



## VERTICAL KNOWLEDGE TRANSFER IN CZECH ORGANIZATIONS

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**Abstract.** For organizations the losing key employees is the greatest threat; if the organizations lose the key workers, they cannot use their premises, data, information and other resources. The article aims at evaluation of the level of vertical knowledge transfer in organizations in the Czech Republic. The partial goals of this article are to determine dependencies between the examined qualitative features. The article has been drawn up using scientific methods, in particular logical methods, such as analysis, synthesis, induction, deduction and comparison. The results were obtained from longitudinal quantitative research in organizations in the Czech Republic from 2010 to 2014. The article identifies the factors affecting vertical knowledge transfer and presents a method of eliminating the risk of losing key knowledge workers. Vertical knowledge transfer is a new supporting factor of organizations' productivity and business continuity.

**Keywords:** vertical knowledge transfer, knowledge continuity, business continuity management, factors, organizations, survey.

**JEL classification:** M12, M54.

## Introduction

Knowledge is a resource that is currently becoming increasingly important for organizations and forms a basis for developing a suitable strategy and thus achieving a competitive advantage (Holjevac *et al.* 2012; Maruta 2012; Wong 2009). It also confirms Folwarczná (2010) and Matošková *et al.* (2013) by stating that knowledge of people in organizations have a potential competitive advantage. Based on the above it can be summarized that the knowledge, skills, involvement and managerial style are a very important factor from the point of organization competitiveness (Matošková *et al.* 2013).

According to Nonaka and Takeuchi (1995), the most common categorisation of knowledge is the classification distinguishing explicit and tacit knowledge used by Biloslavo, Gorela (2012), Frappaolo (2006). Matošková *et al.* (2013), Eraut (2000), Sternberg and Wagner (1992) and Kerr (1995) state that a factor which decides whether

employees and managers will be successful in their profession is tacit knowledge. There are several definitions of tacit knowledge. Matošková *et al.* (2013) and Bureš (2007) define tacit knowledge as “what we know about what we do”. Choi (2001) understands it as an automatic, often intuitive action or reaction to concrete circumstances. Tacit knowledge includes experience, know-how, skills, abilities, and intuition. According to Shamsie and Mannor (2013), tacit knowledge can serve as a critical resource and can provide strong advantages for all organizations. Explicit knowledge has a more objective, rational and technical nature (plans, procedures, software, documents, etc.). Unlike tacit knowledge, explicit knowledge may be, due to its form, transferred without personal contact (Dima 2012; Wang Z., Wang N. 2012). Implicit knowledge “stored” in employees' heads is a part of tacit knowledge; however, it may be given an explicit form (Biloslavo, Gorela 2012). It is necessary to realise that by using it knowledge does not deteriorate and is not wasted;

on the contrary, its repeated use may lead to its improvement, deepening, and development and may contribute to the development, improvement and creation of new knowledge. Tacit knowledge is more valuable for organizations as it is linked to an individual and makes him/her unique, from the point of view of the organization (Beazley *et al.* 2002). Knowledge represents a one-of-a-kind resource for organizations and if used efficiently (from the market perspective this is original and rare) and applied in practice (an employee effects an original action unachievable by competitors), it will ensure the success and a competitive advantage (Pilková *et al.* 2013; Teece 2009). It is a resource that is valuable, rare, inimitable and difficult to substitute.

Generally, knowledge creation is determined by external and internal factors. External factors include micro-environmental (business partners, competition, the public, customers, etc.) and macro-environmental (economic, technological, demographic, natural, legislative and other impacts) factors. Internal factors are examined at two levels, i.e. individual and organizational levels (Martín-De Castro *et al.* 2013; Locke, Latham 2004; Ramlall 2004; Ipe 2003). Individual-level factors are related to one specific employee while organizational-level factors are determined by the given organization (Cow 2012). Individual organizational processes take place based on knowledge application (Wong 2009) by organizations. Organizations themselves can support knowledge transfer by providing suitable conditions and mechanisms for knowledge sharing. Suitable conditions can be achieved by the cultivation of organizational culture, focusing on support and development of motivation to knowledge sharing (Matošková *et al.* 2013).

The transfer of knowledge in an organization is a process integrating two mutually linked and interdependent partial processes, i.e. horizontal and vertical knowledge transfer (Kalkan 2006). Horizontal knowledge transfer describes transfer within one generation of employees, i.e. among current employees, while vertical knowledge transfer (also known as knowledge continuity) describes the transfer of critical knowledge between generations of employees, i.e. the knowledge transfer from current employees to their successors (Beazley *et al.* 2002). Cohendet, Meyer-Krahmer (2001), Walczak (2005) state that a conceptualization of vertical knowledge transfer exists between hierarchical levels within an organization and Gentile-Lüdecke, Axéle (2012) add that it occurs between a management of company and its subsidiaries or providers. The aim of vertical knowledge transfer that is critically important for organizations in the present knowledge-oriented economy (Jermář 2012; Holjevac *et al.* 2012; Levy 2011) is to ensure substitutability of key positions and to preserve knowledge of key employees during personnel changes. The reason is that vertical knowledge transfer increases newcomers' determination, eliminates their stress, improves their morale and flexibility

