

Impact of Creativity to Organizational Competitiveness

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Abstract

Organizations increasingly seek to improve creative capability to enhance their performance. Therefore the impact towards competitiveness becomes increasing important as most learning and training has focused on accumulation of knowledge rather than ensuring practicable skill and knowledge transfer that is central to creativity. This study reported the impact of creativity to organizational competitiveness. The review confined to performance enhancement of creativity leading to organizational competitiveness which is a necessity to match with the transitional changes from knowledge based to creativity. This review unveils organizational performance for stronger and more inclusive growth based on key priorities that complementarily provide the basis for a comprehensive and action-oriented approach to innovation from knowledge creation to problem solving. Creativity leading to innovation was found to be an integral part of organizational process. However, this findings strengthens knowledge creation and innovation diffusion to enhance organizational competitiveness using a modified version of Kianto Model.

Keywords: Creativity, Knowledge, Learning, Innovation, Organizational competitiveness

1. Introduction

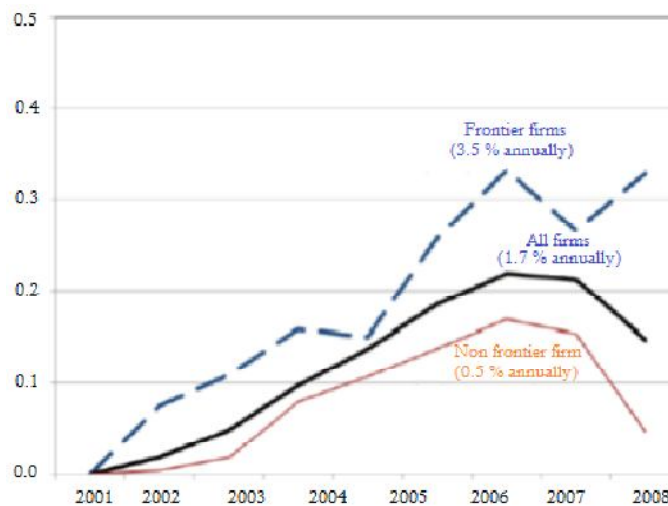
Knowledge creation fosters a sound working environment for innovation. This is a prerequisite to overcome most organizational barriers and to ensure that learning and training effort contributes towards achieving the key goals of organizations. In today's business, managers are expected to show effort, motivation especially towards the enhancement of organizational management (Andrews & Criscuolo, 2013). This because, human ability determine the success of an organization. The important key to an organization's success and survival is flexibility requiring knowledge and skills. This becomes increasing important as companies are left with the right to handle change business issues using their creatively capability. The capability of an organization to create knowledge strategically to adapt with its environment is established in school setting (Haythornthwaite & Kendall, 2010; Lewis & George, 2008). The importance of creativity is not only that it facilitates upward thinking but contributes towards the development of knowledge from the organizational action.

2. Organizations and Creativity

Knowledge-based organization has widely used to foster creativity in organization alternatively to the concept of organizational intelligence which was used to incorporate thinking and doing, formulation and implementation as well as learning and application (OECD, 2015b). A Knowledge-based organization possesses a special advantage that allows for the movement intelligence, knowledge creativity towards the enhancement working conditions (Metaxiotis et al, 2005). The impact of knowledge creativity has been linked to increase in multifactor of productivity that reflects increase in the overall efficiency of labor and capital.

