

Knowledge Management Tools in Romanian Companies

Sebastian-Ion CEPTUREANU¹

Abstract

KM tools are available for all knowledge activities: assimilation, comprehension, and learning of the information by individuals who will then transform data and information into knowledge. Knowledge is strictly linked and connected to the individual (or group) who creates it, which may cast doubts on the availability of information systems tools to effectively support KM. Thus the visible part of knowledge, what the literature calls explicit as opposed to the tacit dimension of knowledge, is only information regardless of the amount of the other individual knowledge embedded into it. This paper presents results of an exploratory study on Romanian companies aimed to provide an overview on knowledge tools in terms of reasons to implement them, problems and advantages encountered during their use or knowledge activities they are most suitable for.

Keywords: *knowledge, management, KM tools.*

JEL classification: M10

1. Introduction

Although is a new discipline in the broader management theory and practice, there are many approaches of knowledge management (KM), more or less rigorous (Ceptureanu, 2014). Watson (2002) considers that it involves acquisition, storage, retrieval, use, generation and review of the organization's knowledge assets in a controlled manner while Bergeron (2003) argues that KM is a business optimization strategy that selects the deliberate and systematic, use, store, and archive and transmit business critical information in a way that enhances employee performance and competitiveness (Ceptureanu, 2016).

Davenport et. al (2001) considered it as the ability to aggregate, analyze and use data and information to make informed decisions that lead to actions that generate real value while for Jennex (2005) is the selective application of knowledge gained from previous experiences in making decisions to improve the efficiency of the organization.

¹ **Sebastian-Ion CEPTUREANU**, The Bucharest University of Economic Studies, Romania,
E-mail: sebastian.ceptureanu@man.ase.ro

2. Literature survey

According to various scholars, knowledge based tools presents several features (Ruggles, 1997; Nicolescu, and Nicolescu, 2011) and has to fulfil a set of requirements, among which it is worth mentioning:

- a) has to integrate and use traditional managerial tools (Ceptureanu, 2015; Ceptureanu, 2015);
- b) has to rely on IT components and technologies or at least have a customized human-computer interface;
- c) foster virtual KM tools;
- d) has to facilitate information contextualization, for an improved retrieval and management of knowledge;
- e) has to facilitate social interactions and networking, usually for knowledge sharing.
- f) has to efficiently enable connections and communication between people (entrepreneurs, staff) on different geographical locations and at considerable distance from each other;
- g) has to intelligently transfer information, usually by optimization of transfer three dimensions user, content and time of transfer.
- h) has to consider that there are large differences in KM results due to strong dependence on skills, competence and incentives of those involved;
- i) has to acknowledge that existing KM tools are very heterogeneously implemented due to different organizational settings, their perception by managers and employees.

Interest in KM tools shows Kazi (Kazi et al., 2007) in terms of systematization of knowledge tools, Samii (Samii, 2007) in designing new KM tools, Russ (Russ, 2010) or Swartz (Swartz, 2006) in integrating KM tools with organizational and strategy setting.

Natorojan (Natorojan, 2005) designed a general framework for Knowledge Management, explicitly stating the role of several KM tools in implementation of his model, while Miller (Miller, 2006) emphasized the need to adapt KM tools to types of tasks rather than to the size of the enterprise. Finally, the last theoretical approach trend in KM tools area focused on providing companies integrated tools from which any manager, entrepreneur or staff to choose the most appropriate ones according to their needs (Laurie et al., 2006).

Irma Becerra-Fernandez (Bacero-Fernandez, 2001) considers that there are 4 categories of KM tools:

- a) *Knowledge storage systems*, focusing on storage and formalization of expert knowledge, facilitating sharing with other specialists;
- b) *Knowledge use systems* that select and retain their knowledge for reuse in solving recurring and new problems;
- c) *Knowledge discovery systems* that create new knowledge by implementing intelligent algorithms;
- d) *Knowledge directories*, which organize and disseminate knowledge.

According to Galuppe (2000), knowledge tools are:

a) *Intranets*, defined as private internet-based networks using Web browsers to share knowledge;

b) *Information retrieval programs*, which are tools designed to identify internal knowledge sources like knowledge bases and external knowledge sources and make it available for employees;

c) *Database management systems*, which are platforms designed to build specific KM tools;

d) *Document management software*, enabling knowledge standardization, storage or distribution;

e) *Groupware*, which are software and hardware platforms designed to foster collaboration and work in common, useful in certain activities like knowledge generation;

f) *Intelligent agents*, which are software programs designed to filter out specific types of knowledge for various requirements of different users.

g) *Knowledge-Based or Expert Systems*, which are systems designed to store knowledge from experts, make them explicit and available to others.