and enables their substitutability (Lechthaler, Snower 2012). Another important reason for ensuring vertical knowledge transfer is the current demographic development of the population. The study (Smrčka, Arltová 2012) shows that by 2050 the number of people of retirement age (65 and above) will have reached 31% and the share of working age population (potential successors) will have decreased to 55%. According to (Alewell, Hauff 2013; Smrčka, Arltová 2012), the decrease in number of employees will manifest itself in different ways in individual sectors. The work process needs three of the five generations of people but with the trend of declining birth rates, lengthening age of people and a growing number of economically inactive society members also increases the timeliness and efficient using of productive potential (Cimbálníková *et al.* 2012). It is necessary to ensure vertical knowledge transfer of key employees that are about to retire to prevent organizations from the threat of losing key knowledge and knowledge assets (Bettache 2013; Deck, Erkal 2013; Levy 2011; Beazley *et al.* 2002).

The aim of this article is to evaluate, based on an analysis, the level of vertical transfer of knowledge ensured by organizations in the Czech Republic. The partial goals of this article are to determine dependencies between the examined qualitative features (the level of ensuring vertical transfer in relation to internal factors and monitored characteristics), i.e. to confirm or reject null hypotheses tested on the selected level of significance and to introduce new trends in organizations in the continuity management area.

The structure of the article is as follows: firstly, theoretical background of the work is presented; this is followed by methodology of the article which describes the preparation of the article. Furthermore, the evaluation of the results has been carried out and we have proposed recommendations for using the new trends in organizations. Last but not least, the article presents its own theoretical and practical benefits and limitations.

## 1. Theoretical background of the article

The organizations' success is nowadays derived from the effectiveness of knowledge sharing which is dependent on a suitable organizational environment that supports cooperation (Levy 2011). The environment is generally constituted by internal and external environment (Locke, Latham 2004; Ramlall 2004; Ipe 2003). These two groups of factors influence knowledge creation. In case the emphasis is on vertical knowledge transfer it is primarily internal factors that are important for vertical knowledge transfer which concerns the organization and its internal environment (Levy 2011; Beazley *et al.* 2002). It is vital to acknowledge that internal environment is specific in each organization (Kachaňáková 2013; Järveläinen 2013; Wong 2009) and it must meet the basic framework of all organizations (strategy, structure, employees, management

systems, management style, shared values and skills). The key factors of organizations success must be balanced among these factors (Järveläinen 2013; Cow 2012; Wang and Wang 2012; Wong, 2009). Table 1 shows the construct of internal factors. The construct of internal factors identifies individual internal factors in the breakdown of the organizational and individual level (Ipe 2003). Moreover, particular characteristics (i.e. what this factor includes) of these factors are described in the Table 1 and these characteristics are complemented by individual authors' references (i.e. by authors who use these characteristics of factors).

Table 1. The construct of tested factors

Level	Factor	References
Organizational	Culture	Kachaňáková (2013); Cow (2012); Levy (2011); Wong (2009) etc.
	Structure	Mano, Giannikis (2013); Cow (2012); Beazley <i>et al.</i> (2002) etc.
	Climate	Beazley <i>et al.</i> (2002); Ramlall (2004) etc.
	Stimulation	Dima (2012); Levy (2011); Cow (2012); Ramlall (2004) etc.
Individual	Will to share knowledge	Lawlor (2013); Levy (2011); Ipe (2003) etc.
	Motivation	Martín-De Castro <i>et al.</i> (2013); Alewell, Hauff (2013); Locke, Latham (2004) etc.
	Trust	Beazley <i>et al.</i> (2002) etc.

The factors on the organizational level (culture, structure, stimulation, climate) are also verified by Cow (2012); Wang and Wang (2012); Wong (2009); Beazley *et al.* 2002 and those on the individual level (motivation, the will to share knowledge, trust) are specified according to Levy (2011).

The above research focused on factors influencing the knowledge sharing mentioned in foreign countries; since the influence of these factors in the Czech Republic is not known, this article concentrates on covering this knowledge gap. In order to fulfill the aim of the article, the following precondition has been defined: Vertical knowledge transfer is influenced by internal factors (P1). Therefore, to answer the research question, the following seven work null hypotheses have been raised:

- $H_0$ : Ensuring vertical knowledge transfer does not depend on organizational culture.

The key to achieving efficient sharing, transfer, preservation and vertical transfer is a true identification of employees with an appropriate organizational culture that will support vertical knowledge transfer in the organization (Levy 2011; Beazley *et al.* 2002).

- $H_0$ : Ensuring vertical knowledge transfer does not depend on organizational structure.

The structure of the organization can be considered a tool for performance management (Mano, Giannikis 2013); the organization achieves its objectives by defining the structure and thus increases the value of the organization (Cow 2012). Bureš (2007) considers the organizational structure as an essential tool for knowledge management because it affects the ability to work with knowledge, using knowledge management tools and their effectiveness.

- $H_0$ : Ensuring vertical knowledge transfer does not depend on organizational climate.

According to Shamsie and Mannor (2013), Beazley *et al.* (2002), the organizational climate helps not only to create and release human potential but also support development and talent management.

