

Methods of project management used in small and medium enterprises

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Abstract. The paper presents the most important methods of project management and general management used in small and medium enterprises in the central area of Romania, as well as the degree of their use. Therefore, we have developed a research based on questionnaire in small and medium enterprises from various fields, in order to find how their managers combines these methods and which ones are used more frequently. Unfortunately, our research has found poor or mediocre use of project management methods, as well as most of the general management methods. Training employees of enterprises in project management field, hiring experts in management, or developing post-graduate courses in this field by universities are the most affordable solutions at this time for Romanian small and medium enterprises.

1. Introduction

Project management is planning, coordination, management and control of a project during its life cycle in order to achieve its objectives, keeping the deadlines, cost and the quality set [1].

The specialty literature shows that the use of project management in an organization increases the efficiency of its resources and helps its sustainable development, with positive effects in the state economy [1-3]. In literature is also mentioned the functional organizational type, where the project is a part of functional enterprise organization [4]. In this context, the aim of the paper is to discover the most important methods of project management and general management used in small and medium enterprises (SMEs) in the central area of Romania, as well as the degree of their use.

2. Research in small and medium enterprises

We have conducted an extended research based on questionnaires in small and medium enterprises from different fields in the central area of Romania. Between the objectives of this research, was that to determine what methods of project management and general management use the SMEs' managers, and how often they use those methods.

2.1. Methodology of the research

We have distributed 130 questionnaires as follows: 49% in micro-enterprises with less than 10 employees, 29% in small enterprises with a number of 10 – 49 employees, and 22% in medium enterprises with a number of 50 – 249 employees. 43% of respondents were from firms with a turnover below 100,000 euro, 29% were from SMEs with a turnover between 100,000 and 500,000 euro, and 28% were from firms with a turnover over 500,000 euro. Other demographic characteristics

of respondents are shown in figure 1. We mention that respondents who have studies other than technical or economic, are trained in the legal, psychological, medical or other field.