Another approach (Ghani, 2009) considers them as:

a) *Tools to access knowledge*, designed to share knowledge through IT systems and technologies;

b) *Tools for semantic mapping*, designed to support and enable knowledge users and experts to efficiently organize company's knowledge base;

c) *Tools for knowledge extraction*, designed to support activities like data mining by giving sense to links among different knowledge types;

d) *Tools for expertise localization*, which enable quick location of knowledge repositories and facilitate collaboration and knowledge exchange;

e) *Tools for collaboration work*, which enable teams to efficiently use knowledge in various tasks globally.

3. Knowledge management tools in Romanian companies

Between determinants of knowledge management tools use respondents emphasized the desire to increase efficiency and effectiveness of the company (39.25%), requirements of consultants (32.71%), know-how transfer from partners (15.89%) or that classic management tools has not given the expected results (12.15%).

In case of top management's attitude towards knowledge management tools, respondents said that in 36.45% of cases they consider it important and provides full support, 28.04% consider it important but hardly supports its use, 24.30% supported him initially but lost interest, while 11.21% consider it as unimportant.

In case of employees' attitude towards knowledge management tools only 22.43% of them consider it important and provides complete support. 28.97% consider it important but it involves difficulty, 27.1% consider it unimportant, and 21.5% do not consider it important.

Among the challenges in implementing KM tools, the most acute was that of attracting specialists (18.69%) and accountability of resources for owners (15.89%), while lack of commitment from top executive was a marginal issue (4.67%).

Table 1

No.	Challenges encountered in KM tools implementation	Percentage (%)
1	Lack of understanding benefits of knowledge management tools by employees	10,28
2	Attracting knowledge specialists	18,69
3	Significant operational costs	14,02
4	Loss of essential knowledge when key employees leave company	10,28
5	Low internal knowledge transfer	12,15
6	Unfavorable organizational culture	8,41
7	Accountability of resources	15,89
8	Lack of top management commitment	4,67
9	Attracting and retaining talented people	5,61

Source: own research

As advantages, respondents said that, following the implementation of knowledge management has improved business competitive advantage (18.69%) or increased revenue (14.02%), while the least obvious advantage referred to an improvement in managing intellectual property rights.

Table 2

No.	Advantages that managers experience during KM tools implementation	Percentage (%)
1	Improving business competitive advantage	18,69
2	Improvement of clients fidelity	8,41
3	Amplifying innovation	16,82
4	Employee development	3,74
5	Cost reduction	9,35
6	Revenue growth	14,02
7	Improved decision making process	4,67
8	Improved management of intellectual property rights	1,87
9	Faster response to key business issues	11,21
10	Improving the quality of products / services	9,35
11	Improved management of documents	1,87

Source: own research

In terms of knowledge activities, managers used KM tools on development to networking with suppliers or knowledge generators (24,30%), for development to networking with customers and users of products or services offered by the company (21.50%) in while innovative side - introducing new processes or developing new products or services based on knowledge are among the least approached activities.

Table 3

No.	Knowledge activities	Percentage (%)
1	Develop strategies and policies based on knowledge	10,28
2	Develop networking with suppliers / knowledge generators	24,30
3	Develop networking with customers and users	21,50
4	New products / services based on knowledge	5,61
5	New technological processes	4,67
6	Staff training	19,63
7	New knowledge methods and techniques	12,15
8	Other	1,87

Source: own research

Regarding perception on knowledge management tools implementation in Romanian companies, the majority of respondents said they appreciate (90.65%), while only 4.67% said that they regret it.

In terms of organizational learning focus on these tools, mainly take the form of trainings (30.84%) or their experience of teams (21.50%), while intra-organizational knowledge transfer, individual learning or transfer of good practices are much less common in Romanian companies.

Table 4

No.	Organizational learning	Percentage (%)
1	Trainings	30,84
2	Individual learning	11,21
3	Transfer of external best practices	5,61
4	Internal knowledge transfer	13,08
5	Guides, regulations, procedures	13,08
6	Team experience	21,50
7	Other	4,67

Source: own research

Regarding types of knowledge that these tools focus on, in most companies know what (35.51%) and know how knowledge (27.10%) are emphasized, while know who knowledge is addressed in only 15.89% of surveyed companies.

4. Conclusions

KM tools representation in literature is still poor due to low use by companies (Ceptureanu, 2015) and their relative novelty, while organizational use of traditional management methods and techniques is still significant due to reluctance of managers in implementing new systems and their related costs (Ceptureanu, 2014). Additionally, many knowledge tools still are based on or requires integration with traditional management tools, making them even more prone to rejection by top executives (Ceptureanu et al., 2012).

Specific knowledge management tools implementation are often more difficult to implement because they have a strong IT component (Ceptureanu & Ceptureanu, 2014). Furthermore, a considerable part of KM instruments rely partially or totally on technologies which are subject to patents, copyrights etc. Finally, actual use of them requires high skilled employees, the so called knowledge workers, and companies may afford only small proportions of these employees (Ceptureanu, 2014).