- $H_0$ : Ensuring vertical knowledge transfer does not depend on stimulation.

The impact of stimulating factors is only short-term; moreover, they are under the strong influence of the external environment (Dima 2012; Levy 2011; Ramlall 2004).

- $H_0$ : Ensuring vertical knowledge transfer does not depend on will to share knowledge.

The emphasis is on the right of knowledge using and provides the trustworthy and specific knowledge (Lawlor 2013; Marešová 2010; Beazley *et al.* 2002).

- $H_0$ : Ensuring vertical knowledge transfer does not depend on motivation.

Motivation and stimulation are closely related but their implementation requires a different approach (Alewell, Hauff 2013; Lindner, Wald 2011; Ramlall 2004).

- $H_0$ : Ensuring vertical knowledge transfer does not depend on trust.

Knowledge is power and it can lead to inequalities in status (Lawlor 2013; Levy 2011; Beazley *et al.* 2002).

According to research (Levy 2011; Bureš 2007), the level of ensuring vertical knowledge transfer and benefits is influenced by the size of the organization and the fact whether the organization is integrated to large group of organizations which has created a common organizational culture that supports or does not support knowledge sharing (Cow 2012). The primary impulse if the organization is interested in vertical knowledge transfer is that there is regular evaluation of the individual workers' knowledge level (Mano, Giannikis 2013; Beazley *et al.* 2002). Therefore, areas of vertical knowledge transfer are best dealt with by a responsible officer/staff member of the Human Resource Management in case that this department exists in the organization. The number of responsible employees then depends on the size of the organization. However, for ensuring vertical knowledge transfer it is also essential to place emphasis not only on high performance and competency management (Kim *et al.* 2013), concern for employees

(Wong 2009), effective communication (Cow 2012), high motivation (Alewell, Hauff 2013; Levy 2012), team spirit and willingness to share, transfer and retaining knowledge and experience but also on the interconnection of major HR activities (adaptation, employee development and talent management (Pinnington 2011)) with this area and their continuous improvement including using tools which facilitate work such as knowledge databases (Järveläinen 2013; Matošková *et al.* 2013). In order to fulfill the aim of the article, the third precondition has been defined: Influencing other important characteristics of organization has benefits for vertical knowledge transfer (P3).

Therefore the following nine null common hypotheses were tested:

- $H_0$ : Ensuring vertical knowledge transfer does not depend on size of organization.
- $H_0$ : Ensuring vertical knowledge transfer does not depend on integration of organization into a large group of organizations.
- $H_0$ : Vertical knowledge transfer does not depend on having a Human Resource Management (HRM) department.
- $H_0$ : Ensuring vertical knowledge transfer does not depend on evaluation of knowledge.
- $H_0$ : Systematic vertical knowledge transfer does not depend on the existence of an adaptation system of new employees.
- $H_0$ : Ensuring vertical knowledge transfer does not depend on activities in talent management in the organization.
- $H_0$ : Ensuring vertical knowledge transfer does not depend on forming an organization culture.
- $H_0$ : Ensuring vertical knowledge transfer does not depend on performing organization culture.
- $H_0$ : Ensuring vertical knowledge transfer does not depend on using of knowledge databases.

The above mentioned hypotheses will be confirmed or rejected based on the statistical testing.

## 2. Methodology of the article

The article presents results of a survey conducted repeatedly in the period from 2010 to 2014, the aim of which was to monitor the engagement of organizations in the Czech Republic in individual personnel activities.

The article presents results from one of the areas examined, i.e. how vertical knowledge transfer is ensured and benefits of vertical knowledge transfer for organizations involved. The introductory part of the article shows the most important and relevant theoretical views on issues of vertical transfer of knowledge. The theoretical part of the contribution was drawn up based on the analysis of secondary sources obtained from scientific journals in which survey outcomes on the given topic had been published

and from specialised monographs. The results of the article have been obtained by means of a quantitative survey which has respected the ethical aspects of research. In the second part of the article, the results of a survey conducted in 278 organizations seated in the Czech Republic are analysed in year 2013/2014 (i.e. the second half of 2013 and the first half of 2014), 364 organizations in year 2012/2013, 109 organizations in 2011/2012 and these are compared with the results of a survey conducted in 167 organizations in 2010/2011.

Primary data was obtained by means of a quantitative questionnaire survey. The questionnaire consisted of a total of 15 questions in two categories. The first category contained 9 survey questions targeted at issues of vertical transfer of knowledge, the second category consisted of identification questions focusing on information on organizations (business sector, organizations' size) and the structure of respondents (position held, time in the position, education). The questionnaire was repeated in the specified period and contained exactly same questions.

To determine the size of organizations, the classification of the Czech Statistical Office was used: small organizations with up to 50 employees, organizations with 51 to 249 employees and large organizations with over 250 employees. The overall structure of organizations involved in the survey according to their size is presented in Table 2. The table shows that the most frequently represented organizations were small organizations with up to 50 employees, followed by mid-sized and large organizations.

