The Process of Knowledge Continuity Ensuring

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Abstract
Knowledge capital and effective knowledge management are today the biggest competitive advantage for organizations. Knowledge continuity management can contribute to a higher quality of processes generally. It can contribute especially in processes which work with knowledge and it can contribute to improving management. The objective of this article is to propose the process of knowledge continuity ensuring in organizations. The data has been gathered based on a qualitative survey and a follow-up discussion with middle and top managers from organizations in the Czech Republic. One of the conclusions of the article is that thanks to knowledge continuity ensuring it is possible to preserve the critical knowledge of key employees in organizations even after their leaving and thus to maintain their competitive advantage consisting in this key knowledge.

Key words: knowledge, knowledge continuity management, competitive advantage, organization, preconditions

1. INTRODUCTION
Employees and generally human resources are indispensable components for organizations. The competitive advantage of organizations lays mainly in the way their employees use their knowledge, experience and skills (Chai, Wang, Song, Haiman & Brombacher, 2012; Argote & Ingram, 2002). All employees have knowledge independently of the kind of jobs they do (Wang & Wang, 2012; Beazley, Boenisch, & Harden, 2002). Today the intangible assets are in the capital of knowledge and are the most important and the most valuable things for organizations (Levy, 2011; Cabrera, Collins, & Salgado, 2006; Beazley et al., 2002; Drucker, 1985).
To use knowledge capital effectively it is very important that there is continuous (continual) knowledge transfer, especially inside the organization. Every employee must have the necessary knowledge, experience and skills needed for their work when the previous incumbent leaves the organization (Eucker, 2007; Leonard, 2005). Retaining as much knowledge continuity as possible ensures the minimum of amount change (Levy, 2011). This can help address human resources problems (for example letter of resignation, death of employee).

2. THEORETICAL BACKGROUND OF THE WORK
Effective management of knowledge assets in organizations involves the integration of two processes – the transfer of knowledge between employees in the organization (Amin, Zawawi & Timan, 2012; Hong, Suh, & Koo, 2011; Harsh, 2009; Shih & Chiang, 2005; Ipe, 2003) and the transfer of knowledge between the employee leaving and his/her successor (Levy, 2011; Beazley et al., 2002). While knowledge management concerns the former, the knowledge continuity management concerns the latter. Without adequate knowledge continuity from former
to new employees there is a drain of intellectual capital and this squanders the knowledge asset (Eucker, 2007; Beazley et al., 2002). Knowledge continuity management is an offshoot of the field of knowledge management. Where knowledge management concerns the capturing and sharing of know how valuable to colleagues performing similar jobs throughout an organization (Jeon, Kim, & Koh, 2011; Lindner & Wald, 2011; Kim & Lee, 2006), knowledge continuity management focuses on passing the critical knowledge (the knowledge necessary for the exercise of his/her position) from existing employees to their replacements (Beazley et al., 2002; Field, 2003). As Levy (2011), Field (2003) and Beazley et al. (2002) say, knowledge continuity is based on the communication among people in organizations. Employees must understand what it is they know, what others need to know, and what information needs to be shared in organizations (Amin et al., 2012; Li, Xiang, Zhang & Zhu, 2012; Jeon et al., 2011; Smith & Mckeen, 2003; Haldin-Herrgard, 2000). An effective knowledge continuity management program is a complex undertaking, involving a mixture of technical, organizational, and management steps, and requiring a major commitment from the top.

Effective management of the knowledge asset in any organization requires the integration of two related but different processes that combine synergy and seamlessly create a megaprocess. According to Beazley et al. (2002) it means:

- Knowledge transfer within the same employee generation (i.e., among current employees) which is realized by means of knowledge management,
- Knowledge transfer between employee generations (i.e. from current employees to future employees) which is realized by means of knowledge continuity management and knowledge management.