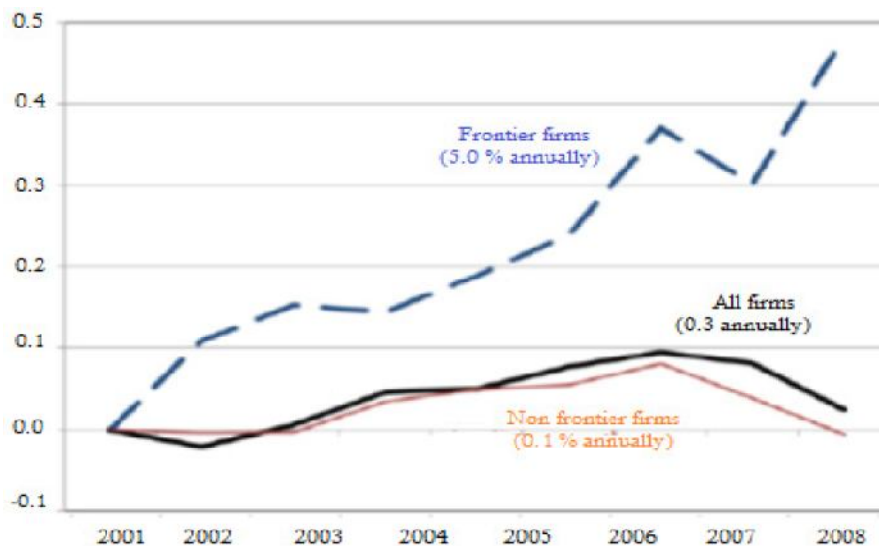
However, significant attribute to innovation such as process and organizational innovations stemmed from knowledge creativity which was accounted to contribute over 0.7 % points of annual average GDP growth between 1995 and 2013 among OECD countries (OECD, 2015b). The competitiveness of knowledge creativity enables fast growing and increasing market share as skill and the effectiveness of labor enhances (Andrews & Criscuolo, 2013). Recently, a report from OECD has revealed the importance of driving aggregate productivity growth through knowledge creation (OECD, 2015a). Knowledge creation account for a substantial share of economic growth estimated at 50% of total GDP growth depending on country, level of economic development as well as the economic cycle. Therefore it's difficult to predict organizational growth without creativity which is central to innovation. Prior studies on economic development has shown that competitiveness has becomes an important driver depicting that innovation is very important for future growth (Anderson et al., 2004; Braconier, et al., 2014; OECD, 2015a). The impact of knowledge creativity towards organization enhancement has been illustrated using manufacturing and service sector report by OECD (Figure 1 and Figure 2).

Figure 1: Global Productivity of 100 Production Sector



Adapted from: OECD (2015c)

Figure 1: Global Productivity of 100 Service Sector



The frontier firms represent average labor productivity of 100 globally most productive firms (Figure 1) and service firms (Figure 2). Non-frontier firms depict an average of all other firms from OECD Structural Analysis (STAN) database. Data represented in Figure 1 and Figure 2 was adapted in each 2-digit sector selected from ORBIS database.

Source: OECD (2015c).

The strong performance of the global frontier firms was attributed to the implementation knowledge creation across the large-size of the firms that supported them to patent other firms (OECD, 2015c). These features strongly represent the importance of investing on knowledge-based creativity that enhances harnesses competencies across the globe into value chains leading to increase competitiveness. The two dimensions of improvement that enhanced firm competitiveness comprises firstly; the extent to which productive firms in different region benefits from firms at the global frontier. This is largely a function of exposure to direct investment and international trade and foreign and integration in global value chains which serves partly as a key factor that allowing firm based on knowledge creation to benefit from the global frontier. Secondly, the extent at which lagging firms were able to benefit from the advances of frontier firms within their domestic economy empowered by the knowledge creativity (OECD, 2015c). This dimension largely depends on the dynamism of the firm's economy and the ease resources are reallocated (Corrado et al., 2012). The capability enhances operational services and improves competitiveness as well as economy of scale which relies of knowledge creativity depicting the practices and strategies used for various activities (OECD, 2014a; OECD, 2014b).

2.1 Transformation for Innovativeness

Harnessing innovation through knowledge acquisition and creativity requires reflecting on the realities of innovation as it occurs in the present day (OECD, 2015a). This leads not only to the transformations of production scale but also competencies in handling various organizational tasks that supports growth and efficient services. In addition, specific challenges associated with management strategy and delivery framework are also enhanced with the knowledge creativity provides. Therefore:

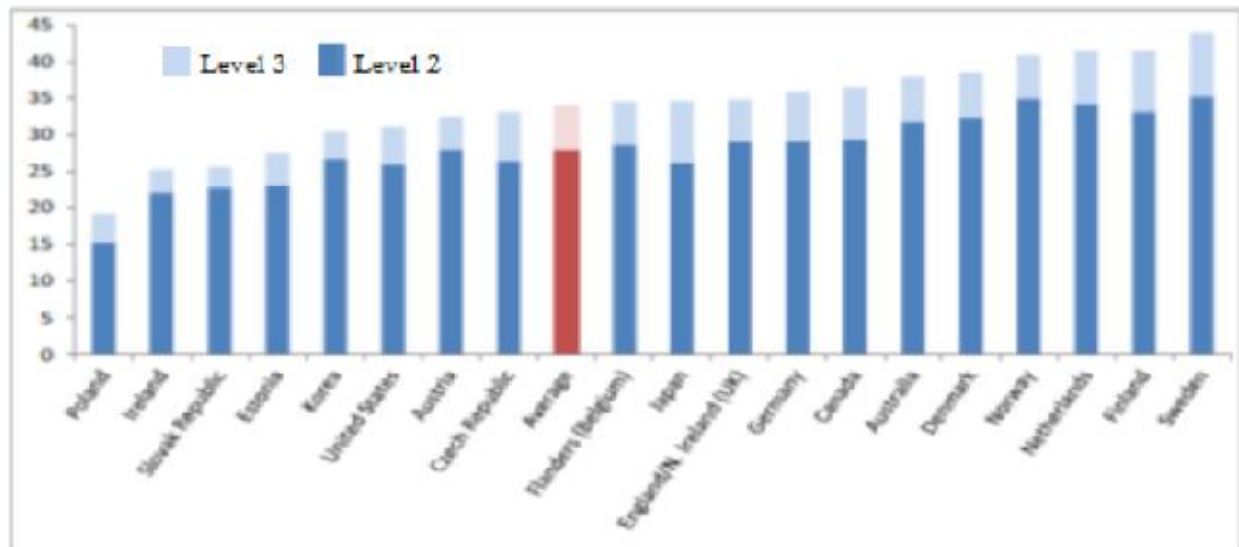
1. Workforce can easily generate new ideas and innovation that are compatible with organizational structure and the workplace (Appelt et al., 2015).
2. A sound working environment that encourages knowledge-based capital enables innovative firms to generate new ideas to grow and increase their market share (Aud, et al., 2010)
3. Knowledge creation supports a strong and efficient innovative diffusion of knowledge (Bayes, 2009).
4. Innovation based on specific knowledge creativity tackles range of barriers to innovation (Buckingham et al., 2013).
5. A strong focus on implementation depends heavily on their governance and commitment to learn from others experience (Chanel, 2010).

Broader implementation of knowledge creation and diffusion supports intensive collaboration between firms and universities and fosters diffusion and encourage collaboration that facilitates knowledge flows and development of learning networks (OECD, 2015a). Therefore the increasing need for international connectedness as the key role in driving frontier could benefits basic research (Braconier et al., 2014; OECD, 2014a). Knowledge creativity requires initiatives at the global level and adaptable innovative measures to assess their impact (Westmore, 2013).

2.2 Fostering Skills and Optimizing through Knowledge Creativity

Education and training encompasses core innovation and productivity in realizing the main benefits of the next production revolution (OECD, 2015a). This is a concern because educational training and learning of skills are channeled to enhanced productivity and workers performance. However, assessments from prior studies have shown that 33.3% of all working adults possess the skills needed for a technology-rich environment OECD Survey of Adult Skills, represented in Figure 3).

Figure 3: Proficiency in Problem Solving in Technology-Rich Environments among adults Percentage of 16-65 Yearolds Scoring at Proficiency levels 2 and 3



Source: OECD, Survey of Adult Skills (PIAAC) (2013).

The result shown in Figure 3 depicted that many relevant broader of competences such as creativity and critical thinking are needed to further enhance problem solving skills. Among key principle is the creation of an appropriate environment to enables individuals to acquire appropriate skills to support optimal work processes (OECD, 2013). A notable and comprehensive approach to enhance skill development for economic practices has been reported (OECD, 2013). Broad pedagogical practices and the development of knowledge-based creative tools to assess innovative skills are important in initial education. Beyond specific expatriate, all forms of educational training should be focused to develop students' knowledge about creativity through critical thinking, entrepreneurship and communication skills (Ohly et al., 2006). This however, solely depends on pedagogical approaches and the curricula which also require that institutions of learning have incentives to improve the quality of teaching (Rowley & Wright, 2011).

