Lenka Cechurova[1]

PROJECT PORTFOLIO MANAGEMENT IMPLEMENTATION AT SMEs IN CZECH REPUBLIC *

The main objective of this paper is to analyze the current project management practice at small and medium-sized enterprises in Czech Republic and the possibilities for project portfolio implementation in such companies. The analysis is based on the quantitative survey held in Czech Republic. The data shows that Czech companies should focus on single project management improvement instead of immediate adoption of project portfolio management.

Keywords: *project management; project portfolio management; business strategy; SME; Czech Republic.*

Лєнка Чехурова

ВПРОВАДЖЕННЯ ПОРТФЕЛЬНОГО УПРАВЛІННЯ ПРОЕКТАМИ НА МАЛИХ ТА СЕРЕДНІХ ПІДПРИЄМСТВАХ ЧЕСЬКОЇ РЕСПУБЛІКИ

У статті проаналізовано сучасну практику проектного менеджменту малих та середніх підприємств Чеської Республіки, а також можливості впровадження проектів на цих підприємствах. Дані для аналізу отримано шляхом опитування. Результати аналізу показали, що чеські компанії повинні спершу досягнути значних успіхів в управлінні одним проектом і лише після того переходити до портфельного управління ними.

Ключові слова: *проектне управління; портфельне управління проектами; бізнес-стратегія; малий та середній бізнес; Чехія.*

Рис. 8. Табл. 1. Літ. 32.

Ленка Чехурова

ВНЕДРЕНИЕ ПОРТФЕЛЬНОГО УПРАВЛЕНИЯ ПРОЕКТАМИ НА МАЛЫХ И СРЕДНИХ ПРЕДПРИЯТИЯХ ЧЕШСКОЙ РЕСПУБЛИКИ

В статье проанализирована современная практика проектного менеджмента малых и средних предприятий Чешской Республики, а также возможности внедрения портфелей проектов на этих предприятиях. Данные для анализа получены путём опроса. Результаты анализа показали, что чешские компании должны сперва достигнуть значительных успехов с управлением одним проектом и лишь потом переходить к портфельному управлению ними.

Ключевые слова: *проектное управление; портфельное управление проектами; бизнес-стратегия; малый и средний бизнес; Чехия.*

Introduction. During the past decades many companies have implemented project management and took advantage of its benefits. At first only few projects were realized but after the adoption of key project management tools and techniques the number of simultaneous projects has started to increase rapidly. Projects became to be perceived as a tool for achieving strategic goals (Neverauskas and Ciutiene, 2011; Patanakul, 2015). According to PwC's (2012: 4) study held in December 2011 and January 2012, project-based companies state that project management "is critical to business performance and organizational success". Those companies also agreed that project management is the key factor for business growth.

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As the popularity of project management grows, the overall number of realized projects per period of time increases dramatically. Companies have to deal with specific difficulties that are closely connected with management of large number of projects at the same time. And this is the high time when project portfolio management should be adopted.

Literature review. As stated in the already mentioned above PwC study, project management is crucial for company's success but on the other hand project-based companies have very often face typical problems closely connected with too many parallel projects, e.g., scarcity of all resources or unbalanced cash-flow which leads to struggle for those scarce resources and end up with project falling behind schedule, budget or its main goal (Engwall and Jerbrant, 2003; Blichfeldt and Eskerod, 2008). Researches show that one third of all projects do not achieve their goals. Majority of failures is caused by poor project planning (PwC, 2012; PMI, 2012; PMI 2015).

Lately project-based companies all over the world have been implementing project portfolio management in order to manage groups of simultaneous projects in a more sophisticated way. Project portfolio management is a managerial approach that connects projects with a corporate strategy (Pajares and Lopez, 2014; Patanakul, 2015). According to the existing strategy only those projects that help gain strategic objectives are selected for a company's portfolio. On the one hand, this idea is very simple, but on the other – several portfolio management processes must be carried out in order to manage a balanced portfolio of projects (Amaral and Araujo, 2009; Gutierrez and Magnusson, 2014).

Project portfolio management can be defined as "the management of project portfolio so as to maximize the contribution of projects to the overall welfare and success of the enterprise" (Levine, 2005: 22). R. Cooper, S. Edgett and E. Kleinschmidt (2001: 3) presented a more complex definition: "Project portfolio management is a dynamic decision process wherein a list of active development projects is constantly revised. In this process, new projects are evaluated, selected and prioritized; the existing projects may be accelerated, killed or reprioritized, and resources are allocated and reallocated among the projects in the portfolio".