The article also deals with the transfer of knowledge between generations of employees as knowledge continuity currently represents a significant advantage for organizations (Wang & Wang, 2012; Levy, 2011; Somaya & Williamson, 2008; Johannessen & Olsen, 2003), their management and personnel, which is proven by Beazley et al. (2002) in the following basic characteristics:

- It speeds up the process of initial training of new employees by navigating them quickly to learning paths and thus increasing their productivity in a short period of time.
- It unites knowledge and important productivity driving forces, which permits new employees to focus on acquiring new knowledge and increasing high-benefit opportunities and maximum-turnover activities.
- It ensures that new employees have a better understanding of work goals, functions a requirements arising from official organizational documents and the knowledge of their predecessors and their colleagues (they are therefore better informed and do not repeat the mistakes of their predecessors).
- It enhances creativity, innovation, continuous progress and organizational learning, i.e. everything dependent on the understanding of the past.
- It improves decision-making and eliminates newcomers’ errors as they have access to the critical knowledge they need in their position from the very first day.
Current employees do not need to substitute former employees. The reason is that newcomers can directly utilize former employees' knowledge profiles. Their learning is faster, less problematic and less stressful.

It helps maintain knowledge networks that would otherwise disappear with leaving employees. These networks are crucial for achieving high performance and it is difficult and time-consuming for newcomers to re-establish them.

It makes employees focus on knowledge critical for their position and productivity improvement (the Pareto’s principle (20:80) applies, i.e. 20% of the work done generates 80% of the outputs). Defining critical knowledge contributes to productivity improvement.

It preserves an organization’s memory, knowledge remains in the organization and turns into its asset.

It lowers the turnover rate and mitigates its financial consequences.

Levy (2011), Wong (2009), and Beazley et al. (2002) state that the loss of knowledge is a serious threat. A method to resist this threat is the introduction of a structured programme for the transfer of critical knowledge (Maruta, 2011). It is obvious that not all knowledge may be gathered and transferred, but that is not the aim. The aim is to transfer only the critical operational knowledge related to the work position, the loss of which would jeopardize an organization’s activity.

3. OBJECTIVES AND METHODOLOGY

The objective of this article is to propose the process of knowledge continuity ensuring in organizations. The partial objective is to identify advantages of knowledge continuity ensuring which lead to higher competitive advantage.

The article has been produced on the basis of the analysis of secondary sources of data, in particular research studies focusing on the knowledge continuity management. The primary data is derived from the qualitative survey by interview with 19 managers on the middle and top management in organization in the Czech Republic and subsequent discussion. The qualitative survey was realized during the second half of 2011. The method of standardized 40-minute interviews with managers was used. After completing all the interviews, the managers took part in a discussion focused on knowledge continuity ensuring in organizations. Below are presented the outcomes of the interviews and the follow-up discussion as well as the conclusions arising there from.

The qualitative survey was based on the outcomes of the previous quantitative survey carried out by means of a questionnaire survey prior to the interviews and the discussion. The data for the evaluation of relationships between potential threats for organizations from the loss of knowledge and identification variables has been gathered through a questionnaire survey, in which 167 higher and middle management managers from 580 various organizations. The survey was realized during 2011. The data have been tested by Pearson Chi-Square test in association table and contingency table. The strength of dependency is determined by the correlation coefficient and Cramer’s coefficient. The structure of the respondents in the quantitative survey was as follows: 55.1% holds a senior management position, 68.9% have university education, 45.5% are in the
age group 46-62 years, 70.1% are employees of Czech organizations, 51.5% work in tertiary sector and 38.9% work in the primary sector. 76.6% of respondents were male.

The survey was focused on managers:

- Who were part of managerial units (liable for the running of the organization or group performance) that were to focus, on an increasing scale, on sharing, transferring and preserving of knowledge of employees who were about to retire or leave to join a competitor (responsible for knowledge transfer in the organization).
- Working with knowledge base and with the aim to enhance it.
- Who themselves were knowledge employees with critical knowledge or monitored employees with such critical knowledge.

The results of quantitative survey were confirmed by results of subsequent qualitative survey. The summary and recommendation for knowledge continuity ensuring are presented in the paper.

4. RESULTS

4.1 The process of knowledge continuity ensuring in organizations

On the basis of the structured interviews, a knowledge continuity ensuring procedure has been designed and preconditions of its application and evaluation criteria determined.

