

Absorption of management knowledge in Romanian small and medium-sized enterprises

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Abstract. One aim of this paper is to prove that the absorption of management knowledge in Romanian small and medium-sized enterprises (SMEs) has many gaps. Another aim is to find the main causes of this. Paper begins with a short bibliographical study about the most important weakness of the Romanian SMEs: the low availability of skilled staff or experienced managers. In order to discover which phase of knowledge management in these firms is the most problematic, we have made an exploratory research based on the use of Fishbein-Rosenberg model for measuring managers' opinions on this subject. The results have proved that the management knowledge absorption is done to a small extent in Romanian SMEs. In order to find the main causes of the poor management knowledge absorption, we have next developed a research based on questionnaires. We have discovered that the studied problem has its roots both in the business environment and in the academic environment.

1 Introduction

The role of knowledge in achieving organizational performances is essential both in the development of small businesses and of whole economy [1]. In terms of intangible resources of the organization, knowledge and knowledge management are among the most important [2]. Knowledge management helps organization to get strategic competitive advantages and to increase their efficiency in the era of globalization and information explosion [2].

There are several phases of knowledge management. We have selected from literature [3] the most important and numbered them as follows:

- Phase 1: Assessing the knowledge which is available and accessible to the organization;
- Phase 2: Forecasting needs and sources of knowledge;
- Phase 3: Obtaining the necessary knowledge for the company (from inside or outside of it), phase that – according to other specialists [4] – we can call it “the knowledge absorption”;
- Phase 4: Administrating, sharing, using, and developing knowledge;
- Phase 5: Harnessing of knowledge.

A firm that recognizes the value of new, external information, assimilates it, and applies it to commercial ends is constantly increasing its innovative capabilities [4]. In order to cope with global competition, small and medium-sized enterprises (SMEs) should do the same. We have to mention that the SME sector has delivered 57.6% of the gross value added generated by the private, non-financial European economy during 2012 [5].

Nowadays, the first two of the most pressing problems faced by European SMEs are finding customers and availability of skilled staff or experienced managers [6].

So, finding customer is the most important danger in the external organizational environment, and low availability of skilled staff or experienced managers is the most important weakness in the SMEs' internal organizational environment. We believe that this weakness can be analyzed according to the knowledge management stages mentioned above [3]. In order to ensure a long-term development of the businesses they run, managers of Romanian SMEs have to discover which stages of knowledge management have to be improved.

2 Exploratory research

The study presented in this paper has had two main objectives: to find out which stage of knowledge management in Romanian SMEs is the most problematic and what are the main causes of this.

In order to discover which stage of knowledge management in Romanian SMEs is the most problematic, we have firstly developed a brainstorming and brainwriting session with 10 managers working in SMEs from different fields of activity in Sibiu County. They have set the key criteria for assessing the problems that arise in the different stages of knowledge management (presented in Table 1): severity of the problem, its repeatability, average duration of a problem, difficulty of the problem solving, and cost of solving. We have codified these criteria as shown in Table 1.

With the intention to use the Fishbein-Rosenberg model [7] for discover the most problematic stage of the

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knowledge management, we have asked the participants to give marks on these criteria, using a scale with integer values from 0 to 10. So, we have calculated the average of the scores for each criterion and its importance/weight (Table 1).

Table 1. Criteria used to assess the nonconformities/problems founded in knowledge management phases.

Criterion name	Criterion code	Average score [points]	Weight
Severity	Se	9.2	0.226
Repeatability	Re	7.8	0.192
Duration	Du	7.4	0.182
Difficulty of solving	Di	8.2	0.201
Cost of solving	Co	8.1	0.199
SUM	-	40.7	1

Then the participants have assessed the knowledge management phases in terms of each criterion, giving them marks from 0 to 10. We have calculated in Table 2 the averages of the scores and divided them with 10, in such a way that all the results to be in the range 0, ..., 1. Using the criteria weights from Table 1, we have then calculated – in the last row of Table 2 – the weighted sum of the average scores obtained by a knowledge management phase for selected criteria.

Table 2. Assessment of knowledge management phases from the perspective of problematic situations.

Criterion code (Table 1)	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
	Assess	Forecast	Absorb	Use	Harness
	of knowledge [points]				
Se	0.67	0.73	0.82	0.63	0.71
Re	0.72	0.55	0.75	0.83	0.69
Du	0.45	0.35	0.88	0.76	0.74
Di	0.38	0.51	0.93	0.57	0.80
Co	0.42	0.61	0.70	0.78	0.65
Weighted sum	0.532	0.558	0.816	0.710	0.718

According to the results, the most problematic phase is the knowledge absorption, with a weighted sum of 0.816 points, followed by harnessing knowledge, with 0.718 points, and by the phase of administrating, sharing, using, and developing knowledge, with 0.710 points.