There are various prerequisites for project portfolio implementation that company (willing to implement this managerial approach) should consider before the implementation itself is started. Necessary precondition for successful project portfolio management is successful management of single projects. Many authors agree that there is a positive relation between single project success and portfolio success (Fricke and Shenhar, 2000; Martinsuo and Lehtonen, 2007; Meskendahl, 2010; Muller, Martinsuo and Blomquist, 2008; Patanakul, 2015). The other precondition is the existence of corporate strategy – projects are chosen to company's portfolio based on alignment with the strategic goals (Archer and Ghasemzadech, 1999; Morris, 2009; Neverauskas and Ciutiene, 2011; Pajares and Lopez, 2014; Patanakul, 2015).

Similar problems that project managers face are the project failures corporate managers actually deal with concerning strategy. According to some researches corporate strategic goals are achieved only in 63% of cases (Mankins and Steele, 2005); others stated that the success rate is lower, e.g., The Economist Intelligence Unit (2013) measured it as being 56%.

There is no absolute agreement on terminology, some authors distinguish between "project portfolio management" and "multi-project management" (Levine, 2005) others consider them as synonyms (Engwall and Jerbrant, 2003; Martinsuo and Lehtonen, 2007). Those who differentiate between these terms point out that multi-project management is only one part of project portfolio management and project portfolio management is more complex (Levine, 2005). For the purpose of this paper project portfolio management and multi-project management are not considered as synonyms.

Problem statement and research objective. Managing project portfolio is not a simple task because the basic knowledge of project management is insufficient. Project portfolio management is a managerial approach that includes activities on all company's management levels and the key role lie within top management's authority. The existence of a strategy and strategic goals and perfect management of single projects are crucial conditions for proper project portfolio management. Studies show (PwC, 2012) that project performance is very good for large companies; the problem is that there is very little known about small and medium-sized companies' (SMEs) projects performance.

There is a problem with comparing SMEs statistics worldwide because there is no unified definition of SMEs. The European Commission definition of SMEs is used in this paper.

SMEs are very important for national economies in a number of ways. In Czech Republic, 99.83% of all enterprises are SMEs, the share is roughly the same for all EU countries (MPO, 2014; European Commission, 2015a). In Czech Republic SMEs employ 60% of all employees, in the European Union 2 out of 3 employees work in SMEs (MPO, 2014; European Commission, 2015b). The data shows that SMEs are crucial part of economies and that is why the focus of our research is on them.

Therefore, the main objective of the conducted research was to analyze the current state of project management practice of SMEs in Czech Republic and to examine the preparedness of SMEs to project portfolio management implementation. The research was focused on project-based companies from the sector of services in Czech Republic, mainly on chosen NACE sections that according to other researches are most likely to be project-based and also show great potential for very good state of project management.

The main aim of this paper is to analyze the usage of the chosen project management tools and techniques and also the requirements for project portfolio management implementation at SMEs in Czech Republic.

Basic features of the sample. The research was held in two phases, the first one was run between April and September 2013 and the second one – from February to August 2014. Online questionnaire was used to collect data. The questionnaire was filled in by companies' project managers or CEOs that are actively involved in companies' project management.

In total, 106 SMEs participated in the survey, Table 1 summarizes the basic features of the sample concerning company size, NACE section and legal structure. Only companies belonging to the service sector could take part in the survey. All participating companies were divided into 3 groups. Two of those groups were chosen by NACE sections for the main part of the research (*J* – Information and communica-

tion; *M* – Professional, scientific and technical activities) and the last group includes companies from other NACE service sectors as presented in Table 1.

Table 1. **The sample characteristics,** *author's*

Company size	Total	NACE section			legal structure		
		J	M	other (services)	private limited	public limited	other
micro	23	10	6	7	21	1	1
small	48	23	16	9	38	7	3
medium	35	10	16	9	20	13	2
Total	**106**	**43**	**38**	**25**	**79**	**21**	**6**

Key results. As stated above, the first precondition for project portfolio management implementation is successful single project management. For the purpose of this paper the success rate of projects is used in order to project success evaluation. As Kerzner (2004) suggests there are two groups of factors that influence the project. The first group of factors is called primary and contains three factors based on the "iron triangle" constraints. The second group is presented as a group of secondary factors that are closely connected to business such as customer satisfaction, references or alignment between project and corporate strategy (Shenhar et al., 2001; Bryde, 2004).