Table 2. Structure of organizations according to their size (in %)

Number of employees	Under 50	From 51 to 249	250 and more	Total
2010/2011	59	14	27	100
2011/2012	49	29	22	100
2012/2013	37	28	35	100
2013/2014	35	33	32	100

The organizations in 2013/2014: a total of 50.0% of organizations have a HR management department established whose activities are targeted at employee training. In 64.6% of organizations the position of an employee responsible for human resources management is included in their top management.

The organizations in 2012/2013: a total of 45.6% of organizations have a HR management department established whose activities are targeted at employee training. In 57.1% of organizations the position of an employee responsible for human resources management is included in their top management.

The organizations in 2011/2012: only 43.1% of the responding organizations have a HR management department. Out of the respondents, 26.6% occupy the position

of a senior manager in the HR department of the given organization, 85% of respondents have worked as personnel specialists for 3 or more years and 52.3% are university graduates.

The organizations in 2010/2011: a total 55.1% of respondents hold a specialist in the area of human resources management or it was completed directly by the owner of organization, 68.9% have university graduates, 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.

The results were processed using statistical methods. The analysis was carried out using the Microsoft Excel 2007 programme and the IBM SPSS Statistics Data Editor, version 20. The outputs and relationships obtained were verified by descriptive statistical tools (relative frequency, average), contingency tables, non-parametric tests and dependency tests.

To verify the dependency of features in the association and contingency tables the Chi Square Test was used. The level of dependency was determined using the correlation coefficient and Cramer's contingency coefficient, a scale according to De Vaus (2002) was used.

### 3. Findings of the article

This chapter evaluates the results obtained in the primary survey focusing on vertical transfer of knowledge and its benefits for organizations in the Czech Republic. Below are results provided by the quantitative survey, the outcomes of statistical testing and result analysis and synthesis.

#### 3.1. Vertical knowledge transfer

On the basis of the evaluation of results using descriptive statistics it has been determined that only 27% of the respondent organizations in 2011/2012 record all knowledge of selected key employees (e. g. on the basis of knowledge profile analyses). On the contrary, 52% record the knowledge of key employees partially and only 14% of organizations do not record employee's knowledge at all. Therefore it is possible to state that the majority of organizations (79%) somehow record the knowledge of key employees.

The analysis of the situation carried out in 2011/2012 revealed less positive outcomes compared to the survey conducted in the period 2010/2011. In 2012/2013 total 81% organizations had some experience with employee knowledge recording. The outcomes expressed in relative frequencies rounded up to whole units are shown in Figure 1.

In organizations that plan personnel changes, e. g. for reasons of demographic development, it would be suitable to identify employees who are about to retire, to identify the content of positions they hold and also to identify the knowledge they possess. Then they should look for suitable successors and apply vertical knowledge transfer targeted

at sharing of knowledge between the leaving employee and his/her successor to ensure that knowledge remains in the organization even after the employee's leaving. The outcomes have shown that this refers to those employees and those positions that are to undergo a change in the following three years and it is important to ensure that their knowledge is continually transferred to a suitable successor.

The questionnaire survey also concentrated on whether organizations use supportive tools to record the knowledge of their key employees. The majority of organizations stated that they use knowledge databases. For example, in 24% organizations in 2011/2012 this is a long-term activity and in 34% of organizations it is only a casual activity conducted when needed. Only 42% of organizations do not use state-of-the-art IT tools that help record employees' knowledge. Detailed results expressed in relative frequencies are shown in Figure 2. The analysis of the situation carried out in

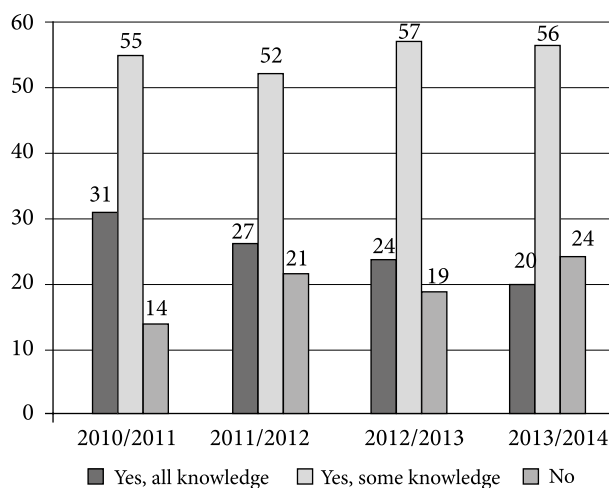


Fig. 1. Knowledge record of key employees from 2010 to 2014 in %

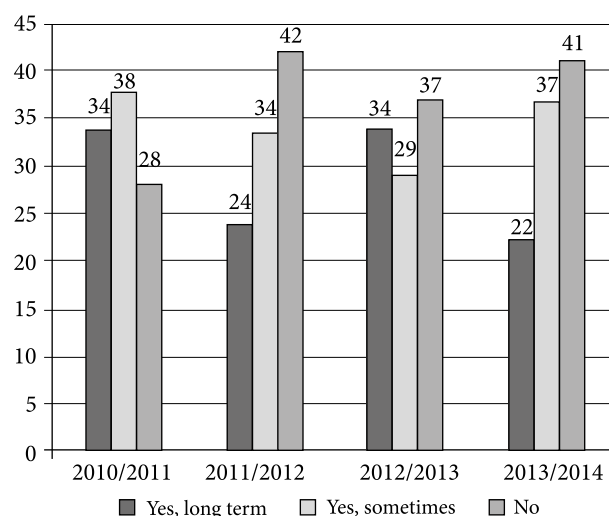


Fig. 2. Using of knowledge databases to record the knowledge of key staff from 2010 to 2014 in %

2012/2013 revealed more positive outcomes compared to the survey conducted in the period 2011/2012.

