowledge creation, in which the firm relies on its own resources, appears to be a conservative strategic option, as in that case firms miss out on the dynamic effects of interaction between internal and external knowledge. External knowledge enables the firm's internal knowledge to be extended by stimulating competitiveness and innovation (Matusik and Heeley 2005).

Managers and entrepreneurs trained to act on facts tend to discount the value of competitive intelligence because *it is not what has happened, but rather what might happen*. It is about the possibilities as to *how* and *what kind of* future might occur. In this case, the quest for facts hardly makes sense: *there are simply no facts about the future* – it has not happened yet. Nevertheless, the future can be quite knowable given a rigorous analysis of the facts (Youngblood 1998). Establishing the effective system of absorption strategic knowledge and intelligence is becoming of big importance in the turbulent and radically changing environment.

The intelligence function is to assure good understanding of the context both internally and externally with main emphasis on the last. It is based on establishing the mechanisms for getting the right information and knowledge and developing the ability to combine it with already existing knowledge in different contexts. It requires "knowing what, why, how and who". There is no necessity or even sense of trying to establish consensus throughout all actors in the cluster. The main reason is to accommodate the diversity of approaches, interpretations and to provide a cognitive space for its members to inquire experiment and discover. The principal activities are scanning of the political, technological, social, etc., environment, noticing what is behind and interpreting the consequences or challenges.

## 7. Conclusions

Recent global crisis and the changing face of globalization as well as emerging knowledge society has revealed a number of important challenges and trends. Development of competetiveness of local economies, aging population, increasingly degraded environment and changing rules of game for business on international marketplace have a fundamental and long lasting effect. Conventional tools hardly could help to solve new problems; innovative approaches have to be employed.

The concept and the tools of intelligence may be considered as most promising due to the quite different mentality employed. Intelligence is an attitude, which not only provides knowledge, but spurs wisdom. In general terms, intelligence could be described as the skill of guessing right when supported by available information and individual (organizational) culture. This definition implies that intelligence is an unseen quality, which can be both general and unitary in its nature. It can be social, technological, political, business, general, know-how, etc.

Performing the intelligence function requires adequate capacity of organization, region or the state to absorb external knowledge. An inward looking approach to knowledge creation, in which the firm relies on its own resources, appears to be a conservative strategic option, as in that case firms miss out on the dynamic effects of interaction between internal and external knowledge. External knowledge enables the firm's internal knowledge to be extended by stimulating competitiveness and innovation.

## References

Baumard, P. 1991. Shifting Intelligence Needs, in Yael Tagerud, Jon Sigurdson (Eds.), *The Intelli-gent Corporation: the privatisation of intelli-gence*, London : Taylor Graham, 1991, 83–99.

Baumard, P. 1993 . *Learned Nations: Seeking Na-tional Competitive Advantages Through Knowledge Strategies*, published in Open Source Solutions, Falls Church, VA: OSS, November 1993.

Bell, M.; Albu, M. 1999. Knowledge Systems and Technological Dynamism in Industrial Clusters in Developing Countries, *World Development* 27: 1715-34.

Bernhardt, D.C. 1994. "I want it fast, factual, actionable: tailoring competitive intelligence to executives needs". *Long-range planning* 21(1): 12–24.

Briciu, S.; Vrincianu, M.; Mihai, F. 2009. Towards a New Approach of the Economic Intelligence Process: Basic Concepts, Analysis Methods and Informational Tools, *Theoretical & Applied Economics* 16(4): 21–34.

Calof, J.L.; Skinner, B. 1998. Competitive intelli-gence for government officers: a brave new world, *Optimum* 28(2): 38–42.

Camison, C.; Fores, B. 2010. Knowledge absorptive capacity: New insights for its conceptualization and measurement. *Journal of Business Research* 63(7): 707–715.

Choo, C.W. 1998. *Information Management for the Intelligent Organization: The Art of Scanning the Environment*, 2nd ed., Medford, New Jersey: Information Today, 1998.

Cohen, W. M.; Levinthal, D. A. 1990. Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly* 35(1): 128–152.

Dedijer, S. 1993. Development and management by intelligence: Japan, in: B. Cronin *Information, development and social intelligence*, Taylor Graham, 304-23.

Dedijer, S. 2000. *The world jumper*, Dubrovnik.

Dedijer, S. 2003. Doing Business in a Changed World: The Intelligence Revolution and Our Planetary Cvilization. *Competitive Intelligence Review* 10 (3): 67–78.

Economic Intelligence: A Guide for Beginners and Practitioners. 2002. A research undertaken with support of the *"Promotion of Innovation and Encouragement of Participation of SMEs"* Programme of the European Commission. [online]

Ericson, G. S.; Rothberg, H., N. 2005. Expanding Intelligence Capabilities: Downstream Knowledge Targets, *Journal of Competitive Intelligence and Management* 3(2): 8–15.

Escribano, A.; Fosfuri, A.; Tribo, J., A. 2009. Managing external knowledge flows: The moderating role of absorptive capacity, *Research Policy* 38 : 96–105.

Ettore, B. 1995. Managing competitive intelligence. *Management Review* 20(4): 15–19.

Friedman, G.; Friedman, M., Chapman, C.; Baker, J. 1997. *The Intelligence Edge: How to profit in the information age*, N.Y.: Crown.

Foss, N. 1997. Understanding Business Systems: An Essay on the Economics and Sociology of Ec-nomic Organization, *Working paper 97-6, Department of Industrial Economics and Strategy*, Copenhagen Business School.

Fuld, L.M. 1985. *Competitor intelligence: how to get it, how to use it.* N.Y.: John Wiley&Sons.

Fuld, L.M. 1995. *The new competitor intelligence.* N.Y.: John Wiley&Sons.