The primary group of success factors – the project iron triangle variables – was used to demonstrate the success rate. In the survey the respondents were asked to evaluate the success of their projects based on delivering a project within its budget, schedule and meeting desired quality on the scale from 1 till 5 (5 being the maximum). Figure 1 shows the results of project success rates across the companies' size.

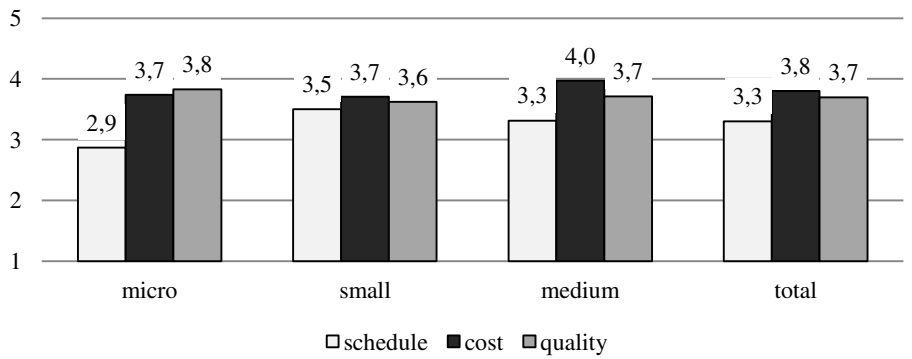

Figure 1. **Project success rates,** *author's*

Figure 1 shows that the best success rate in terms of meeting project schedule belongs to small companies. Microcompanies, on the other hand, do not meet the planned schedule so often but their projects meet quality standards in the best way. Medium-sized companies show the best success rate in finishing projects within budget. Results do not seem to be excellent but in comparison with another study held in Germany the project success rates are similar to German ones (Cechurova, 2015).

Concerning NACE sections schedule success rate is pretty much the same across the sections. Companies in section *M* and other sections show better cost success rate (3.87) than *J* section (3.69). In terms of quality success rate the best result shows

other NACE sections (3.96), the second best score is shown section *M* (3.84) and the worst one is section *J* (3.42). Although *J* section is supposed to be one of the typical project sectors according to the project management history (Kerzner, 2004) the success rates show that project performance within this group is not very good.

Definition of project scope is one of the key activities that should be done in project planning. Project scope is very important for project manager because it delimits what has to be done to in order to finish the project. It is crucial to define the scope of a project because basing on the scope the other variables in a project plan are planned. Insufficient project scope definition can cause inaccurate planning of project activities, project schedule and budget, thus resulting in poor project success rate (Schwalbe, 2014).

Frequency of project scope definition in project-based SMEs in Czech Republic is shown in Figure 2. There is an evident trend that larger companies define project scope with higher frequency. The smallest companies do not define scope as much as small and medium-sized companies do and that could affect the success rates.

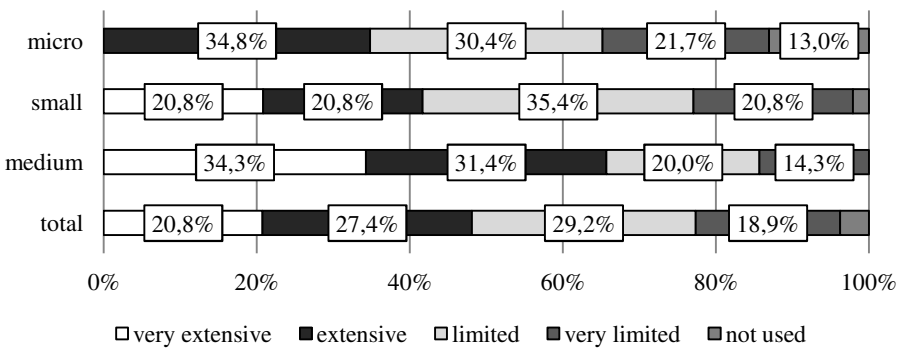

Figure 2. **Definition of the project scope,** *author's*

Other very important activity during project planning is time planning and project schedule establishment. The next step after definition of all project activities is the definition of activities' interdependencies and sequence of activities, then estimation of duration of each activity and creating a Gantt chart. Companies often use milestones to control project phases during project realization (Milosevic, 2004).