The survey has shown that in 2011/2012 total of 41% of organizations the main reason for knowledge transfer is the expectation that if an employee provides another employee with a piece of knowledge, in the future (when in need) she/he will get the needed piece of knowledge from another employee (so called reciprocity). In 10% of organizations specialists from the personnel department or owners stated that the reason for knowledge sharing was the improvement of image (reputation). In 39% of organizations employees transfer knowledge to other because they feel comfortable when a piece of knowledge disseminates across the organization (so called altruism). Only 8% of organizations' representatives mentioned that they did not transfer knowledge at all and 2% of organizations in one case mentioned the necessity of initial training and the transfer of responsibility for processes and in the other case team co-operation improvement. Responses expressed in relative frequencies are shown in Figure 3.

The analysis of the situation carried out in 2012/2013 is very similar as in the period 2011/2012. In 2010/2011 the respondents prefer altruism (70%).

### 3.2. Factors influencing ensuring vertical knowledge transfer

On the basis of induction, a secondary source analysis and results of similar surveys focusing on the same topic, internal factors having impact on the ensuring vertical transfer were tested as part of the survey conducted. Based on the previous surveys it is possible to state that the traditional development of organizations (achieving competitiveness) is primarily ensured by internal forces rather than external ones. However, ensuring vertical knowledge transfer as an internal force in combination with the right employees

contributes to a faster adaptation to external conditions which are difficult to control by organizations. It may be stated that ensuring vertical knowledge transfer is part of the process of adapting to external conditions.

The evaluation of results graphically displayed in Figure 4 reveals that all internal factors examined determine the ensuring vertical knowledge transfer. Organizations' representatives were allowed to mark all internal factors that influence ensuring vertical knowledge transfer in their organization (i.e. more options could have been selected). On average, 3 internal factors per organization were ticked.

Based on the evaluation of outcomes from organizations examined, it is possible to summarise that organizations feel that the strongest factors influencing vertical transfer of knowledge are the Will to share knowledge (55%) and Organizational climate (53%). Other factors are Trust (51%), Motivation (50%) and Organizational culture (50%). The least important factors are, according to the respondent organizations, Organizational structure (26%) and Stimulation (17%). When factors at the organizational and individual levels are compared, it is possible to state that the ensuring vertical knowledge transfer is determined more significantly by internal factors at the individual level (will to share knowledge, motivation, trust) – on average by 52% and only then by factors at the organizational level (organizational culture, structure, climate and stimulation) – on average by 48%.

The comparison of results with years 2011/2012 and 2012/2013 shows minor nuances. In the previous survey the impact of internal factors at the organizational level was higher than that at the individual level. The ratio was 57% (organizational) and 43% (individual) compared to the current ratio of 48% and 52%. These differences, however, are not significant and it is possible to state that organizations are more and more aware of the growing importance of organizational culture for the transfer of knowledge to successors (increase to 50% compared to 42% in 2010/2011) and the integration of this area

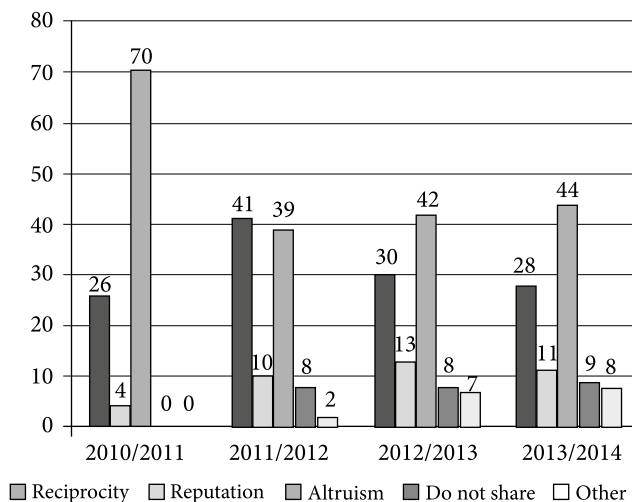


Fig. 3. The reasons of employees for the knowledge transfer from 2010 to 2014 in %