For Romania, several things arise from the exploratory research we performed. First of all, the main determinants of knowledge management tools use are mainly external facilitators, meaning that managers are not aware or convinced by KM tools efficiency or usefulness. Top executives has a significant higher favorable attitude towards knowledge management tools than employees, possible due to poor communication or unfavorable organizational culture. That means considerable resistance to change during implementation and poor acceptance by employees.

Among the challenges in implementing KM tools, the most significant was that finding and hiring knowledge specialists while among the advantages the most common are new sources of competitive advantage or increased turnover.

In terms of knowledge activities, KM tools were predominantly used to develop networking with knowledge suppliers or generators or for development to networking with customers and end users of products or services while innovative side - introducing new processes or developing new products or services based on knowledge are less common.

References

1. Bacerro-Fernandez I. (2001) "Locating Expertise at NASA – Developing a tools to leverage Human Capital", *Knowledge Management Review*, Vol. 4, No. 4
2. Bergeron, B. (2003) *Essentials of Knowledge Management*. Wiley
3. Ceptureanu E.G. (2015) "Employee's reaction to change in Romanian SMEs", *Review of International Comparative Management*, Vol. 16, No. 1, pp.77-87
4. Ceptureanu Eduard Gabriel (2016) *Knowledge Tools in SMEs: A Romanian Overview*, International Conference Knowledge-based Organization, Vol. XXII, Sibiu, Romania
5. Ceptureanu E.G. (2015) "Research regarding change management tools on EU SMEs", *Business Excellence and Management Review*, Vol.5, No. 2, pp.28-32
6. Ceptureanu E.G. (2015) "Survey regarding resistance to change in Romanian innovative SMEs from IT Sector", *Journal of Applied Quantitative Methods*, 10 (1), pp.105-116
7. Ceptureanu S.I. (2014) "Knowledge management in Romanian young SMEs", *Review of International Comparative Management*, Vol.16, No.1, pp. 5-22

8. Ceptureanu S.I. and Ceptureanu E.G. (2015) "Knowledge management in Romanian companies", *Quality- Access to success*, Vol. 16, No.145, pp. 61-66, 2015
9. Ceptureanu SI, Ceptureanu EG, Tudorache A. and Zgubea F. (2012) "Knowledge based economy assessment in Romania", *Economia. Seria Management*, Vol. 15, No. 1, pp. 70-87
10. Ceptureanu E.G. and Ceptureanu S.I. (2014), "Change management survey on innovative ITC Romanian SMEs", *Quality- Access to success*, Vol. 16, No. 144, pp. 62-65
11. Ceptureanu S.I., (2014) "Knowledge based economy in Romania: comparative approach", *Journal of Applied Quantitative Methods*, Vol. 9, No. 4, pp. 51-61
12. Davenport, TH.; Harris, J.G.; De Long, D.W.; Jacobson, A.L. (2001) "Data to knowledge to results: building analytic capability". In: *California Management Review*, 43 (2), pp. 117-38.
13. Gallupe B.R. (2000) *Knowledge Management Systems: Surveying the Landscape*, Framework Paper, available at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.104.7777&rep=rep1&type=pdf>
14. Ghani S. R. (2009) "Knowledge Management: Tools and Techniques, *DESIDOC*" *Journal of Library & Information Technology*, Vol. 29, No. 6, pp. 33-38
15. Jennex, M.E. (2005) *Case Studies in Knowledge Management*, London: Idea Group Publishing
16. Kazi, S., Wohlfart, L., Wolf, P. (2007) *Hands on knowledge co-creation and sharing: Practical Methods and Techniques*. Stuttgart: Knowledge Board, 2007
17. Laurie, D.; Doz, Y.; Sheer, C. (2006) "Creating New Growth Platforms". *Harvard Business Review*, Vol. 5, pp. 55-68
18. Miller, R. (2006) "Model-Driven Projects in Chemical Industry". *Knowledge Management Review*, Vol. 7, No. 3, pp. 23-34, 2006
19. Natorojan, G. (2005) "A KM Maturity Model for the Software Industry". *Knowledge Management Review*, Vol. 8, No. 1, pp. 12-19
20. Nicolescu, O. and Nicolescu, C.(2011) *Organizatia si managementul bazate pe cunostinte*, Bucharest, ProUniversitaria
21. Ruggles, R. (1997) *Knowledge Management Tools*. Taylor & Francis,
22. Russ, M. (2010) *Knowledge Management Strategies for Business Development*. Hershey: Business Science Reference
23. Samii, R. (2007) *Knowledge Management and Learning Tools and Technique*. Version 3
24. Swartz, D. (2006) *Encyclopaedia of Knowledge Management*. London: Idea Group Reference
25. Watson, J. (2002) *Applying Knowledge Management*. San Francisco: Elsevier Science, Morgan Kaufman Publishers, p. 5.