Gebauer, H.; Worch, H.; Truffer, B. 2012. Absorptive capacity, learning processes and combinative capabilities as determinants of strategic innovation, *European Management Journal*, 30(1): 57–73 http://dx.doi.org/10.1016/j.emj.2011.10.004

Harris, M.; Albury D. 2009. The Innovation Imperative. NESTA.

Hedin, H. 1992. *Competitive intelligence: case studies of 10 Swedish companies*, Lund University, Sweden.

Helfat, C. E.; Finkelstein, S.; Mitchell, W.; Peteraf, M. A., Singh, H., Teece, D. J., & Winter, S. G. 2007. *Dynamic Capabilities: Understanding Strategic Change in Organizations*. London: Blackwell.

Herring, J.P. 1998. What is intelligence analysis? *Competitive intelligence magazine* 1(2): 13-16.

Jequeir, N.; S. Dedijer. 1987. Information, knowledge and intelligence: a general overview. *In: S. Dedijer and N. Jequeir, eds. Intelligence for economic development: an inquiry into the role of the knowledge industry*. Oxford: Berg, pp. 1–23.

Jervis, P. 1997. Re-essessing the Context of Manufacturing Success. RSA.

Jucevičius, R.; Jucevičius, G. 2005. The Concept of an Intelligent Cluster, *Social sciences/ Socialiniai mokslai* 2 (48): 21–28.

Jucevičius, R. 2007. The concept of "Intelligent country", 72-83 in Bridges, D.; Jucevičienė, P.; Jucevičius, R.; McLaughlin, T.; Stankevičiūtė J. 2007. *Higher Education and National Develop-ment*. Routledge 2 Park Square, Milton Park, Abi-gdon, Oxon OXI4 4RN, 2007, 322.

Jucevičius, R. 2011. Sourcing knowledge for the cluster or business system, Proceedings of the 8th In-ternational Conference on Intellectual Capital, Knowledge Management & Organisational Learn-ing, 27-28 October, 2011, Bangkok, Thailand, Bangkok: Bangkok University, 2011, 284-291. ISBN 9781908272218.

Lane, P. J.; Koka, B. R.; Pathak, S. 2006. The reification of absorptive capacity: A critical review and rejuvenation of the construct. *Academy of Management Review* 31(4): 833–863. http://dx.doi.org/10.5465/AMR.2006.22527456

Lichtenthaler, U. 2009. Absorptive capacity, environmental turbulence, and the complementarity of organizational learning processes. *Academy of Management Journal*, 52(4): 822–846. http://dx.doi.org/10.5465/AMJ.2009.43670902

Majid, S.; Kowtha, R. 2008. Utilizing environmental knowledge for competitive advantage, *Proceed-ings of the International Conference on Infor-mation resources management*, Association for In-formation Systems, Canada, 2008.

Matusik, S., F.; Heeley, M., B. 2005. Absorptive capacity in software industry: identifying that affect knowledge and knowledge creation activities. *Journal of Management*, 2005: 31, 549–572. http://dx.doi.org/10.1177/0149206304272293

Martre, H. 1994. Intelligence e´conomique et strate´gie des entreprises, La Documentation Franc¸aise Available from internet: http://www.ladocumentationfrancaise.fr

Morris, P.W. 2004. Organizational Intelligence in Y. Bar-Yam and A. Minai (eds.). Unifying Themes in Complex Systems, Volume II. *Proceedings of the Second International Conference on Complex Systems.* Boulder, Colo.: Westview Press, 2004, 503–514.

Nasri, V. 2010. Competitive intelligence in Tunisian companies, Journal of Enterprise Information Management, 24(1): 53–67. http://dx.doi.org/10.1108/17410391111097429

Porter, M. 2011. The Competitive Advantage of Nations, States and Regions. *National Council of Professors Kuala Lumpur*, Malaysia July 7, 2011.

Ravel, K. 2010. Economic Intelligence: An Operational Concept for a Globalised World (ARI) [online].

Raymond, L.; Lesca, H. 1995. Evaluation and Guidance of Environmental Scanning in SMEs: An Expert Systems Approach, *Proceedings of the Academy of Business Administration National Conference*, Reno, Nevada, 1995, 539–546.

Regional Intelligence and Competitiveness. 2004. Agorada, *Working Document by the Secretariat* [online].

Teece, D. J. 2007. Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal* 28(13): 1319–1350. http://dx.doi.org/10.1002/smj.640

Teece, D.; Pisano, G.; Shuen, A. 1997. Dynamic capabilities and strategic management. *Strategic Management Journal* 18: 509–533. http://dx.doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z

Toffler, A. 1991. *Powershift: knowledge, wealth and violence at the edge of the 21 st century*. N.Y.: Bantam Books.

Tsai, W. 2001. Knowledge transfer in intraorganizational networks: Effects of network position and absorptive capacity on business unit innovation and performance, *The Academy of Management Journal* 44(5): 996–1004. http://dx.doi.org/10.2307/3069443

Underwood, J.D. 2002. *Competitive Intelligence*, Oxford, UK: Capstone.

Volberda, H. W.; Foss, N.; Lyles, M. A. 2010. Absorbing the concept of absorptive capacity: how to realize its potential in the organization field. *Organization Science* 21*:* 1–21. http://dx.doi.org/10.1287/orsc.1090.0503

Wilenski, H.L. 1967. Organizational Intelligence: Knowledge and Policy in Government and Industry, p. 3 New York: Basic Books.

Wren, D.A. 2004. The History of Management Thought, 5th ed., Wiley, New York, NY.

Yangblood, A. 1998. Face to face. *Competitive intelligence magazine* 1(2): 19-20.

Zahra, S. A., & George, G. 2002. Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review* 27(2): 185–203.

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