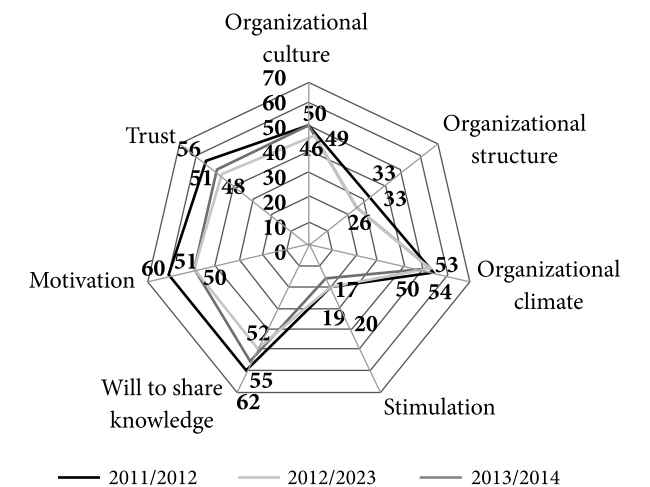


Fig. 4. The effect of factors influencing vertical knowledge transfer from 2011 to 2014

into the culture of each organization as well as an individual's will to transfer knowledge to their successors (increase to 55% compared to 48% in 2010/2011) or the trust in their successors that they would not misuse the knowledge (increase to 51% compared to 34% in 2010/2011).

### 3.3. Verifications of the findings

Based on the above-mentioned survey methodology, null hypotheses relating to the survey were tested in compliance with the set main and partial goals of the article. Nine null hypotheses ( $H_0$ ) were tested stating the non-existence of

dependency between two qualitative features examined. The level of significance was set at 0.05.

The set and tested null hypotheses are displayed in Table 3. It also shows the p-value calculated based on the Chi-Square Test. In the event of null hypothesis rejection ( $p < 0.05$ ), alternative hypotheses ( $H_A$ ) were accepted stating the existence of dependency. In this case the dependency was expressed by means of Cramer's coefficient. As a result of the evaluation, a total of three null hypotheses could not have been rejected and as regards the remaining six, alternative hypotheses were accepted.

Table 3. Testing of hypotheses of other important characteristics of organization (P3)

Order	Null hypotheses	p-value $\chi^2$ test	$H_A$	Value of dependency	Dependency
1	2011/2012: Ensuring vertical knowledge transfer does not depend on size of organization.	0.062	NO	w	x
	2012/2013: Ensuring vertical knowledge transfer does not depend on size of organization.	0.617	NO	x	x
2	2011/2012: Ensuring vertical knowledge transfer does not depend on integration of organization into a large group of organizations.	0.011	YES	0.242	low
	2012/2013: Ensuring vertical knowledge transfer does not depend on integration of organization into a large group of organizations.	0.023	YES	0.144	low
3	2011/2012: Vertical knowledge transfer does not depend on having a Human Resource Management (HRM) department.	0.063	NO	x	x
	2012/2013: Vertical knowledge transfer does not depend on having a Human Resource Management (HRM) department.	0.116	NO	x	x
4	2011/2012: Ensuring vertical knowledge transfer does not depend on evaluation of knowledge.	0.002	YES	0.336	moderate
	2012/2013: Ensuring vertical knowledge transfer does not depend on evaluation of knowledge.	test did not fulfil the statistical conditions: no interval with zero frequency, up to 20% confidence intervals at a frequency less than 5			
5	2011/2012: Systematic vertical knowledge transfer does not depend on the existence of an adaptation system of new employees.	0.024	YES	0.216	low
	2012/2013: Systematic vertical knowledge transfer does not depend on the existence of an adaptation system of new employees.	0.137	NO	x	x
6	2011/2012: Ensuring vertical knowledge transfer does not depend on activities in talent management in the organization.	0.704	NO	x	x
	2012/2013: Ensuring vertical knowledge transfer does not depend on activities in talent management in the organization.	0.025	YES	0.142	low
7	2011/2012: Ensuring vertical knowledge transfer does not depend on forming an organization culture.	0.009	YES	0.250	moderate
	2012/2013: Ensuring vertical knowledge transfer does not depend on forming an organization culture.	0.000	YES	0.224	low
8	2011/2012: Ensuring vertical knowledge transfer does not depend on performing organization culture.	0.029	YES	0.210	low
	2012/2013: Ensuring vertical knowledge transfer does not depend on performing organization culture.	0.002	YES	0.182	low
9	2011/2012: Ensuring vertical knowledge transfer does not depend on using of knowledge databases.	0.000	YES	0.605	high
	2012/2013: Ensuring vertical knowledge transfer does not depend on using of knowledge databases.	0.000	YES	0.599	high

The results presented in Table 3 were obtained by means of descriptive statistics covering relative frequencies, a correlation analysis as well as a non-parametric test were used to confirm the above-mentioned results of the questionnaire survey conducted in organizations in 2011/2012 and 2012/2013 for clarity.

Based on the results presented it is possible to summarise that ensuring vertical knowledge transfer is determined by the following:

- the fact whether an organization is part of a larger group of organizations;
- the form of evaluation of knowledge inside the organization (whether the transfer of knowledge to a successor is remunerated = stimulation (material or non-material), a medium level of dependency was determined for this hypothesis;
- the development of a suitable organizational culture supporting the transfer of knowledge to a successor which employees will respect;
- conducting analyses of organizational culture (with respect to changes in internal and in particular

external conditions it is necessary to adapt organizational culture to its needs (organization's strategic interests));

- the use of databases to record knowledge (their use helps to ensure a higher level of vertical transfer of knowledge in organizations), this hypothesis has shown the strongest dependency;
- the existence of a system of adaptation of new employees.