However, at the workplace, there is a need to enact policy to support training especially those that improves the effectiveness of workers. This form of training impact on the creative ability of individual in handling various task and further improves them to become independent in problem solving (Hargadon & Bechky, 2006). It then implies that creativity is central to competencies and skills development which is gained through learning and training. Policy come into place in developing creative and innovativeness leading to competitiveness as measures to account the implications that "poaching" of workers subsequently to training enhances workers capability in handling various tasks (Rice, 2006). In every country about one-third of the workers tend to support that a mismatch existed between existing skills and the specialized skills required for their job indicating that training are not either effective or not directed to specific need (Appelt, et al. 2015). This wide level of mismatch in competencies depicts a strong barrier to innovative growth of innovative (George, 2007). Therefore, an attempt to make the most out of the available skills requires a reform of policies especially those that restrict mobility of worker for learning.

3. Creativity in Learning

If truly "what gets tested is what gets taught", then in order for creativity to become a priority in the classroom learning environment, it must be assessed with the testing of more traditional skills and abilities. However, measuring creativity is undoubtedly more complex that measuring literacy or numeracy (George, 2007). While innumerable tests of creativity and creative thinking exist, most of these measure certain aspects of creativity and often their validity has not been fully tested with respect to organization competitiveness. Therefore it's important to test creative thinking skills with respect to the creative products which are the best predictor of future creative products amounting to organizational competitiveness. Nonetheless, numerous tests have been designed and conducted to measure creative potential and creative thinking processes.

These are discussed in detail in prior studies (George, 2007; Janssen, 2005; Emadzade et al., 2012) most of the measurement confined to convergent and divergent thinking using survey questionnaire to measure fluency, flexibility, originality and scoring of complexity and completeness of answers. Therefore using multiple measures to assess student progress appears to be a more detailed and well-composed option in determining the impact of creativity. Traditionally, standardized tests focuses on the accountability and basic skill development. If creativity is to be encouraged in schools and its intelligence displayed, there is a need to include it in the assessment of assignments and tests so as to create opportunity for creative thought,” (Hora & Ferrare, 2013). Sternberg asserted that the principal creativity can be applied in any course rather than integrating creative tasks into teacher assigned tests with limited range of creativity tests. This implies that students should engage more on creative classroom activities (Sternberg & Weihua, 2013). Assessment of student using broad portfolios of workload broadly supports their creative capability and modifies their ability in handling difficult task and essentially:

- Provides ways of assessing student’s performance in a more meaningful way
- Eliminates secrecy and exposes students on things they are expected to know and be able to do independently.
- Develops an ideal assessment platform to support teacher’s evaluation over student’s ability.
- Encompasses an enriched assessment curriculum and instruction that engages students with skills and knowledge to undertake work outside the school environment.
- Enables students become more independent and thoughtful learners through an ideal assessment approach.
- Promotes reflective practices in teachers through the implementation of good assessment practices (Greenhow et al., 2009).

The integration of these principles and specifically keeping the goal of creativity in mind could lead to a more comprehensive assessment method for classroom practices. Collaborative knowledge creation based on individual achievement could not support fast flow of information needed to sustain organizational competitiveness. Therefore creation of knowledge from specialized individual demands a new form enhancement in organizational structure to improve performance outcome through learning and practice. Therefore a need arises to learn and enhance knowledge workers intrinsically (Amabile, 1998). In a study, Foss (2005) refers to this approach as a high-performance work practices that proves more efficient in complementing performance outcomes of organizations.

For effective management practices, knowledge creation should be central to planning and in directing centralized decision (Pintrich, 2002; Ghoshal & Gratton, 2002; Darroch, 2005). This implies that knowledge creation should be embedded in the decision-making to organize and integrate knowledge as complementary tool to organizational effectiveness. Therefore, knowledge creation forms mechanisms that allow knowledge sharing and integration skills capable of leveraging networks mutual competence and the ability to manage resource and mobilize human capital (Hong et al., 2008; Kianto, 2008a). The traditional management practices and authority from hierarchically organized manufacturing organizations may not be valid in the knowledge-intensive firms (Table 1). In fact, managing knowledge and knowledge work requires that most of the traditional assumptions about what effective management consists of must change. If firms are perceived as institutions for integrating knowledge, hierarchies fail. As Davenport (2001) puts it, management in the knowledge economy is “a different game with different rules.”

