

# Measuring performance of knowledge management in companies

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**Abstract:** Knowledge is nowadays very important resource for companies and in case this knowledge is unique and refers to strategic enablers of doing business, it may be the source of company's competitive advantage. Knowledge management covers all processes related to knowledge processing and circulation within the firm. The right knowledge management practices develop and leverage the potential of knowledge that helps the organizations to strengthen their position in respect to their competitors. There are many studies that validated the positive effect on knowledge management on company performance applying different models or framework. The outcomes of the working knowledge management program are reflected in various intermediate performance indicators such as productivity, effectivity, customer retention or direct financial results of company including return on investment, revenues and profit.

**Keywords:** knowledge management; knowledge management performance; measuring knowledge management; knowledge management indicators

## 1 Introduction

The following article looks at the importance of knowledge for the companies, the factors that influence knowledge management program in the firm and mainly reviews the alternative ways of measuring knowledge management results. Some authors propose to link knowledge management practices to non-financial KPIs, the others judge the impact of knowledge management on financial performance – either directly or as a consequence of some intermediate results. An alternative way to measure knowledge management program is via a dedicated knowledge management performance index. All of the mentioned approaches are introduced in the paper.

This paper is limited through the scope and content of the reviewed original studies, it does not conclude on authentic findings and recommendations. It serves more as a food for thought for those who start to explore managerial dimensions of knowledge management, mainly the possible benefits coming from the knowledge management practices. All of the researches from the sample articles used for this review paper suggest that working knowledge management program is improving the performance of the company in various areas.

## 2 Methodology

The article is constructed as a review paper. The initial articles were searched in the databases ProQuest and google scholar using multiple key words such as knowledge management, knowledge transfer, company performance, knowledge management measures, knowledge management results. At the first stage few dozens of articles were pre-reviewed based on their abstracts and many of them were excluded from detailed reading as they were usually too specific, with strong regional or industry focus or a peer review was missing. The

articles that were finally selected as references for writing this paper stand for a limited number of views of academic and scholars on the topic knowledge management and company performance. Nevertheless the submitted paper introduces interesting points related to knowledge management discussed by the senior researches as well as their conclusions on several studies focused on knowledge management impact on company performance.

### **3 Knowledge and its importance for the companies**

During the twentyfirst century characterized by the shift of the economy to knowledge economy and the strengthening globalization, many of the countries have made the development of knowledge their national goal. The knowledge intense industries are starting to replace the traditional capital and labor oriented industries and one may expect that orientation on knowledge will become common across the economies. Digital industries have already progressed to the top of the economy [5].

The increasing entrepreneuring pressure has made knowledge the vital company resource for building competitive advantage. The ability to identify, create, share and use knowledge in order to desing new products and technologies is essential mainly for highly competitive markets, resp. very attractive markets or markets requiring high investments. Knowlege is the information enriched by personal experience, interpretation and reflection and include the context and added value. Information is the sum of data, knowledge is derived from information grounded in the individuals' belief in their plans and acts. The explicit knowledge can be transfered by the formal means and language. Therefore the explicit knowledge has a lower value since it is available to broader public. The tacit knowledge is more subjective, which makes its codification and formalization more difficult. The tacit knowledge tends to be incorporated into human's behaviour and specific context, it can be very personal and integrated in one's acts, hence it is a challenge to communicate it properly [8].

The increasing amount of the tacit knowledge, more complex environment, very common learning by doing and observation approach, the collective knowledge and the expensive knowledge transfer via moving of the personel, have made the knowledge codification and sharing more difficult. The traditional hierarchies are not sufficient for the creation of tacit knowledge and together with the lack of ability to share the best practices could explain the diverse performance of the subsidiaries of multinationals. The multinationals face an issue to share the knowledge due to knowledge specifications, the skills of the recipient and sender and the complex context. It is easier to share the general processes possible to codify [11].

The knowledge matrix by Ordoñez de Pablos is based on two criteria: knowledge uniqueness and strategic value and forms 4 quadrants:

- Idiosyncratic knowledge – high originality and low strategic value. This knowledge could be differentiating factor for the company. The company objective should be to increase the strategic value of idiosyncratic knowledge, however the short-term pressure for cost reduction often prevents the managers to invest into this knowledge. In the long-term are mainly innovative companies able to find appropriate utilization of idiosyncratic knowledge.
- Ancillary knowledge – low originality and low strategic value. The optimal strategy is the investment reduction into employees who are generating the general knowledge; the company will decrease the costs, increase its flexibility and can re-direct the resources into more promising knowledge.

