Internal Audit Assignment in the area of Enterprise Knowledge Management

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Abstract: The article deals with the steps, objectives and process of internal audit assignment of enterprise knowledge management in organization. The objective of the article is to propose a model of internal audit assignment in an organization based on the International Professional Practices Framework (IPPF) published by the Institute of Internal Auditors and implement it on an assignment focused on enterprise knowledge management. Besides the process of internal audit mission, the article proposes the main risks connected to the enterprise knowledge management and possible ways how to test these risks, as well as verification of risk management and the internal control system in this area.

Keywords: Enterprise; Internal Audit; Knowledge Management; Risks.

1 Introduction

Every business activity is connected with some risks. There are various types of risks which organizations are currently facing, e.g. strategic risk, operational risk, financial risk, compliance risk or reputational risk (Šimák, 2006). Due to organizational changes in the global business environment in the last century and the recent evolution in corporate governance, the internal auditing profession has evolved gradually with the progress of management and corporate governance. In the scope of internal audit, there are topics such as an organization's governance, risk management and internal control system, but internal audit frequently focuses also on efficiency and effectiveness of operations and compliance with laws (Dvořáček, 2003).

Organizations are not independent and isolated subjects on the market and they are strongly influenced by current trends in global economy. The related literature (Kuzmišin, 2010; Marthinsen, 2016) states that in the current market situation, organizations are under a lot of pressure of competition. The economic environment is turbulent and the economic development is unstable. Despite this, there are some movements which bring a change of business paradigm: globalization and digitalization. Today, as it was stated by Friedman (2005), because of globalization, the world might seem small and "flat" in several ways. Despite the fact that some of the globalization impacts might create such a perception, the global business environment is definitely more complex, dynamic and competitive and permanently creates new challenges for organizations (Petrík & Sedliačiková, 2016). Digitalization affects organizations on various levels. Today, companies capture and store tremendous amounts of information about every aspect of their business: their customers, partners, vendors, markets, and more. But with the rise in the quantity of information, there is corresponding decrease in its quality - a problem businesses recognize and are working feverishly to solve (Loshin, 2001, p. 28).

With the development and evolution of enterprise knowledge management, a new connection to risk environment and risk management of the company appears. It makes the

enterprise knowledge management an ideal candidate for ~~being~~ the subject of an internal audit assignment to ensure its effectivity and well-balanced risks.

2 Theoretical Background

In this section, the introductory and topic-relevant information will be defined, such as internal audit, its definition and process and enterprise knowledge management.

2.1 Internal Audit

According to the definition of Internal Auditing in the IIA's International Professional Practices Framework (IPPF), internal auditing is "an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes."

Performed by professionals with in-depth understanding of the business culture, systems, and processes, the internal audit activity provides assurance that internal control in place is adequate to mitigate the risks, governance processes are effective and efficient, and organizational goals and objectives are met. The scope and focus of internal audit in an organization might be comprehensibly characterized by the following activities: evaluating emerging technologies, analysing opportunities, examining global issues, assessing risks, control, ethics, quality, economy, and efficiency. Such diversity gives internal auditors a broad perspective of the organization. And that, in turn, makes internal auditors a valuable resource to the executive management and boards of directors in accomplishing overall goals and objectives, as well as in strengthening internal check and organizational governance (The Institute of Internal Auditors, 2017).

There is not any unalterable audit process scheme. It varies from organization to organization depending on its own governance. Steps of performing an audit assignment might be generally defined as follows, in line with the IIA's International Professional Practices Framework (2017) and other sources, such as the Chartered Institute of Internal Auditors (2014):

- Establishing the planned scope of the audit assignment – it is very often based on the regular audit plan, or the decision to perform an audit assignment is the result of a management request.
- Conducting of interviews, meetings with the auditee, together with the request for introductory data to gain deeper understanding of the audited area. There are various sources of information.
- Based on the previous stages, specification of the final scope of the audit assignment, together with identification of the area to verify during audit. There is one goal: focus on the most significant risks related to the audited area.
- Performing audit fieldwork – so-called testing or verification phase. There are various activities performed in this phase in order to obtain audit evidence ~~and results~~ about audited risks and controls:
    - Discussion and observation of monitoring controls - The aim is to determine that the controls used by the management ensuring that the risk management

framework is working are designed to achieve this objective and to show that they are working as designed.

- Individual audit testing of pre-defined issues - These activities may also be required to provide extra evidence that responses to key risks.
- Conclusions on the internal control system and risk management processes covered by the assignment.
- Fieldwork encompasses all the efforts of the internal auditor to accumulate, classify, and appraise information so as to enable the auditor to form an opinion and to make any needed recommendations for improvement.