The next figure presents the frequency of Gantt chart usage in Czech Republic. It is evident that medium-sized companies use this tool very frequently, 57.1% of medium-sized companies stated they employ this tool very extensively or extensively, while small companies (22.9%) and microcompanies (30.4%) do not use it. It is very unusual that small companies use Gantt chart less frequent than micro- and medium-sized companies but their success rate of meeting the schedule is the best of all groups.

Companies that belong to NACE section *M* show the most frequent usage of Gantt chart (42.1%), *J* section companies – only 30.2%.

The fact that every 4th microcompany and every 8th small company does not use Gantt chart at all raises a question about project manager qualification or whether a company truly realizes a project or whether it is just a daily routine job.

Milestones are used more than Gantt chart in small-sized companies. Milestones are more than extensively used in 6 out of 10 small companies and in more

than 2 out of 3 medium-sized companies. On the other hand, almost every third micro-sized company does not use milestones at all.

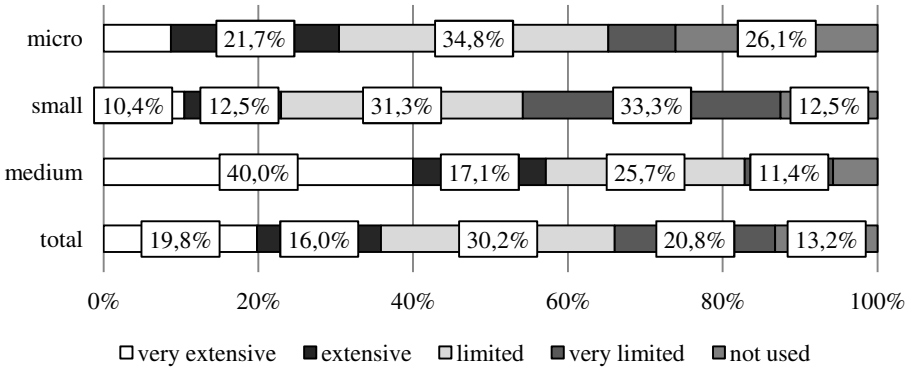

Figure 3. **Usage of Gantt chart,** *author's*

Risk analysis should be part of any project planning process. Properly accomplished risk analysis is a very complicated task and is also very time-consuming but when dealing with large complex project it is needed to know potential risks that could affect the project and it is important to prepare risk response plan in case the risk would occur. For SMEs it is essential to realize at least basic project risk analysis that ends up by the list of potential risks and a brief response plan (Bartlett et al., 2004).

The following figure presents the current usage of risk analysis during project planning. There is a very interesting imbalance of responses within the category of small-sized companies. On the one hand there is very extensive use of risk analysis across categories, which is more than 3 times more frequent than in medium-sized companies and 4 times more frequent than in microcompanies. On the other hand, every third company does not realize risk analysis at all.

Micro- and small-sized companies should pay attention to risk analysis and use it for its indisputable benefits. Awareness of potential risks is critical, even when dealing with small short-time projects.

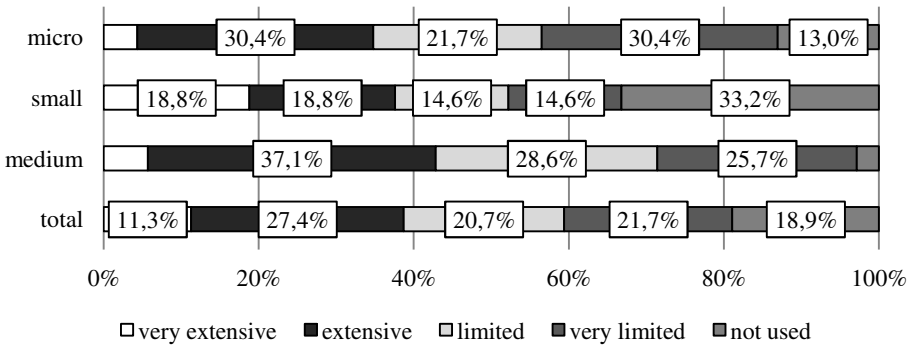

Figure 4. **Risk analysis,** *author's*

Comparison of at least extensive usage of risk analysis during the planning phase of a project across NACE sections is very similar to the previous results. *M* section

proves to be the leader in terms of frequency of risk analysis use (42.1%), the second one once again is the section "others" (40%) and the last one is section *J* (34.9%).