Table 1: Contrasting view of Conventional Management Concept and Knowledge Creativity

	Conventional management	Knowledge creativity
Managerial role	Control and oversees subordinates	Participates in knowledge creation, and training of subordinates
Organizing	Organized in structure	Creates and supports knowledge transfer
Governance	Considers Price and authority	Considers problem solving skills as complementary to performance outcome
Job descriptions	Clear distinction between	Overlap of thinking and doing thinkers and doers
Orientation	Human effort and Social and psychological factors are marginally important	environment culture that support knowledge creation is very essential
Human Resource	Hires and layoff	Recruiting and train for better performance
Motivating	Externally motivated: money	Intrinsically motivated: creates possibilities for self-development

4. Issues in Knowledge Creation

Knowledge creation can be explained as an identifiable measurable and codified piece of data and information nurtured and structured to meet specific need. Generation of knowledge has been noted as an enthusiastic proponent of the new possibilities that opens up developments exploiting the novel practices. Therefore examining how knowledge is created and shared encompasses a collection of strategic learning appropriate that complement infusion of creativity through skill and competencies acquisition (Kianto, 2008a; 2008b) as shown in Figure 4.

Knowledge infusion of creativity is best illustrated using the modified version of Kianto model.

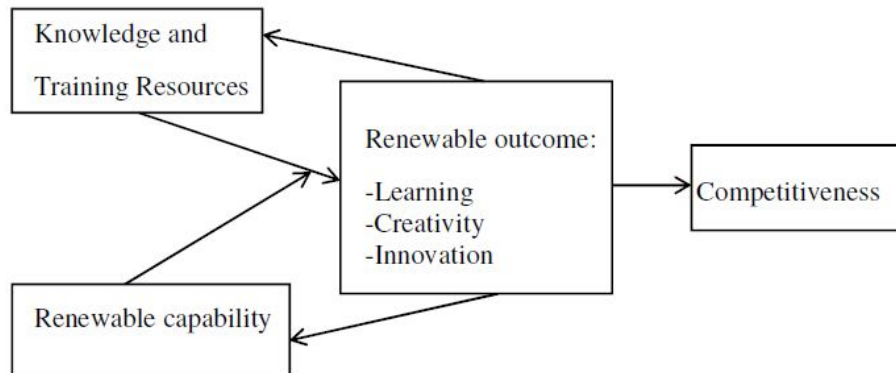


Figure 4: Modified version of Kianto Model for Organizational Competitiveness

The modified theoretical model of organizational competitiveness (Pöyhönen, 2005; Kianto, 2008a), incorporates the contributions generated from various approaches to present a comprehensive model that enhance the competitiveness of organization through the organizations renewal capability based on a combination of organizational characteristics that enable them to develop and change its resource base to produce learning, creativity and innovation outcomes which in turn enhances competitiveness (Figure 4).

Organizations that continuously learning becomes creative and is innovative in their ability to craft compelling visions and organizational strategies that focuses on emergent development and flexibility to accommodate changes (Pöyhönen, 2005; Schoorman et al., 2007; Miri et al., 2007; Brown & Duguid, 2001; Kanter, 2002). Knowledge is impacted through learning developed through creativity and applied for innovativeness. Therefore learning, creativity and innovation depicts renewable outcomes that facilitate competitiveness through relatively new ideas that are through creativity transformed into successful outputs. The creative process has been described as a continuous crystallization from divergent to convergent thinking (Darroch, 2005); from lateral to vertical thinking (De Bono, 1985). However, learning orientation depicts a representation of attitudes of organization towards creativity and learning and the extent to which these activities are supported and allowed by organizational structures and processes towards achieving competitiveness.

5. Conclusion

The impact of creativity acquired through learning and demonstrated through innovative strategies has been reported. Range of organizational practices depends on creative ability to achieve competitive advantage which is facilitated through knowledge acquisition. Knowledge creation through learning depicts organization's systematic and strategic tools for creativity and knowledge sharing. Competitiveness has shown to be characterized by proficiency in dealing with various knowledge assets of the organization. However, acquired knowledge should be transformed into creativity to improve outcome, services processes throughout the organization. In addition, the theoretical model of organization competitiveness has been used to illustrate pathways to enhance competitive advantages. The model is suitable for both scientific research and for performance measurement of organizations. Present findings depicted that knowledge and creativity drives competencies and skill development in providing solution to specific task.