- Reporting and feedback (drafting of an audit report, confirmation by the auditee and a final audit report).

2.2 Enterprise Knowledge Management

To be able to conduct an audit assignment on the enterprise knowledge management in an organization, we must identify the assignment properly, including its various features in theory and practice.

According to Girard (2015), the knowledge management (hereinafter referred to as "KM") is the process of creating, sharing, using and managing the knowledge and information of an organisation. It adds value to achieving the organization's objectives by multidisciplinary use of the knowledge. The concept of knowledge management might be considered as new, as only two decades old. It was introduced and then established by Nonaka in the 1990s (Nonaka, 1994), mainly by the process of knowledge transfer. KM refers to identifying and leveraging the collective knowledge in an organization (Krogh, 1998). KM systems refer to a "class of information systems applied to managing organizational knowledge, and are developed to support and enhance the organizational processes of knowledge creation, storage, retrieval, transfer, and application, mainly at organizational (corporate) workplaces" (Barão, et. al, 2017, p. 735). The practical implementation of KM very often has a form of Knowledge Management Systems (hereinafter referred to as "KMS"). Ruzic-Dimitrijevic (2014, p. 1) stated that "A knowledge management system (KMS) is a system for applying and using knowledge management principles." This system consists of processes of knowledge creation and its transmission - knowledge transfer. By Benoit, et al. (2011) the KMS is collection of three subsystems:

- People interactions;
- Technology acting;
- Organizational structures.

Loshin (2001) identifies that data are some of the most important aspects of KMS in an organization. He proposes an easily adaptable methodology for defining, measuring, and improving data quality. In the current era of "big data", he requires understanding of the value of data quality; then he proceeds to outlining of data quality rules and domain-and-mapping-based approaches to consolidating enterprise knowledge.

In the current literature, the merger of risks, controls and internal audit with knowledge management is not very common. In her article, Ruzic-Dimitrijevic (2014) dealt ~~in her article~~ with the issues of risk management and knowledge management as the integral elements of

business management. Besides that, there are various articles on the relationship of knowledge management and audit, e.g. Lauer and Tanniru (2001), who deal with the knowledge management audit, or Rodgers, Mubako and Hall (2017), who focus on the knowledge management in audit engagement planning.

In the following text, the article will focus on the internal audit assignment of knowledge management and the knowledge management system in the enterprise.

3 Methodology

The objective of the article is to propose the general model of internal audit assignment in organization based on The International Professional Practices Framework (IPPF) published by The Institute of Internal Auditors and implement it on assignment focused on enterprise knowledge management.

The processing of the article was divided into three parts. First part was focused on the synthesis of the existing knowledge in the context of article's topic. To suggest the general model of internal audit assignment of enterprise knowledge management in organization, the literature review was created. Methods of summary, synthesis and analogy were used. Literature review stated the basic theoretical background and assumptions for further work. Results of first part are summarized in chapter 2 of the article.

Second phase focused on the empirical research. In order to test validity of qualitative research approach in the article, the triangulation of data sources was applied through the convergence of information from different sources. The methods of qualitative research were chosen: observation, semi-structured interviews and documents analysis (see following Fig. 1). Triangulation refers to the use of multiple methods or data sources in qualitative research to develop a comprehensive understanding of phenomena (Patton, 2001; Hendl, 2016).

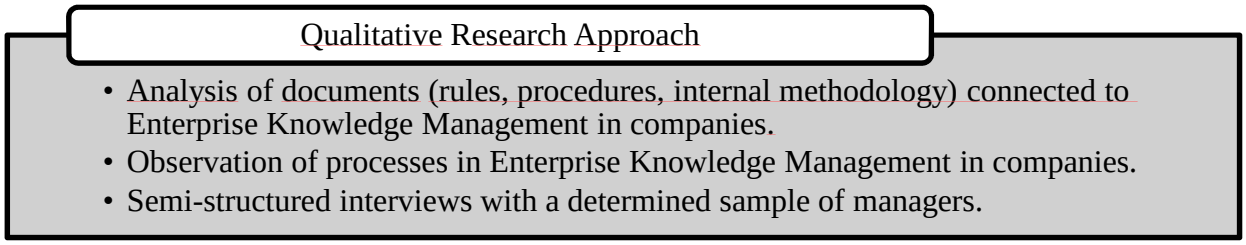

Fig. 1 *Qualitative Research Methodology*

Source: Author, 2017

In order to characterize general model of internal audit assignment of enterprise knowledge management, the chosen methods were applied in two different companies. As the article includes business-sensitive information about internal processes, the companies remained anonymous. Their characteristics were following:

- Company A: Privately held consumer financing company active in Slovakia, considered as a medium enterprise according to EU recommendation 2003/361.
- Company B: Privately held provider of internet connection and related IT services in Slovakia considered as a medium enterprise according to EU recommendation 2003/361.