The following knowledge continuity ensuring process allows for the future preservation of knowledge in organizations during personnel changes.

1. **Knowledge audit and the development of knowledge profiles of individual employees.** Firstly, it is essential to carry out a knowledge audit and develop knowledge profiles of individual employees. In the course of their career, employees have to continue to learn and gain new knowledge and experience in order to preserve what they know and thus improve their knowledge profile. This is linked to the introduction of a knowledge continuity ensuring procedure in an organization. The knowledge audit has to identify key knowledge for the given organization, determine where to find it and define the nature of different kinds of knowledge that employees need. It may reveal discrepancies between what the organization knows and what it should know, identifies critical operational knowledge that employees need to perform their work and serves to record knowledge assets. In the meantime, it is necessary to co-operate with the department responsible for the development of employees’ knowledge profiles. Knowledge profiles should include information that is critical for performance, productivity and the quality of work as well as information the lack of which would have a negative impact on work performance. This mechanism may be more or less complex and needs to be systematically improved. Knowledge profiles contain not only information critical for the job, but also for the success of the organization.

2. **Identification of the positions and people with critical knowledge.** By identifying the positions and people with critical knowledge, the knowledge audit will determine the goals of knowledge continuity management.
3. Determining responsibility for knowledge continuity ensuring. People who will bear responsibility for this area should be identified by top management. It should opt for people familiar with these issues and likely to succeed, i.e., achieve the goal. This can be one person (authorisation), an organization’s department, etc. The team responsible should aim at determining a methodology of knowledge asset gathering and their dissemination within the organization. These assets may have an impact on the provision of the right information to the right people at the right time as well as on the facilitation of innovation or the development of new knowledge.

4. Setting evaluation criteria in the area of knowledge continuity ensuring. This means determining whether the benefit is higher than the effort invested. Responsible teams have to agree on observation process criteria and the evaluation criteria of goals achieved. These should include: work satisfaction, turnover, or time demand for new qualified labour or the development of these employees. The criteria may also include, for example, work process improvement, work result improvement, decreasing time requirements, etc.

5. Designing a methodology for critical knowledge gathering and transfer. An individual knowledge profile will determine the methods and ways of the transfer of critical knowledge from the leaving employee to his/her successor. The methods include: informal meeting (personal contact), video, direct learning, etc. It is also necessary to determine the time criterion of the transfer of critical operational knowledge, e.g., reaching a certain age, gaining critical knowledge by an employee, etc. The participants in the structured interviews and results of quantitative survey have unambiguously confirmed that a personal informal meeting is the most efficient method of the transfer of knowledge to a successor. The fulfilment of the goal could be facilitated by determining the organizational culture. Each piece of knowledge has to be transferred in certain context and regarding individual employee’s abilities to transfer knowledge. The participants see a solution in the delegation of responsibility for this area to a department or a person (e.g., an HR employee) and also in the evaluation of results (measurability), i.e., how knowledge is transferred to others.

6. Operational knowledge transfer. A once designed knowledge profile should be efficiently provided to newcomers (successors). The principles of knowledge transfer and gathering include personal knowledge recognition. The profile creates opportunities for a knowledge change from the old to the new labour as well as from the new labour to organizations. Tacit and explicit knowledge should be transferred within the profile and knowledge creativity should be one of the goals of the process.

7. Checking the fulfilment of knowledge continuity management goals and result evaluation. This means reviewing the outcomes of previous implementation steps using the set key performance indicators and determining corrective measures.