- Core knowledge – high originality and high strategic value. The benefits from this knowledge exceed the costs for its creation, therefore it is essential to establish the environment that fosters the generation of core knowledge.
- Compulsory knowledge - high strategic value and low originality. There is a risk that employees transfer this knowledge to competitors – the quick way for companies to get this knowledge is to hire the knowledge workers. As a risk reduction, compulsory general knowledge could be adopted to company environment to prevent its usage by the rivals [11].

The individuals have skills to overcome knowledge ambiguity, noise related to its communication, understand the full context. The contextualization resonates often in the multinationals that are geographically and culturally diversified [8]. The knowledge ambiguity has a significant affect on knowledge transfer: the higher the ambiguity, the less knowledge successfully passed to the recipient. The ambiguity is on the other hand the barrier for knowledge imitation. The factors that have an impact on knowledge ambiguity are: tacitness (increasing ambiguity), complexity (increasing ambiguity), experience (decreasing ambiguity), cultural and organizational differences between partners (increasing ambiguity). All of the mentioned factors affect the knowledge ambiguity in similar scope. In the joint ventures and alliances which partners cooperate closely is the importance of complexity and cultural and organizational factors lower; the units can more easily overcome the barriers related to those factors [13].

According to focus the knowledge strategies can be either explicit or tacit oriented. The explicit oriented knowledge strategies aims at improving organizational effectiveness via codification and re-use of knowledge, often driven by more advanced IT. The tacit knowledge strategies require personal contacts; tacit knowledge is usually communicated face to face and through socializing. According to knowledge resources one can differentiate internal and external knowledge strategies. External knowledge strategies bring in knowledge from external environment e.g. via its acquisition or imitation. Internal knowledge strategies generate new knowledge within the boundaries of the company [6].

Companies have different resources that could be allocated to knowledge management that leads to difference in knowledge management levels. Bigger companies could afford higher investments into knowledge management and also during the crisis, usually requesting savings, they manage to maintain some level of investment. On the other hand the small companies could establish knowledge management almost with zero investment. Small companies can create knowledge program involving all employees, which ensures high acceptance by staff, thus managing the knowledge is not only managerial project. The clearly defined knowledge strategy with articulated objectives could lead to substantial progress while having limited financial investment. There is no one general solution for knowledge management that would fit the needs of all types of companies. Big multinationals usually create knowledge programs for functional areas or hierarchy levels. The headquarters monitor the performance of the knowledge systems among units and encourage their introduction in new divisions. IT companies have in their core the work with knowledge that helps them to implement knowledge management activities. The factories are usually less knowledge intense than IT, but new knowledge is still important to them. The progress of knowledge management in banks and financial institutions has been weak due to the fact that the level, which they had already achieved is sufficient, hence the motivation to further invest into knowledge programs is not in place [3].

#### **4 Knowledge management, approaches to measure its performance**

Knowledge management appears as a program that introduces important changes to the strategies and in traditional management practices. Introduction of knowledge management requires effort to develop new knowledge, its dissemination and protection, continuous learning, understanding organization as a complex system, creation of innovative culture, focus on individuals and their skills, developing of company competences and competence based management. Knowledge management includes all company functions, employees and also partners that the firm cooperate with [9].

Ecological view on knowledge management mentioned in literature strengthens the idea that good knowledge management systems exceed the boundries of technology and integrate social dimensions: culture, processes and structures. Eco view appears as human dimension of knowledge management concerning internal environment and its impact on knowledge management. The knowledge comes from organizational culture and takes on diverse forms, e.g. experience of employees or their know how. Culture has the biggest impact on knowledge the company and together with company vision that defines company direction and goals stimulate changes to the organization. The structure can support or hinder knowledge management practices; friendly culture together with flexible organization help to implement knowledge management. The cooperative atmosphere, trust and employee development have positive influence on knowledge sharing. Established learning processes will raise employee acceptance of the changes, supports the continuous improvement, generates new innovations and overall promotes knowledge practice. Rewarding programs and assignment of appropriate employee status have positive effect on knowledge sharing. Centralized organizational structure requires employees to follow formal communication channels, blocks free information exchange and creation of new ideas and decisions take longer. On the other hand, decentralized management strengthens the importance of individual units, opens the opportunities to create and share new ideas, encourages employee contributions. Should the company maximize the benefits of knowledge management, it needs to adapt it to internal socio-technological environment [4].