To confirm the impact of individual internal factors at both the organizational and individual levels as presented above, a statistical non-parametric test was used. The results of testing are displayed in Table 4.

Based on statistical testing that confirmed the results presented above it was found that in the organizations monitored ensuring vertical transfer is determined by the following factors: organizational culture, structure and climate (organizational level) and motivation and trust (individual level). As far as the level of dependency is concerned, the most important factors are an individual's trust and motivation.

Table 4. Testing of hypotheses of influence of internal factors to ensuring vertical knowledge (P1)

Order	Null hypotheses	$p$ -value $X^2$ test	$H_A$	Value of dependency	Dependency
1	2011/2012: Ensuring vertical knowledge transfer does not depend on organizational culture.	0.039	YES	0.198	low
	2012/2013: Ensuring vertical knowledge transfer does not depend on organizational culture.	0.000	YES	0.210	low
2	2011/2012: Ensuring vertical knowledge transfer does not depend on organizational structure.	0.036	YES	0.201	low
	2012/2013: Ensuring vertical knowledge transfer does not depend on organizational structure.	0.001	YES	0.191	low
3	2011/2012: Ensuring vertical knowledge transfer does not depend on organizational climate.	0.046	YES	0.191	low
	2012/2013: Ensuring vertical knowledge transfer does not depend on organizational climate.	0.626	NO	x	x
4	2011/2012: Ensuring vertical knowledge transfer does not depend on stimulation.	0.898	NO	x	x
	2012/2013: Ensuring vertical knowledge transfer does not depend on stimulation.	0.109	NO	x	x
5	2011/2012: Ensuring vertical knowledge transfer does not depend on will to share knowledge.	0.433	NO	x	x
	2012/2013: Ensuring vertical knowledge transfer does not depend on will to share knowledge.	0.930	NO	x	x
6	2011/2012: Ensuring vertical knowledge transfer does not depend on motivation.	0.031	YES	0.207	low
	2012/2013: Ensuring vertical knowledge transfer does not depend on motivation.	0.000	YES	0.217	low
7	2011/2012: Ensuring vertical knowledge transfer does not depend on trust.	0.024	YES	0.217	low
	2012/2013: Ensuring vertical knowledge transfer does not depend on trust.	0.577	NO	x	x



#### 4. Discussion

Despite the growing importance of knowledge as an asset that can distinguish individual organizations in the eyes of customers, organizations continue to face problems related to the loss of critical knowledge through leaving employees since vertical knowledge transfer is not sufficiently ensured in organizations. Organizations that efficiently manage their human resources by ensuring vertical knowledge transfer are currently doing better than those that refrain from such practice. Every employee has a different reason for vertical knowledge transfer and, according to Levy (2011), Ramlall (2004) and Beazley *et al.* (2002), it is important to identify this reason. Two important employees' motivators for vertical knowledge transfer have been found. Firstly reciprocity was revealed. A total of 41% of organizations see this reason as crucial in 2010/2011, 2011/2012 and 2012/2013 or 2013/2014 it was altruism. The prerequisite for reciprocity is a voluntary relationship of both parties (the leaving worker and his/her successor) and trust. Reciprocity is an essential condition for the existence and effective functioning of organizations based primarily on partnerships.

Secondly, according to Truneček (2004), altruism in a group of employees was identified. Altruism is advantageous in terms of organization; however, appropriating it for internal environment is not easy and there are not many people who follow this principle in Czech organizations. The employees often do not share knowledge because of their concerns about possible substitutability, lack of understanding of the value of their knowledge, fear of losing ownership of their expertise, lack of time, lack of mechanisms for knowledge sharing, reluctance to use existing ways of knowledge sharing, absence of direct links between employees in different organizational units and difficulty capturing tacit knowledge (Marešová 2010; Levy 2011; Truneček 2004; Beazley *et al.* 2002). The organization should do everything in order to motivate, stimulate and create the right internal environment in the area of vertical knowledge transfer.

Therefore we may confirm the P1. The analysis revealed that vertical knowledge transfer is influenced by internal factors on the individual and organizational level. The most important is the willingness to share knowledge as well as organizational climate. This result is in accordance with Pilková *et al.* (2013), Matošková *et al.* (2013) and Levy (2011). It is an objective for organizations in the Czech Republic to properly stimulate not only the employees to share knowledge but also to create and support of organizational environment. Then the organizations achieve benefits by improving the level of ensuring vertical knowledge transfer according to Bureš (2007).

We may also confirm the P3. Influencing characteristics of organization has benefits for vertical knowledge transfer.

The confirmed characteristics, according to Pinnington (2011) and Järveläinen (2013), are the following: the fact whether an organization is part of a larger group of organizations, evaluation of knowledge, support of internal environment and using knowledge database etc.

We can summarize that failing to develop employees' knowledge and its retaining when knowledge workers leave will cause a failure in adopting new trends and innovations in organizations. Therefore the human resource department activities in terms of vertical knowledge transfer and common influencing of the internal factors are both becoming increasingly important.