It is necessary to appreciate any attempt to participate in knowledge sharing. To avoid errors, it is essential to have an appropriately configured team of employees. Knowledge continuity management can prevent the organization from falling into the so-called “knowledge gap” (Beazley et al., 2002) created by the situation when inexperienced employees stay in the organization while the expert leaves.
The proposed systematic procedure may be applied by organizations provided that:

- The transfer and sharing of knowledge are meaningful, i.e. employee knowledge determines the results of the organization.
- Through a knowledge audit an organization’s management has determined the holders of critical knowledge and by applying the procedure it can address a specific group of employees in the organization (critical knowledge holders). A knowledge audit determines which positions require continuity ensuring and a successor ready to replace the given employee, if necessary. If no successor is available, it is necessary to find one.
- There is an efficient system in place permitting critical knowledge transfer, sharing, and preservation, knowledge continuity ensuring procedures have been introduced and an employee responsible for knowledge continuity ensuring has been appointed (i.e. has powers and responsibilities relating to this area).
- Knowledge is continuously shared and transferred – the respondents have expressly stated that it is important to ensure knowledge continuity on an ongoing basis. When an employee is about to leave, there is not enough time to train a successor.

Knowledge sharing should become a key performance indicator (Key Performance Indicator - specific, reviewable and definable for each position) in the rewarding system of the organization in the given period. Compensation should be given not only to the employee who transfers knowledge (the leaving employee), but also the one who is willing to accept it (the successor). Knowledge assessment by the 360-degree method should be obligatory and should cover all relevant employees.

4.2 Preconditions for the application of the procedure proposed and its evaluation according to the set criteria

For the purposes of, it is necessary to set the preconditions for application. Based on the surveys carried out (quantitative as well as qualitative) the following preconditions for the application of the systematic procedure proposed have been set. These preconditions arise from results which are summarized in following paragraph.

In quantitative survey there were determined two null hypotheses H1: A threat arising from the leaving of an employee with critical knowledge for the organization is not dependent on the size of the organization and H2: A threat arising from the leaving of an employee with critical knowledge for the organization is not dependent on the sector. These hypotheses were both rejected and accepted alternative hypothesis. As the p-value calculated by means of the $\chi^2$ test (Pearson Chi-Square) of 0.005; 0.037 are lower than the selected level of significance $\alpha = 0.05$, null hypotheses have been rejected.

H1: $p – value X2 test = 0,005$, Cramer’s V = 0,334; middle direct dependence
H2: $p – value X2 test = 0,037$, Cramer’s V = 0,248; weak direct dependence

The threat arising from leaving of an employee with critical knowledge for the organization is the bigger for large organization and small organization. The threat of utilization of knowledge by competitors is evident primarily in organizations with up to 19 employees. A total of 47.7 % of respondents from the tertiary sector think that the leaving of an employee with
critical knowledge represents a threat to organizations and 31.4 % think the threat lies in the utilization of that knowledge by competitors. The second most numerous category is that of the primary sector, where 29.2 % were convinced that it means a threat and 32.3 % were concerned by the fact that the knowledge would be used by competitors.

In qualitative survey (interview with 19 respondents and group discussion) it can be said that 90.9 % organizations do not ensure knowledge continuity and for 78 % respondent is knowledge lost a big threat and its ensuring is important regarding the competitive advantage. The results have confirmed the conclusions from quantitative survey.

Based on these results it can be concluded that:

• Suitable for large organizations with 250+ employees and a fixed organizational culture:
The procedure is suitable for large organizations, but the support of the management is essential. For example, in Agrofert Holding a. s. employees in certain positions are detected and become potential candidates for positions in other divisions of the given holding. They choose, for example, a production manager who they plan to promote to the position of a manager at the level of the holding. They are interested in their employees, choose suitable candidates, gather information and train them for the given position.

• Suitable for small organization with less than 20 employees, based on traditions and a strong organizational culture.

• To efficiently incorporate knowledge continuity into the organizational culture; management’s support: it is essential to link financial issues with management. Management has to show its will, focusing solely on profit is not sufficient. To preserve knowledge in the organization, it has to concentrate also on the development of its employees. Management’s support is absolutely crucial.

• To eliminate turnover that prevents knowledge continuity ensuring.

Within the frame of evaluation, the following criteria have been taken into account: admissibility, feasibility, suitability and acceptability for the given organization. The evaluation of the procedure based on the structured interviews in terms of:

• Admissibility (defining an organizational culture, defining ethical rules that deal with the area of knowledge sharing and its transfer to successors).

• Feasibility (financial means – availability of financial reserves, human resources – labour demands, other resources, if applicable, such as technology).