Organizational structure has a great impact on knowledge flows – the cooperation, trust, learning capabilities, expertise as well as innovative skills are supporting the dissemination of knowledge in the company. Some flexibility of formal structures allows employees to find their own room for efficient task fulfillment, further development of their skills which will translate to improved firm competitiveness. The implementation of knowledge management programs motivates the experts to stay in the company, since they can exchange their views, use different communication channels to stay in touch with peers, take part on decision making process, grow professionally, are able to navigate themselves to quick and effective problem solving [4].

The companies own diverse competences as well as the skill to develop new competences, leverage and protect them which is an antecedent of building of competitive advantage. Competence based view suggests that companies compete through learning process which drives competences in various areas and serves the enhancement of company products [4]. The properly working knowledge management needs two competence dimensions: infrastructure with technical, structural and cultural elements and process dimension with knowledge creation, conversion, utilization and protection [2].

Knowledge creation requires sharing of individual experience, the cooperation between different levels of the firm (individuals, company and its partners), gaining knowledge from outside of the firm via technology sharing, personel move, alliances or joint ventures. The conversion stands for a process that transforms the knowledge into usable form. This process

requires the ability to discover the knowledge, integrate, structure, combine, coordinate and distribute it. The knowledge utilization is the process of real implementation of the knowledge and helps the company to increase the effectiveness and decrease the cost. Knowledge protection prevents the misuse of the knowledge via legal protection (patents, trademarks, usage rights) and also internal practices (access definition, rules for knowledge usage, monitoring of employee access of knowledge databases). The phases of knowledge process provide a framework for combining and sharing of knowledge, they are additive, i.e. one supports another and together they support the organizational efficiency [2].

Technologies, structures and culture are additive dimensions of bigger company infrastructure that also supports organizational performance. The infrastructure and process dimensions could be combined and linked together [2].

McKeen et al. studied the question which practices of knowledge management mostly supported the organizational performance. The four dimensions of knowledge management practices are: the ability to localize and share the knowledge, ability to experiment and create new knowledge, knowledge culture that promotes knowledge sharing, understanding of the strategic value of learning process. The culture proved to have the most impact on knowledge management practices. Firms that reward their employees for their knowledge and sharing of experience usually create an environment that supports knowledge management. The most valuable strategic competence is the ability to learn. The learning process applies the knowledge and upgrades it in time, which certainly associates learning with knowledge management. The organizational performance depends not only on current level of knowledge, but also on the ability to develop new knowledge for future. Top performing companies nowadays could lose in future provided their competitors are more capable of learning new things [10].

We may see companies implementing knowledge management programs without having specific tools for measuring its successful introduction. Gold et al. study validated that companies own certain antecedents for successful launch of knowledge management through the development of company competences [2].

Several alternative KPIs could be used to measure knowledge management performance. One possibility is to focus on productivity, investment levels, return on investment and the achievement of goals. An alternative approach takes into consideration the achievement of strategic goals, the effective implementation or usage of corrective activities. The assessment of knowledge management could be based on knowledge process covering knowledge creation, storage, transfer and implementation – we can measure how individuals create, store, share, use and explore the knowledge [4].

The research findings suggest that non-financial KPIs such as reaction on consumer needs do not necessarily improve the financial performance, nevertheless they are still important for customer relationship. This means that traditional financial KPIs are necessary but not sufficient and additional indicators about customer satisfaction, reaction on market development and quality of internal processes are needed. Ping-Ju Wu et al. propose to measure organizational performance in respect to competitors through: (1) financial indicators, (2) customer satisfaction, (3) internal processes. The financial KPIs include return on investment, return on assets, return on equity and marketed volume. The consumer perspective includes consumer satisfaction, image perception and product leadership. All of these attributes are key to achieve consumer loyalty which facilitates long-term retention and this way the success of the company. Internal processes include effectiveness of operations, productivity and reaction on changing environment [12].