#### 5. Current trend in area of vertical knowledge transfer

At present vertical knowledge transfer may be considered (Kalkan 2006) a basic element of Business Continuity Management (hereinafter BCM) which together contribute to a better competitive advantage and efficiency, better identification of threats and better decision-making with lower risks. The readiness to deal with unexpected situations that have a negative impact on an organization's performance is one of the indicators of management quality and efficiency. It also manifests the ability of an organization to manage the efficiency of risk management. The non-ensuring vertical knowledge transfer may have an impact on business continuity and lead the organization into a crisis. The ability to ensure business continuity and simultaneously vertical knowledge transfer becomes an important parameter in the process of evaluation on the part of customers and investors.

In the area of business continuity and particularly in the area of IT in which the business continuity is covered there exist many trends. Their goal is to make data and other information activities accessible, but they do not take into account the human factor. It is important to realise (and the above results confirm that) that the goal of business continuity in general is to restore critical processes in an organization. This covers not only the above mentioned assets and premises etc. but also a labour. Labour represents another critical element in an organization for the loss of which the organization needs to be prepared. What would an organization do with the data if there is no one to use it? It is necessary to realise that organizations become resistant to events with negative consequences not only due to business continuity, but primarily due to the level of preparedness of employees. Simply said, technical support is important, but the main work when dealing with emergency situations is always done by people.

The survey conducted documents that organizations start to be aware of this negative scenario. An average of 35% of organizations recognizes that the losing critical knowledge can jeopardise organizations. 40% of organizations

see a threat of losing knowledge directly in the fact that if a piece of knowledge is not transferred to a successor, it will be lost when a key employee leaves and 60% see a threat in the use of key knowledge of the given employee by a competitor. The rest of organizations do not feel jeopardised so far, however, based on the current development this is likely to be only a temporary phenomenon.

It is possible to state that managers have to pay attention to vertical knowledge transfer to ensure an optimal level of BCM since business continuity is impossible to achieve without knowledge employees with critical knowledge for the organization. The support of top management is essential and so is the anchoring of vertical knowledge transfer in organizational culture in a way to enable employees to understand its significance.

On the basis of an analysis of BCM documents (standards, norms, policies) it may be stated that the standards mention the importance of knowledge sharing among colleagues (horizontal knowledge transfer) and between a leaving employee and his/her successor (vertical knowledge transfer). However, the standard does not contain any recommendations, principles, preconditions, systematic procedures, etc. that would help organizations applying BCM to ensure the transfer and to preserve the critical knowledge of its important employees. This fact needs to be reflected by means of systematic ensuring vertical knowledge transfer within the organization by means of knowledge continuity management. Since knowledge continuity management supposes a systematic approach, it is necessary that each organisation desiring to ensure knowledge continuity follows specific steps which are further elaborated by Beazley *et al.* (2002). The first step (1) is to realise how important key employees are for an organisation: it is vital to identify them and to establish the extent and depth of implementation; the second step (2) entails preparing potential successors of these employees; the third step (3) lies in ensuring knowledge transfer; finally, the fourth step (4) lies in carrying out a check up. Zíková (2012) also adds that it is important to take care of these employees. Whether this group (i.e. approximately 15% of employees) is officially called the “key one” is a decision made by individual organisations and it depends on the strategy for BCM they select.

## Conclusions

On the basis of the evaluation of the results of the survey carried out in organizations in the Czech Republic targeted at the level of ensuring vertical knowledge transfer and the identification of benefits arising from it, we can summarise that:

- the level of ensuring vertical transfer in organizations continues to be insufficient, however, compared to the survey carried out in the years 2010/2011, 2011/2012, 2012/2013, and 2013/2014 it has been

improving; representatives realise, with respect to the demographic development of the population, the threat of key employee retirement;

- the importance of ensuring vertical transfer grows when the so-called age management (age development of the population) is taken into account; it is necessary to ensure it in a systematic way;
- ensuring vertical knowledge transfer in the monitored sample depends on knowledge assessment, organizational culture, the use of knowledge databases and an adaptation programme of the organization. On the contrary, it does not depend on an organization's size, the sector of business, the existence of a human resources management department or talent management application;
- at present it is suitable to integrate systematic ensuring vertical knowledge transfer not only into the organizational culture, but also to apply, provided the organization is BCM certified, ensuring vertical transfer together with the standard. With respect to the above said, it is important to note that ensuring business continuity in IT is important, but people represent the key element.

With respect to the above said, organizations may be recommended to focus on the creation of suitable conditions at the organizational level (organizational culture, structure, stimulation) as well as at the individual level (motivation, trust, will to share knowledge, organizational climate) that help ensure vertical transfer in organizations and eliminate threats connected with the losing key employees who are holders of knowledge that is critical for the given organization. Ensuring vertical knowledge transfer also supports business continuity.

Benefits of the article lie in verification of the influence of internal factors on ensuring vertical knowledge transfer based on literature. The impact of this area to management of organizations is significant due to current knowledge economy and strong desire for competitiveness. The limits of the article may include a relatively low return on questionnaires; therefore the research will be repeated and also extended in order to include other countries, such as the Slovak Republic as these countries have a common history a similar geographical location, demographic development, culture, languages, unemployment rates and economy. Thus, a further survey can be realized with the cooperation of Slovak organizations and it will also monitor other factors on the external level in vertical knowledge transfer area.

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