There were 6 semi-structured interviews in total with managers directly or indirectly connected to the Enterprise Knowledge Management – with managers governing Enterprise Knowledge Management, but also with others who are the main and the most frequent users of Enterprise Knowledge Management. There were various processes considered, mainly in connection to IT systems, general function, perceived risks, implemented controls and involvement of human factor. Author was granted with access to some internal documentation.

In the third phase, the results of the research were synthetized and interpreted. Results and statements were obtained by the deduction method. Third phase also defined asset of article for theory and practice.

4 Results and Discussion

Based on the information presented in previous chapters, the goal of the audit assignment of enterprise knowledge management in organization is proposed as following: The goal of internal audit assignment of organization's enterprise knowledge management is to provide an independent and objective assurance that risk management, internal control system and controls together with strategic and day-to-day operations of enterprise knowledge management add value and help an organization to accomplish its objectives.

Internal auditor must be able to set limits to what is and what is not in the scope of the audit assignment. In case of KM, perhaps the following definition provides boundaries of steering so wide issue such as KM: "Knowledge management is a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving, and sharing all of an enterprise's information assets. These assets may include databases, documents, policies, procedures, and previously un-captured expertise and experience in individual workers." (Koenig, 2012).

The conducted empirical research in case of two companies described in chapter 3 indicated that audit assignment should focus on several areas in context of risk management, governance and effectivity/efficiency. Audit assignment would require a multidiscipline approach, because KM itself is a "multidiscipline approach to achieving organizational objectives by making best use of knowledge" (AS5037, 2003, p. 7).

Gained results were compared and enriched by results other authors, e.g. Benoit, Bernard and Carlos (2011), Fehér (2002), and Jamieson and Loeng (2003).

Key identified risks and issues for audit fieldwork and testing are following, together with additional specifications:

- Fraud risk consideration – are there any experienced frauds connected to the knowledge management in company? Are fraud scenarios developed? Is fraud prevention in place? Are fraud red flags of knowledge stealing available?
- Access Rights – are there any controls for regular review of access rights to KMS? What are the rules for passwords and logins? Is activity in KMS traceable? The testing should focus also on verification whether former employees and transferred employees do not have access rights to KMS and other important IT systems.
- Data Quality – are there any controls over data quality to ensure that data management risks are identified and addressed. Is "bad data" defined and searched?

- Data ownership and business requirements - ensure that data responsibilities for business rules description are reasonably assigned and performed
- People – are for employees directly involved in KM and KMS set any (and correct) Key Performance Indicators and Key Risk Indicators? Are training plans correctly set (both for users and for involved employees)?
- Governance – is there adequate and well-known strategy regarding KM in a company? Is it based on the internal documentation and involvement of higher management? Is there sharing of information and collaborative culture (in the context of "need to know" concept).
- Evaluate the availability of information, navigation and searching of knowledge. How accurate is the searching for information?
- Data - data warehousing, data mining, and knowledge discovery
- Is the user support effective? Are complaints and recommendations of users reviewed?
- Assess the trust in the KMS and in information/data by users. Also focus on the management of user perception of the usefulness of KM.
- Assess the electronic (digital) knowledge database: physical security, possibility of data loss (viruses, system crashes, insufficient back-ups, and hackers), overload, interface problems, etc.
- Evaluate maintenance activities – frequency, adequacy and competency.
- Are there any controls within KM and KMS function? Are they need, effective and correctly designed? Do they cover main risks?

5 Conclusions

"Knowledge management is the focus of agile organizations and research has shown that an organization's competitive advantage is directly affected by its ability to create, identify, share, and apply knowledge" (Alavi & Leidner, 2001; Rodgers, 2016; Rogers, Mubako, Hall, 2017).

On one hand, there is no doubt that enterprise knowledge management and knowledge management system play and will play a significant role in ensuring productivity and competitiveness of organization. On the other hand, like any other activities of the organization, it might be a source of some risks with various probability and impact. Internal audit is able to address these risks and review the efficiency of knowledge management in organization.

There were various risk categories identified for potential audit assignment. The main results might be defined as data quality, knowledge stealing, maintenance, trust and user experience of knowledge database.