The relationship between antecedents or influencing factors and knowledge management performance was studied in many researches isolated. Lee et al. introduced an integrated model which analyzed the relationship of knowledge processes, factors that influence knowledge management (structures, culture, IT) and final performance. The antecedents are the first component of the model. These are the factors that influence knowledge management defined as mechanisms that consciously develop knowledge. The next component are the knowledge management processes, i.e. the phases such as knowledge creation, transfer, storage and use. The relationship among all three components could be defined via model input-process-output, which suggest that inputs will affect the outputs through some process. We may assume that the antecedents of knowledge management will reflect in the organizational performance through knowledge processes. In order to define the relationships among the components, the mediating component is needed – the role of facilitator, that comprises the abilities of the company, specific processes, innovations. All these are grouped by the authors under the name of organizational creativity. The knowledge creation is an important antecedent for overall organizational creativity. Organizational creativity has a positive impact on non-financial performance of the company. Although there is a strong relationship between organizational creativity and non-financial performance of the company, the direct effect on financial performance was not supported [7].

Chang et al. studied the effectiveness of Thai digital companies. Digital products include pictures, texts, movies, digital games, e-learning etc. The studied inputs in digital industry were: number of employees, investment into research and development irrespective of its object (technology, materials, product innovations), administrative costs for advertising (as alternative indicator to investment into customer relationship management). The output indicators include net revenues (standing for financial performance) and a monetary value of intellectual capital. Intellectual capital is the sum of individual knowledge including experience, technology, relationship management skills etc. The operational effectiveness of Thai digital companies in the sample reached 24% in 2005 which suggested the room for development. Non-effective companies did not use their resource in an optimal manner. The human resources together with advertising cost (representing the cost of customer relationship management) have the strongest impact on operational effectiveness of digital companies. Decrease of advertising cost and labor or increase of net revenues would improve the input/output ratio – digital companies should pay more attention to resource adjustment in order to minimize non-efficiencies. Digging to the individual level, the authors discovered differences – some companies performed better in financial KPIs, some had better intellectual capital. In any case the managers in digital companies should be more strategic, forward looking and not only judge the quality of intellectual capital, but allocate it appropriately in order to avoid overinvesting into some areas. The right adjustment of intellectual capital in respect to operational performance will optimize the company effectiveness [5].

Lee et al. formed knowledge management performance index. Knowledge process starts with knowledge creation, both tacit and explicit, and is supported by the interaction of employees from different functions and with different experience. The second phase is the collection of knowledge, which should be done systematically. The next phase of knowledge circulation process is dissemination of knowledge within the firm, which supports the qualified decisions and improves the level of expertise of the employees. The utilization of knowledge is the fourth phase. The ultimate phase of the knowledge circulation process is knowledge internalization that happens when an individual gains the knowledge, process it and uses it while creating a base for new one. The effectiveness of the knowledge circulation process depends on the relationship between employees, atmosphere between subsidiaries impacted by

the headquarters decisions, internal processes, strategic relationships with third parties, trust with partners, strategic management and leadership skills of managers, corporate vision etc. [7].

The improving efficiency of knowledge process translates into improving knowledge performance index. The development of knowledge management performance index is similar to the introduction of new application – the benefits are low during the first phases, because time is needed for the employees to get familiar with new working processes, the benefits become significant later and in long-term the marginal gains are diminishing following the closeness of the optimum point. Knowledge management performance index is measuring the quality of the knowledge organization and refers to overall company performance. The companies with good knowledge organization have higher performance index and firms with high performance index have better results – stock value, investment into research and development, profitability. The knowledge circulation phases significantly impact knowledge management performance index that is a reflection of knowledge organization quality. Good knowledge organization significantly improves company performance, therefore the designers of knowledge systems should come up with solutions that optimize individual phases of knowledge circulation so that the performance is maximized [7].

Lee et al. also validated positive relationship between knowledge management practices and company performance. The support for knowledge creation, transfer and protection, continuous learning, understanding of company as a complex system, innovative culture, focus on individuals and investment into research and development have positive influence of company performance [7].

According to Darroch the outcomes of knowledge management could be competitive advantage, better financial performance, innovations, anticipation of problems, better ability to learn or extraordinary knowledge utilization. The competences help company survive on the market; firms with effective knowledge practices better use their knowledge and achieve better results in innovations or financials. Firms with effective knowledge management are more innovative and performing better. Firms with bigger knowledge base are better in transferring knowledge, reacting faster, better use their resources and can maintain their competitive advantage. The ability to innovate can be strengthened by higher investment into research and development or hiring employees with academic and scientific background in order to drive product or technology innovations. Knowledge practices are flourishing when all employees use their skills. Surprisingly Darroch's study did not support hypothesis that innovations improve the performance of the company, however Darroch split innovations into several tiers (radical, new to company, improvement of existing products). Darroch herself is concluding that companies should not stop improve their innovation skills, as innovations can also help to sustain the current level of competitiveness [1].