References

- Amabile, T. (1998). Motivating creativity in organizations: On doing what you love and loving what you do. *California Management Review*, 40, 1, 39-58.
- Anderson, N., DeDreu, C. K. W. & Nijstad, B. A. (2004). The routinization of innovation research: A constructively critical review of the state-of-the-science. *Journal of Organizational Behavior*, 25, 147-173.
- Andrews, D. & Criscuolo, C. (2013), "Knowledge-based capital, innovation and resource allocation", Economics Department Working Papers No. 1046, OECD, Paris.
- Appelt, S., Galindo-Rueda, F., de Pinho, R. & van Beuzekom, B. (2015). "Which factors drive the international mobility of research scientists?", OECD Science, Technology and Industry Working Papers OECD Publishing, Paris.
- Aud, S., Hussar, W., Planty, M., Snyder, T., Bianco, K., Fox, M., Frohlich, L., Kemp, J. & Drake, L. (2010). The Condition of Education 2010 (NCES 2010-028). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.
- Beyes, T. (2009) "Spaces of intensity—urban entrepreneurship as redistribution of the sensible," in Hjorth, D. and Steyaert, C. (Eds.). *The Politics and Aesthetics of Entrepreneurship*, Cheltenham: Edward Elgar, pp. 92-112
- Braconier, H., G. Nicoletti & B. Westmore (2014), "Policy Challenges for the Next 50 Years", OECD Economics Department Policy Papers, No. 9.
- Brown, J. & Duguid, P. (2001). Knowledge and organization: A social-practical perspective. *Organization Science*, 12, 2, 198-213.
- Buckingham, J., Wheldall, K., & Beam-Wheldall, R. (2013). Why poor children are more likely to become poor readers: The school years. *Australian Journal of Education*, 53(7), 190-213.
- Chanal, V. (2010) "The difficulties involved in developing business models open to innovation communities: the case of a crowdsourcing platform," *M@n@gement*, 13(4): 318-341
- Corrado, C., Haskel, J., Jona-Lasinio, C. & Iommi M. (2012), "Intangible Capital and Growth in Advanced Economies: Measurement Methods and Comparative Results", INTAN-Invest Mimeo.
- Criscuolo, C., P. Gal & C. Menon (2014), "The Dynamics of Employment Growth – New Evidence from 18 Countries", OECD Science, Technology and Industry Policy Paper, OECD Publishing, Paris.
- Darroch, J. (2005). Knowledge management, innovation and firm performance. *Journal of Knowledge Management*, 9, 3, 101-115.
- Davenport, T. H.; Beck, J. C. (2001). *The Attention Economy: Understanding the New Currency of Business*. Harvard Business School Press. ISBN 978-1578514410.
- De Bono, E. (1985). *Six thinking hats*. Boston, Little, Brown and Company.
- Emadzade, M; Mashayekhi, B. & Abdar, E. (2012). "Knowledge management capabilities and organizational performance", *interdisciplinary journal of contemporary research in business*, Vol. 3, No 11, pp. 781-790.
- Foss, N. (2005). *Strategy, economic organization and the knowledge economy, The Coordination of firms and resources*, Oxford University Press, Oxford.
- George, J. M. (2007). Dialectics of creativity in complex organizations. In T. Davila, M. J. Epstein, & R. Shelton (Eds.), *The creative enterprise: Managing innovative organizations and people*, (Vol. 2, pp. 1-15).
- Westport, CT: Praeger. Ghoshal, S. & Gratton, L. (2002). Integrating the enterprise, *MIT Sloan Management Review*, Fall, 31-38
- Greenhow, C., Robelia, B., & Hughes, J. (2009). Web 2.0 and classroom research: What path should we take now? *Educational Researcher*, 38 (4), 246–259.
- Hargadon, A. B., & Bechky, B. A. (2006). When collections of créatives become creative collectives: A field study of problem solving at work. *Organization Science*, 17, 484-500.
- Haythornthwaite, C., and Kendall, L (2010). Internet and Community. *American Behavioral Scientist*. 52(8), 1083-1094.
- Hora, M.T. & Ferrare, J.J. (2013). Instructional systems of practice: a multidimensional analysis of math and science undergraduate course planning and classroom teaching. *J Learn Sci* 22, 212–257.
- Hong, J., Kianto, A. & Kyläheiko, K. (2008). Culture and dynamic capabilities in emerging markets. *Knowledge and Process Management*, Vol. 15, No. 3, pp. 196-202
- Janssen, O. (2005), The joint impact of perceived influence and supervisor supportiveness on employee innovative behavior. *Journal of Occupational and Organizational Psychology*, 78, 573-579,