Literature

1. ALAVI, M. and LEIDNER, D. E., 2001. Review: Knowledge management and knowledge management systems: Conceptual foundations and research issues. *MIS Quarterly*, 25(1), pp. 107-136.
2. AS5037 2003 – The Australian Knowledge Management Standard.
3. BARÃO, A. et al., 2017. A knowledge management approach to capture organizational learning networks. *International Journal of Information Management*, 5 (37), pp. 735-740.
4. BENOIT, A., BERNARD, J.G., and CARLOS, C.G., 2011. Defining Knowledge Management System Risk. *Proceedings Pacific Asia Conference on Information Systems (PACIS).* Paper 21.
5. CHARTERED INSTITUTE OF INTERNAL AUDITORS. 2014. *Risk Based Internal Auditing.* [online] Available at: <https://global.theiia.org/standards-guidance/topics/documents/201501guidetorbia.pdf> [Accessed 10 September 2017].
6. DVORACEK, J., 2003. *Interní audit a kontrola.* Praha: C.H.Beck. 201p. ISBN 8071798053.
7. European Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (notified under document number C (2003) 1422)
8. FEHÉR, P., 2002. The Risks and Side-Effects of Knowledge Management Activities. Third European Conference on Knowledge Management, Trinity College, Dublin, 24-25 September 2002, pp. 234-254.
9. FRIEDMAN, T. L., 2005. *The world is flat: A brief history of the twenty-first century*. New York : Farrar, Straus and Giroux. 488 p. ISBN 978-0374292881.
10. GIRARD, J., 2015. Defining knowledge management: Toward an applied compendium. *Online Journal of Applied Knowledge Management*, 3 (1), pp. 1-20.
11. HENDL, J., 2016. *Kvalitativní výskum.* Praha: Portál. 408 pp. ISBN 8073670402.
12. JAMIESON, R. AND LOENG, D., 2003. AN EXPLORATORY STUDY OF RISKS AND ISSUES IN Knowledge Management. *Conference Paper: 14th Australasian Conference on Information Systems.* Perth, Western Australia, 26-28 November 2003, pp. 1-11.
13. KOENING, M. E. D., 2012. *What is KM? Knowledge Management Explained*. [online] Available at: <http://www.kmworld.com/Articles/Editorial/What-Is-.../What-is-KM-Knowledge-Management-Explained-82405.aspxer> [Accessed 10 September 2017].
14. KUZMIŠIN, P. et al., 2010. *Svetová ekonomika*. Košice : ELFA. 399 p.
15. LAURER, T. and TANNIRU, M., 2001. Knowledge Management Audit - a methodology and case study. *Australasian Journal of Information Systems*, 9 (1), pp. 83-91.
16. LOSHIN, D., 2001. Enterprise Knowledge Management: The Data Quality Approach. London: Morgan Kaufman. 493 pp. ISBN 978-0124558403.
17. KROGH, G. 1998. Care in knowledge creation. *California Management Review*, 40 (3), pp. 133–153.
18. MARTHINSEN, J. E., 2016. *Managing in a Global Economy*. Cambridge: South-Western College Pub. 816 p. ISBN 978-1285055428.

19. NONAKA, I. 1994. A dynamic theory of organizational knowledge creation. *Organization Science*, 5 (1), pp. 14-37.
20. PATTON, M. Q., 2001. *Qualitative Research and Evaluation Methods* (2nd Edition). Thousand oaks, CA: Sage Publications.
21. PETRÍK, V. and SEDLIAČIKOVÁ, M., 2016. Cultural Intelligence of SME´s Financial Managers as a Determinant of Organization's Competitiveness. In MALA DENISA (Eds.), National Research Project VEGA 1/0934/16 *Kultúrna inteligencia ako dôležitý predpoklad konkurencieschonosti Slovenska v globálnom prostredí*. Banská Bystrica: Univerzita Mateja Bela, 2016. pp. 119-127.
22. RODGERS, W., MUBAKO, G. N., and HALL, L., 2017. Knowledge management: The effect of knowledge transfer on professional skepticism in audit engagement planning. *Coputers in Human Behavior*, 70 (17), pp. 564-574.
23. RODGERS, W., 2016. *Knowledge Creation: Going beyond published financial information*. Hauppauge, NY: Nova Publication.
24. RUZIC-DIMITRIJEVIC, L., 2014. Risk assessment of knowledge management system. *Online Journal of Applied Knowledge Management*, 3 (2), pp. 114-126.
25. ŠIMÁK, L., 2006. *Manažérstvo rizík.* Žilina: Žilinská univerzia v Žiline. 118 p.
26. THE INSTITUTE OF INTERNAL AUDITORS. 2017. *About Internal Auditing.* [online] Available at: <https://global.theiia.org/about/about-internal-auditing/pages/about-internal-auditing.aspx> [Accessed 10 September 2017].

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