Project control during project realization is necessary in order to handle possible problems or delays. Figure 5 presents how often Czech SMEs use this tool showing an evident trend – larger companies deploy project reporting more extensively. 82.8% of all medium-sized companies use reporting extensively or very extensively in comparison only 21.7% of microcompanies and 45.8% small-sized companies do the same.

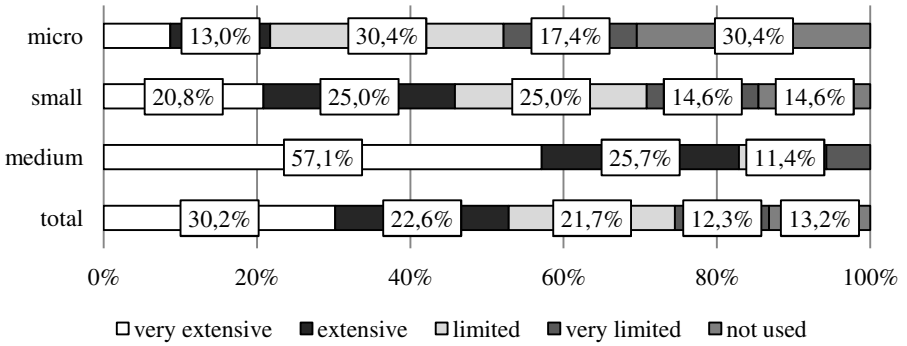

Figure 5. **Usage of reports during project,** *author's*

There is no difference between NACE sections concerning "very extensive" and "extensive" reports use. Interesting is that 32% of companies belonging to the "others" use reports very extensively, while 20% of them do not use reports at all. Other two sections do not contain such a dissimilarity. *M* section shows the best results again in terms of "very extensive" use of reports – 39.5% vs. 20.9% for *J* section.

NACE sections results proves that even if *J* section has more historical tradition in the use of project management tools and techniques the current state of project management practice is worse than others sections for those project management is not that much a traditional managerial concept.

The presented results on the usage of chosen basic project management tools suggest that companies in Czech Republic should focus on single-project management improvement instead of immediate project portfolio management implementation. Despite this fact the analysis of the second precondition for project portfolio management implementation would follow in order to find out whether Czech companies have been adopting tools and techniques closely connected to project portfolio management and therefore the project portfolio management implementation would be easier.

The essential prerequisite for project portfolio management implementation is the existence of a corporate strategy and specific strategic goals. Every potential project should be confronted with strategic goals and basing on the comparison only those projects in line with corporate strategy could be part of project portfolio. When a company is implementing project portfolio management the evaluation of alignment with strategic goals should be "global" which means that every potential project and existing project should be evaluated. Those existing projects that are not in line with corporate strategy and do not help achieving any of strategic goals should be discontinued (Rad and Levin, 2006).

As shown in Figure 6 small and medium-sized companies do have strategies with specific goals but there is no such for microcompanies. In total, every 5th company in this research is ready to evaluate both potential and existing projects immediately. Very close to readiness is again every 5th company in the research which has a strategy without specific goals but the question is why does a company worry about making strategy without specific goals? This is for further research to clarify.

It is important to mention that even every fourth medium-sized company does not focus on future strategy and company development. This situation is the same for every second microcompany which is quite alarming.