- Kanter, R. M. (2002). Strategy as improvisational theater. *Sloan Management Review*, Winter, 43, 2, 76-83.
- Kianto, A. (2008a). Assessing organizational renewal capability. *International Journal of Innovation and Regional Development*, Vol. 1, No. 2, pp. 115-129.
- Kianto, A. (2008b). Development and validation of a survey instrument for measuring organizational renewal capability. *International Journal of Technology Management*, Vol. 42, Nos 1/2, pp. 69-88.
- Lewis, C. C. & George, J. F. (2008). Cross-cultural deception in social networking sites and face-to-face communication. *Computers in Human Behavior*, 24 (6), 2945–2964.
- Metaxiotis, K., Ergazakis, K. Psarras, P. (2005). Exploring the world of knowledge management: agreements and disagreements in the academic/practitioner community *Journal of Knowledge Management*, 9 (2), 6 - 18.
- Miri, B., David, B. C. & Uri, Z. (2007). Purposely teaching for the promotion of higher-order thinking skills: a case of critical thinking. *Res Sci. Educ.* 37, 353–369.
- OECD (2013), *OECD Skills Outlook*, OECD Publishing, Paris.
- OECD (2014a), *Science, Technology and Industry Outlook 2014*, OECD Publishing, Paris.
- OECD (2014b), *Perspectives on Global Development 2014: Boosting Productivity to meet the Middle- Income Challenge*, OECD Publishing, Paris.
- OECD (2014c), *Measuring the Digital Economy. A New Perspective*, OECD Publishing, Paris.
- OECD (2015a), *Enabling the Next Production Revolution*, OECD Publishing, Paris.
- OECD (2015b). *OECD Compendium of Productivity Indicators*, OECD Publishing, forthcoming.
- OECD (2015c), *The Future of Productivity*, OECD Publishing, forthcoming.
- OECD (2015d), *Digital Economy Outlook 2015*, OECD Publishing, forthcoming.
- Ohly, S., Sonnentag, S., & Pluntke, F. (2006). Routinization, work characteristics and their relationships with creative and proactive behaviors. *Journal of Organizational Behavior*, 27, 257-279.
- Pintrich, P.R. (2002). The role of metacognitive knowledge in learning, teaching, and assessing. *Theor Pract* 41, 219–225.
- Pöyhönen, A. (2005). Exploring the Dynamic Dimension of Intellectual Capital: Renewal Capability, Knowledge Assets and Production of Sustained Competitive Advantage. A paper presented at the 2005 PMA IC Symposium: Management and Measurement of Intangible Assets and Intellectual Capital: Multidisciplinary Insights. New York, 15-16 December 2005.
- Rice, G. (2006). Individual values, organizational context, and self-perceptions of employee creativity: Evidence from Egyptian organizations. *Journal of Business Research*, 59, 233-241.
- Rowley, R. L., & Wright, D. W. (2011). No “white” child left behind: The academic achievement gap between black and white students. *The Journal of Negro Education*, 80(2), 93-107.
- Schoorman, F.D., Mayer, R.C. & James, H.D. (2007). An Integrative Model of Organizational trust: past, present and future, *Academy of Management Review*, 32, 2, 344-354.
- Sternberg, R.J. & Weihua, N. (2003). “Societal and School Influences on Student Creativity: the Case of China” in *Psychology in the Schools*; 40, (1), 103 - 114.
- Westmore, B. (2013), “R&D, Patenting and Productivity: The Role of Public Policy”, OECD Economics Department Working Paper No. 1046, OECD, Paris.