• Suitability (identification with an organization's goals, mission and vision; compliance with resources, competences, etc.). Knowledge continuity ensuring is suitable for all positions that are essential for the organization in question. Management’s support encouraging knowledge continuity ensuring is necessary.

• Acceptability (recoverability – a leaving employee will not take the knowledge with him/her and the organization will thus maintain its competitive advantage consisting in this knowledge; a risk that an employee may, for example, die before s/he manages to transfer his/her knowledge).

Knowledge continuity ensuring in a systematic process for worker with critical knowledge should be consistent with the performance management of individual employees and their career management as well as with reward and motivation system of organizations.
5. DISCUSSION

When employees leave, they take vital knowledge with them. Without a process in place to capture that knowledge and transfer it to their successors, it is lost forever. As a result for those who follow them in the job it takes longer for them to get up to speed and important discoveries and insights disappear, and the organization’s ability to act quickly and intelligently is crippled. Organizations need to have effective methods for transferring employee know-how. That’s where the concept of knowledge continuity management comes into play.

Knowledge continuity represents a dramatic shift from the old-fashioned approach to knowledge as a by-product to the current discovery that knowledge is the driving force and is therefore indispensable for achieving excellent performance. This shift of the paradigm may require a change in the organizational culture. It will also mean that an organization’s rewarding system will have to be set accordingly. Years or research show that if an organization’s management wants something, they also evaluate it, measure it and remunerate it. Making knowledge continuity part of all areas related to employee remuneration (bonuses, incentives, rewards, promotion) is likely to contribute to the positive perception of knowledge continuity.

Unlike the explicit knowledge transfer, the tacit knowledge transfer cannot utilize the technology fully. This kind of transfer is connected with person and there are a lot of barriers of such knowledge transfer. On the basis of own survey according to coefficient association it can be said that trust influences the knowledge continuity management from 52 %, organizational culture from 54 % and the organizational climate from 83 %. When these factors are not supported they can become the barriers of knowledge transfer. It confirms the survey of Cumberland & Githens (2012). Under ideal circumstances, knowledge continuity systems and knowledge management systems are interlinked to ensure not only the horizontal transfer of knowledge (between groups of predecessors and successors or groups of seniors and juniors), but also its vertical transfer.

While knowledge continuity is an old concept in its basic form, it is a new concept in its fullest meaning: as a function of management. The requirement of continuity management can be found in a confluence of forces that have altered the management environment over the past five years, driving organizations to seek new business models and scrap old ideas about the nature and value of knowledge. Ten powerful forces converging at the end of the twentieth century created the “perfect storm” that rendered the Industrial Age concept of management incomplete and ineffective, pushing for a re-examination of its meaning and adding knowledge continuity to its basic functions.

6. CONCLUSION

Knowledge continuity management is a mixing of strategies and ways to support creation and the effective use of knowledge assets. The aim is to have or put the required knowledge, where it is needed. If successfully achieved, people can acquire and consequently use the knowledge in order to create a competitive edge in the organization. It is important to keep competitiveness in the case of the knowledge incumbent leaving the organization, in order to ensure knowledge continuity management.
The aim of the systematic ensuring of knowledge continuity also incorporates the continuity of an organization’s development, the quality of managerial positions and the continuity of decision-making. The proposed systematic process of knowledge continuity ensuring in organizations also contributes to the elimination of the negative consequences of the loss of knowledge, helps increase the quality of processes, in particular knowledge-based processes and improves the performance of the overall organization. Last but not least, knowledge continuity ensuring allows for the preservation of knowledge in the organization even after the leaving of an employee who is the holder of critical knowledge.

At present, the competitiveness of individual organizations in the market economy is determined not only by the level of technology, their organizational culture and organizational climate, but also another factor, generally considered decisive, and that is the level of knowledge of individual employees within the organization and its efficient utilization. The knowledge of knowledge employees therefore needs to be continuously activated, cultivated (developed) and also shared and preserved, which may be achieved by the proposed systematic process of knowledge continuity ensuring.

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