According to specialists, an organization's absorptive capacity depends on the absorptive capacities of its members [4]. From this perspective, taking into account the number of attitudes and opinions related to any subject, we would be tempted to believe that knowledge absorption is easier in small enterprises than in big ones.

But the results of the brainstorming and brainwriting session show the opposite. An explanation is the fact that absorptive capacity of an organization consists not only in the assimilation of information, but also in the organization's ability to exploit it [4]. So, on one hand, there is a strong connection between knowledge absorption and harnessing of knowledge (third and fifth phases of the knowledge management). On the other hand, absorptive capacity of a firm depends on transfers of knowledge across and within organizational subunits [4], meaning it is partially depended on fourth phase: administrating, sharing, using, and developing knowledge.

Discussions of the session continued then with the impact that a correct absorption of management knowledge could have on each SME in particular and on the economy of the country in general. The ideas of the participants led to the scheme in Figure 1. The effect of the correct absorption of knowledge is gradually expanding from the level of each SME as an entity to that of the SMEs' sector, then to the national economy, and finally to the whole society, leading to its sustainable development (Fig. 1).

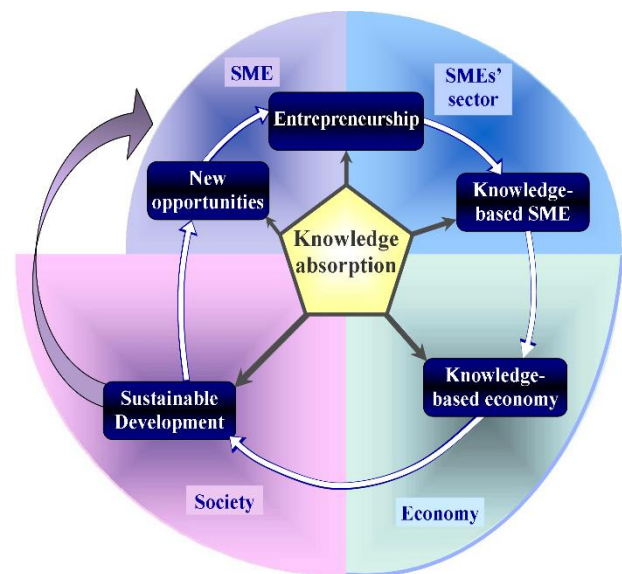


Fig. 1. Absorption of knowledge and sustainable development.

Finally, participants have determined the most important causes of the poor management knowledge absorption in Romanian SMEs. These causes are represented in the Ishikawa diagram of Figure 2, divided into 6 categories: people (managers and employees), methods, equipments, money, academia and other environmental issues.

Participants also have ranked these causes, according 1 point to them with low impact to the studied problem, 3 points to them with medium impact, and 9 points to them with high impact (Table 3). They have selected six causes with high impact: manager's lack of training, poor digitization in SMEs, difficult access to funding, poor partnerships universities - SMEs, fierce knowledge competition, and finding new experienced managers.

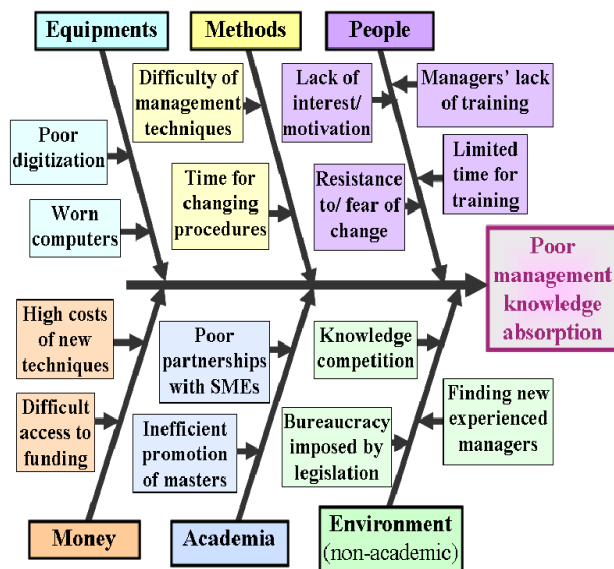


Fig. 2. Ishikawa diagram for the poor management knowledge absorption in Romanian SMEs.

Table 3. Causes of poor management knowledge absorption in Romanian SMEs and their impact on the firms.