Knowledge management practices are according to McKeen et al. related to company performance, qualitative and quantitative results, though the strongest impact refers to intermediate performance indicators. Knowledge management leads to various non-financial indicators such as quality, innovations, productivity and other indicators of effectiveness, which can in real life improve simultaneously. When measuring the performance through financial indicators, the correlation gets weak – general changes in organization and in knowledge management do not necessarily drive financial performance; knowledge management has an influence on company competences that facilitate financial performance. There is no direct correlation between knowledge management practices and financial performance [10].

McKeen et al. analyzed knowledge management practices in relation to position of the company within competitive environment assuming that knowledge standing for strategic

company resource has an impact on competitiveness of firm. Knowledge management practice has positive influence on product leadership, that is based on innovations of product and services, customer relationship with extraordinary mutual understanding and excellent operations. These three strategic competences are reflected in company leadership position and improve financial performance [10].

Firms with excellent operations focus on individual skills of employees, invest into employee development and share best practices. Firms with product leadership also create strategic plans based on new knowledge, benchmark their level of knowledge with competition, experiment with product and service, have department dedicated to knowledge to maximize knowledge value. Firms with attractive relations with trade partners engage in all mentioned areas of knowledge management [10].

The advise of scholars in respect to number of implemented knowledge strategies is mixed: some recommend to introduce one individual knowledge strategy, the others recommend to implement several strategies at the same time. Choi et al. studied the combinations of knowledge strategies and their impact on company performance. Implementation of sole explicit strategy increases the likelihood of better company performance. Focus on strategy preferring tacit knowledge does not increase the chance of improved performance. Combination of explicit strategy and strategy oriented on tacit knowledge decreases the likelihood of achieving better performance. The findings promote explicit oriented strategy and especially warn about the risk of staying in the middle – if the company does not choose either tacit or explicit strategy, the likelihood of improved performance will go down substantially [6].

From the perspective of the resources both external and internal oriented strategies increase the likelihood of improved performance. Companies that implement both strategies increase their chance for better results even more. There is a complementary relationship between external and internal strategies, i.e. in order to get to better results it is not necessary to use both since each of them supports the performance. Considering the strategy resource and focus at the same time, it was proved that internal tacit strategies positively impact performance. Explicit external strategies on contrary show lower probability of better outcomes. However explicit external strategies moderate the impact of internal tacit strategies and this way companies can increase the probability of better results. Again, between strategy focus and resource there is a complementary relationship [6].

## 5 Summary and conclusion

In current era of IT, knowledge could be used to explain different level of competitiveness among firms. Reviewed studies validate positive impact of knowledge management on company performance – if not directly on profitability, knowledge management practices reflect in the improvement of various non-financial KPIs: competitiveness, customer relationship, productivity etc. We can recommend to the managers who plan to introduce knowledge management in their companies to start with an analysis of company competences and afterwards to set the objectives. The implementing managers should take into the consideration both possibilities of the company and requirements for the desired level of knowledge management program. This alignment of requests for knowledge management with company possibilities is needed to eliminate potential negative outcomes and maximize the benefits coming from the program [2].

At the same time we point at the general importance of knowledge for the organizations. The knowledge that is unique and has a great value may be the source of the success of the company.

Therefore the companies should support employees to generate and use new knowledge by creating culture that promotes exchange of the ideas, free communication and reward employees for their achievements in knowledge field. Individuals with their skills seem to be at the beginning of creating new values.