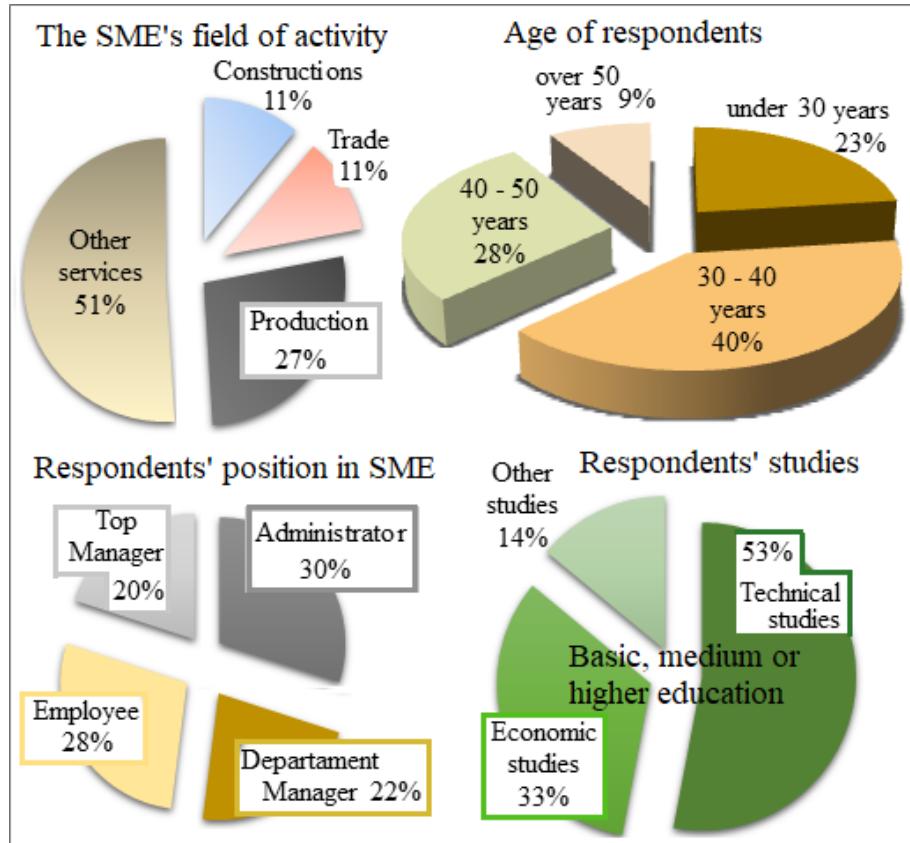


Figure 1. Several demographic characteristics of respondents

2.2. Main results

We have presented to respondents a list with some of the most common methods of project management and general management, known in the literature [3, 5-7]. They were asked to choose one option from the following list, without knowing the score given by us to the chosen variant: "I have never heard of this method" – 0 points, "I know this method, but I do not use it" – 1 point, "I use this method very rarely" – 2 points, "I use rarely this method" – 3 points, "I use sometimes this method" – 4 points, "I use often this method" – 5 points, and "I use this method very often" – 6 points.

The analyzed methods of general management were (figure 2): SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats), PEST analysis (Political, Economic, Socio-cultural, Technological factors), Pareto chart, cause-effect method, forecast budget, brainstorming and critical road method. The forecast budget and SWOT analysis are in the top of respondents' preferences.

The list of project management method has included (figure 3): PERT (Program Evaluation Review Technique), Gantt technique, problem tree method, logical framework matrix, analysis of interest factors, and CPM (Critical Path Method). According to respondents' opinions, the analysis of interest factors and Gantt graphics are preferred from the list above.

Using the soft PASW18 and realizing various crosstabs between all methods in our database, we have found that respondents' preferences have focused on one of the following two groups of methods: the first group includes SWOT and PEST analysis, PERT and Gantt techniques; the second group includes the forecast budget, analysis of interest factors, problem tree method, cause - effect analysis and brainstorming. So, respondents who use methods from the first group do not use those from the second group, and vice versa.