Cause	Category	Code	Impact
Managers' lack of training	People	P1	9
Resistance to change/ fear of change	People	P2	3
Lack of interest/motivation	People	P3	1
Limited time for training (other priorities)	People	P4	3
Time for changing procedures	Methods	Me1	3
Difficulty of many management techniques	Methods	Me2	1
Poor digitization	Equipments	Eq1	3
Worn computers	Equipments	Eq2	3
Difficult access to finance	Money	M1	9
High costs of new managerial techniques	Money	M2	1
Poor partnerships universities - SMEs	Academia	A1	9
Inefficient promotion of master programs	Academia	A2	3
Knowledge competition	Environment (non-academic)	E1	9
Finding new experienced managers	Environment (non-academic)	E2	3
Bureaucracy imposed by legislation	Environment (non-academic)	E3	3

We have then used these values (Table 3) in the research based on questionnaires.

3 Research based on questionnaires

The questionnaires were distributed in printed format to 120 managers of SMEs in different fields of activity in Sibiu County. We have presented to respondents a list of the potential causes for the poor management knowledge absorption in Romanian SMEs (according to Table 3) and we asked them to mention which of these causes have generated problems in the management knowledge absorption in their own firm. Only 44 of the managers have agreed to complete the questionnaire, the response rate being 36.67%. The results are presented in Table 4.

Table 4. Scores obtained by the causes of poor management knowledge absorption in SMEs.

Cause	Frequency	Score	Percentage	Cumulative percentage
Managers' lack of training	42	378	23.28%	23.28%
Poor partnerships universities - SMEs	41	369	22.72%	46.00%
Difficult access to finance	39	351	21.61%	67.61%
Knowledge competition	21	189	11.64%	79.25%
Time for changing procedures	15	45	2.77%	82.02%
Finding new experienced managers	14	42	2.59%	84.61%
Inefficient promotion of master programs	14	42	2.59%	87.19%
Poor digitization	13	39	2.40%	89.59%
Resistance to change/ fear of change	11	33	2.03%	91.63%
Lack of interest/ motivation	10	30	1.85%	93.47%
Limited time for training	9	27	1.66%	95.14%
Difficulty of many management techniques	22	22	1.35%	96.49%
High costs of new managerial techniques	21	21	1.29%	97.78%
Worn computers	7	21	1.29%	99.08%
Bureaucracy imposed by legislation	5	15	0.92%	100.00%

We mention that the score given to a cause (third column in Table 4) was obtained by multiplying the frequency of its selection by the respondents (second column in Table 4) with the impact it has on the analyzed problem (last column in Table 3).

The other 76 managers out of the 120 have refused to complete the questionnaire, invoking the following reasons:

- They did not have time or any interest in the studied problem;
- They did not face the problem of absorbing knowledge in their firm;
- They did not want to share their professional problems with us.

We have represented the respondents' opinions in a Pareto chart (Fig. 3), using the coding of the causes of the studied problem in Table 3. According to the results (Table 4 and Fig. 3), four of the fifteen causes mentioned in questionnaire have had representative weights in the management knowledge absorption, cumulating 79.25%: managers' lack of training, poor partnerships universities – SMEs, difficult access to finance, and knowledge competition.

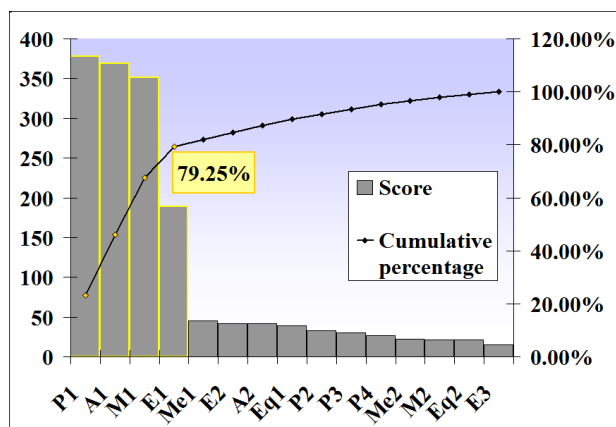


Fig. 3. Pareto chart with main causes of poor management knowledge absorption in SMEs in Sibiu County, Romania.

Finally, the respondents have offered several solutions to the studied problem. We mention only the most important of them:

- Building a national platform for developing SMEs – universities partnerships;
- Creating a government funding scheme for the development of SMEs' managers;
- Stimulating by state management of benchmarking processes between SMEs in the same industry or in different industries;
- Developing of post-graduate courses by universities, focused on the ways in which SMEs can face on global

competition in general, and on global knowledge competition in particular.

4 Conclusions

In order to cope with global competition, Romanian SMEs should improve their knowledge management system. The most problematic phase in their knowledge management is the knowledge absorption, in other words, the phase of getting the necessary knowledge from outside and inside the firm.

The exploratory research and the research based on questionnaires presented in this paper were completed with the establishment of four main causes of the studied problem: managers' lack of training, poor partnerships universities – SMEs, difficult access to finance, and knowledge competition. Because the problem has its roots both in the business environment and in the academic environment, the solutions offered by respondents have focused mainly on the junction between these two environments.

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