## Literature

1. Darroch, J. 2005. Knowledge management, innovation and firm performance. In: Journal of Knowledge Management, [online] Available at: <<http://scholar.google.sk/scholar?hl=sk&q=Knowledge+management%2C+innovation+and+firm+performance&btnG>> [Accessed 1 June 2016].
2. Gold, A. H., Malhotra, A. and Segards, A. H. 2001. Knowledge Management: An Organizational Capabilities Perspective. In: Journal of Management Information Systems, [online] Available at: <[http://scholar.google.sk/scholar?q=Knowledge+Management%3A+An+Organizational+Capabilities+Perspective&btnG=&hl=sk&as\\_sdt=0%2C5](http://scholar.google.sk/scholar?q=Knowledge+Management%3A+An+Organizational+Capabilities+Perspective&btnG=&hl=sk&as_sdt=0%2C5)> [Accessed 1 June 2016].
3. Hasan, M., Zhou, S.-N. 2015. Knowledge Management in Global Organizations. In: International Business Research, [e-journal]. Available through: City University website <<http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/1691286346?accountid=1230>> [Accessed 1 June 2016].
4. Ho, Ch.-F., Hsieh, P.-H., Hung, W.-H. 2014. Enablers and processes for effective knowledge management. In: The Learning Organization, [e-journal]. Available through: City University website <<http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/1536269091?accountid=1230>> [Accessed 1 June 2016].
5. Chang, Ch. Ch., Hung, S.-W., Huang, S.-Y. 2011. Evaluation the operational performance of knowledge-based industries: the perspective of intellectual capital. In: Springer Science+ Business Media, [e-journal]. Available through: City University website <<http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/1272277304?accountid=1230>> [Accessed 1 June 2016].
6. Choi, B. Ch., Poon, S. K., Davis, J. G. 2006. Effects of knowledge management strategy on organizational performance: A complementarity theory-based approach. In: Science Direct, [e-journal]. Available through: City University website <<http://www.sciencedirect.com/science/article/pii/S0305048306000983>> [Accessed 1 June 2016].
7. Lee, K. Ch., Lee, S. a Kang, I. W. 2004. KMPI measuring knowledge management performance. In: Management & Information, [online] Available at: <[http://scholar.google.sk/scholar?q=KMPI+measuring+knowledge+management+performance.+In%3A+Management+%26+Information&btnG=&hl=sk&as\\_sdt=0%2C5](http://scholar.google.sk/scholar?q=KMPI+measuring+knowledge+management+performance.+In%3A+Management+%26+Information&btnG=&hl=sk&as_sdt=0%2C5)> [Accessed 1 June 2016].
8. Ling, Ch. W., Sandhu, M. S. and Jain, K. K. 2008. Knowledge sharing ia an American multinational company based in Malaysia. In: Journal of Workplace Learning, [e-journal]. Available through: City University website <<http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/198438519?accountid=1230>> [Accessed 1 June 2016].

9. Marqués, D. P., Simón, J. G. 2006. The effect of knowledge management practices on firm performance. In: Journal of Knowledge Management, [online] Available at: <[http://scholar.google.sk/scholar?q=The+effect+of+knowledge+management+practices+on+firm+performance.&btnG=&hl=sk&as\\_sdt=0%2C5](http://scholar.google.sk/scholar?q=The+effect+of+knowledge+management+practices+on+firm+performance.&btnG=&hl=sk&as_sdt=0%2C5)> [Accessed 1 June 2016].
10. McKeen, J. D., Zack, M. H., Singh, S. 2006. Knowledge Management and Organizational Performance: An Exploratory Survey. In: IEEE, [e-journal]. Available through: City University website <[http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=1579598&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxppls%2Fabs\\_all.jsp%3Farnumber%3D1579598](http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=1579598&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxppls%2Fabs_all.jsp%3Farnumber%3D1579598)> [Accessed 1 June 2016].
11. Ordoñez de Pablos, P. 2006. Transnational corporations and strategic challenges. An analysis of knowledge flows and competitive advantage. In: The Learning Organization, [e-journal]. Available through: City University website <<http://proxy.cityu.edu/login?url=http://search.proquest.com/docview/215656676?accountid=1230>> [Accessed 1 June 2016].
12. Ping-Ju Wu, S., Straub, D. W., Liang, T.-P. 2015. How Information Technology Governance Mechanisms and Strategic Alignment Influence Organizational Performance: Insights from a Matched Survey of Business and IT Managers. In: MIS Quarterly, [e-journal]. Available through: City University website <<http://proxy.cityu.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=102375761&site=ehost-live&scope=site>> [Accessed 1 March 2016].
13. Simonin, B. L. 1999. AMBIGUITY AND THE PROCESS OF KNOWLEDGE TRANSFER IN STRATEGIC ALLIANCES. In: Strategic Management Journal, [online] Available at: <[http://scholar.google.sk/scholar?q=AMBIGUITY+AND+THE+PROCESS+OF+KNOWLEDGE+TRANSFER+IN+STRATEGIC+ALLIANCES&btnG=&hl=sk&as\\_sdt=0%2C5](http://scholar.google.sk/scholar?q=AMBIGUITY+AND+THE+PROCESS+OF+KNOWLEDGE+TRANSFER+IN+STRATEGIC+ALLIANCES&btnG=&hl=sk&as_sdt=0%2C5)> [Accessed 1 March 2016].

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