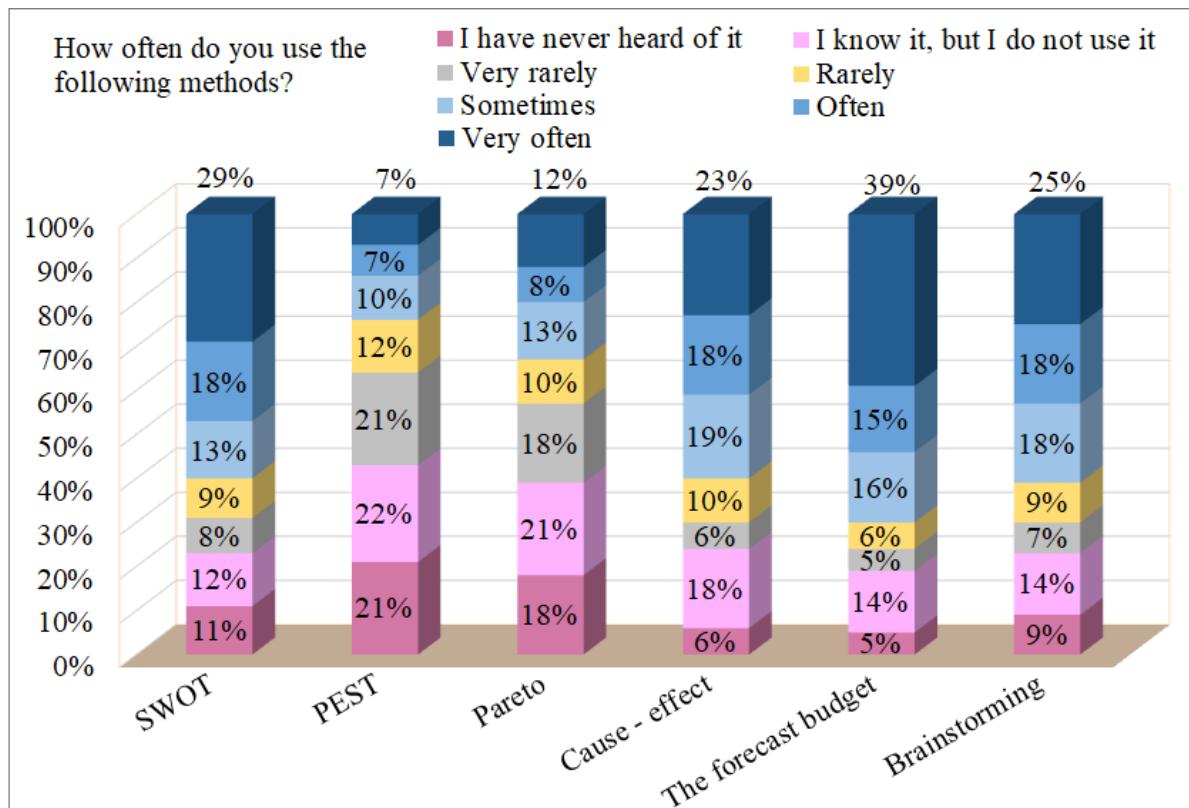


Figure 2. The use of general management methods in the studied SMEs

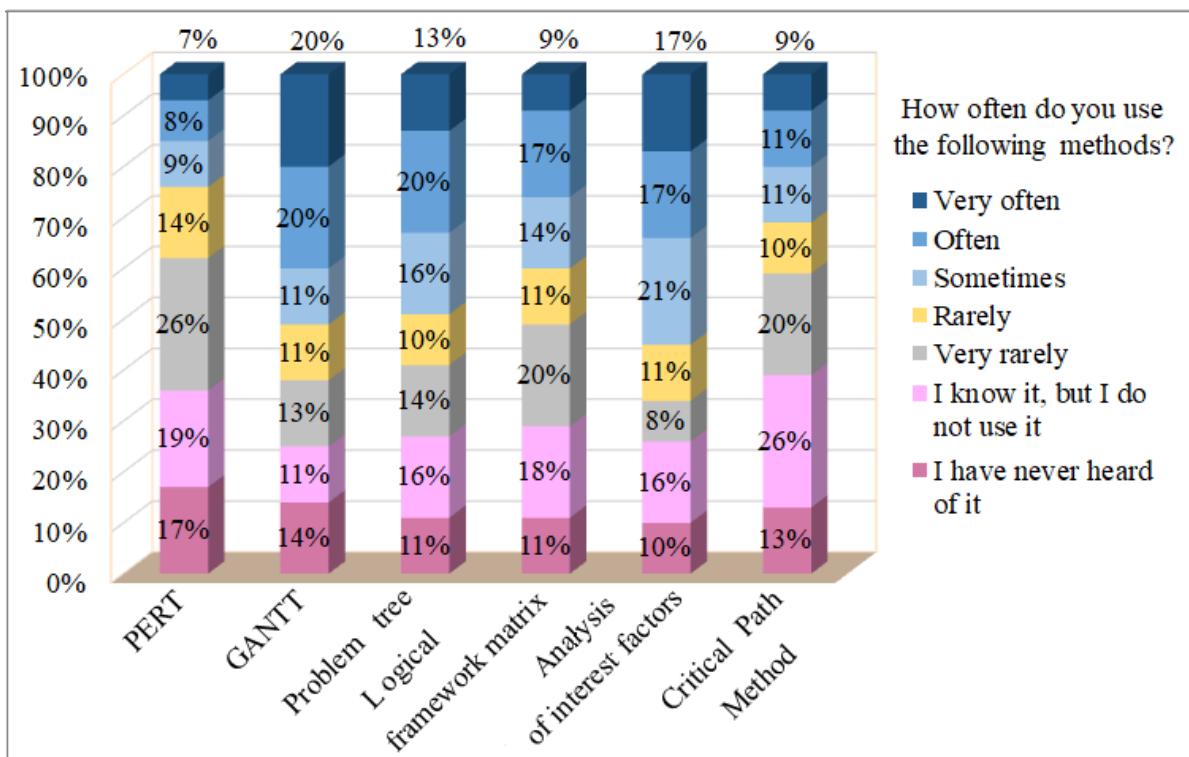


Figure 3. The use of project management methods in the studied SMEs

However, we observe on the whole a weaker use of project-specific management methods (figure 3) than general management methods (figure 2). This is also reflected in the statistical analysis of the answers (table 1). On one hand, excepting the forecast budget method, all other methods have a homogeneity coefficient above 0.5 (table 1). This fact shows that the means are not representative for the sample. On the other hand, taking into account that the median of our evaluation scale is 3, the average values of the use of the various management methods should raise questions about the sustainable development of SMEs in Romania. Only 7 of the 12 methods analyzed have obtained averages above the median value of the scale. In order to improve this situation, respondents have proposed to an open question the following solutions: training employees of enterprises in project management field, hiring experts in management, and developing post-graduate courses in this field by universities. The most used management methods in the studied SMEs are (table 1): the forecast budget, SWOT analysis, the brainstorming, and the cause - effect analysis.

Table 1. Statistical analysis: the use of various management methods in SMEs

Group of methods	The method/technique	Mean	Variance	Standard deviation	Homogeneity coefficient
General management methods	SWOT	3.71	4.506	2.123	0.572
	PEST	2.17	3.301	1.817	0.837
	Pareto	2.51	3.930	1.982	0.790
	Cause - effect	3.64	3.890	1.972	0.542
	The forecast budget	4.15	4.008	2.002	0.482
	Brainstorming	3.67	4.141	2.035	0.554
Project management methods	PERT	2.31	3.114	1.765	0.764
	GANTT	3.34	4.424	2.103	0.630
	Problem tree	3.16	3.874	1.968	0.623
	Logical framework matrix	2.86	3.520	1.876	0.656
	Analysis of interest factors	3.36	3.910	1.977	0.589
	Critical Path Method	2.49	3.510	1.873	0.752

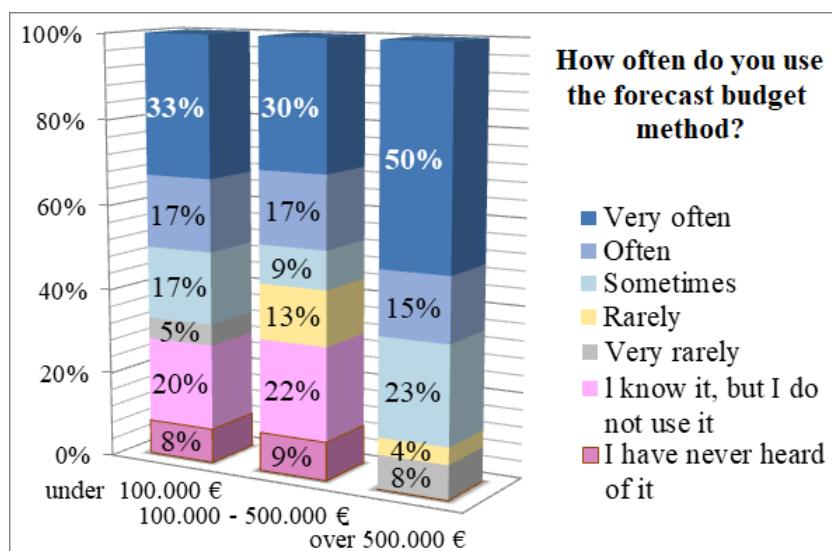


Figure 4. The use of the forecast budget based on SMEs' turnover

Analyzing the use of the forecast budget based on SMEs' turnover, we notice that it is used more frequently by those with a turnover of more than 500,000 euros (figure 4).

We have also found that project management methods (PERT, Gantt, problem tree and so on) are mainly used by firms with a turnover of more than 100,000 euros. Some of the SME managers with a turnover below 100,000 euros even have said they did not take the risk of applying these methods. An explanation of this may be a cause already reported by some specialists: even the use of project management within organizations increases, there is an attendant poor rate of success among these projects [8]. It is often found in practice a misalignment between the intended benefit of project management methodologies at the strategic level and the reported benefits by project managers at the project level [9]. However, Romanian SMEs should make more investments in project management, as experts say, "especially through strengthening people and organization competence" [10].

3. Conclusions

Most of the project management methods are known by the majority of the respondents in the analyzed SMEs but the degree of their use is still low. The most used management methods in the process of project planning and implementation in the analyzed SMEs are: forecast budget, SWOT analysis, brainstorming, and cause - effect analysis.

Training employees of enterprises in project management field, hiring experts in management, or developing post-graduate courses in this field by universities are the most affordable solutions at this time for Romanian small and medium enterprises.

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