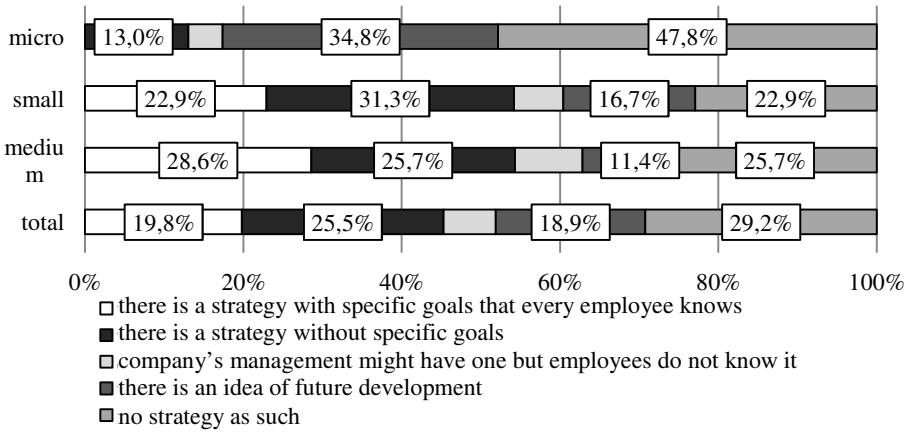

Figure 6. **Corporate strategy,** *author's*

Evaluation of potential projects in order to link every activity with one or more strategic goals is one of fundamental activities in project portfolio management. Basing on corporate strategy and strategic goals a set of criteria that every new project in portfolio must fulfil should be created in order to evaluate potential projects easier. Figure 7 shows that very limited proportion of companies do this activity nowadays. Corresponding with the results concerning strategy microcompanies do not evaluate potential projects simply because they do not have corporate strategic goals to evaluate potential projects with. On the other hand, some medium-sized companies stated they do not have strategy and still they were evaluating potential project against some set of criteria.

The second project portfolio management activity to be performed is the determination of projects priorities in portfolio. All projects in a portfolio compete for company's resources and in order to minimize conflicts and maximize performance the priorities between them should be established (Levine, 2005; Rad and Levin, 2006). Even without knowing about the essence of project portfolio management companies deal with multiple projects at the same time and have to figure out the way how to allocate scarce resources. Adoption of basic prioritization rules should help perform better (Rajegopal, McGuin and Waller, 2007).

As Figure 8 shows approximately every 5th small and medium-sized company defines priorities within existing projects in portfolio (the combination of "very extensive" and "extensive" answers). The overall results are not very promising. Still every

5th company does not prioritize its projects at all and every 3rd company does very limited prioritization.

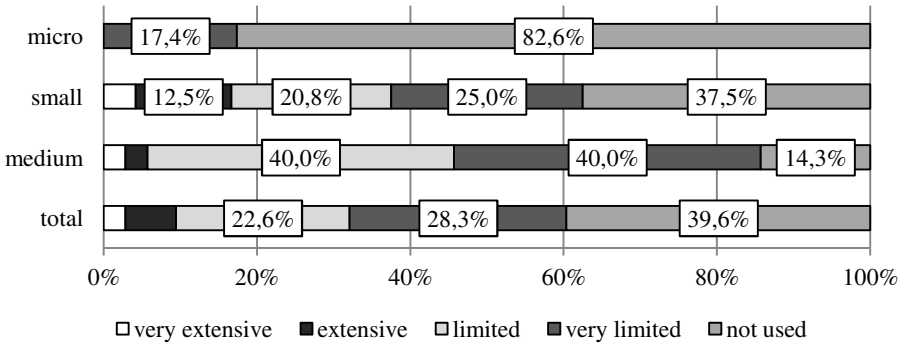

Figure 7. **Evaluation of potential projects,** *author's*

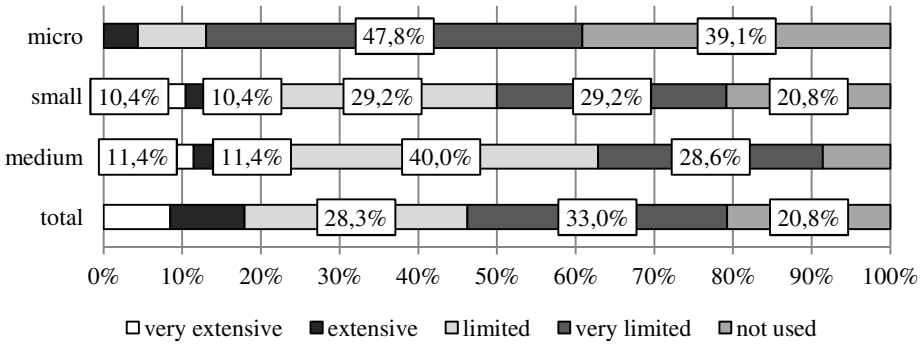

Figure 8. **Definition of priorities,** *author's*

Conclusion. The presented research results obtained in Czech Republic suggest that SMEs do not manage single projects in the best way and that there is a need for wider basic project management tools application. The application should lead to major improvement of project success rates and also to continual improvement of single project management. In order to prepare company for project portfolio management implementation the high standard single project management is required. The results indicate that in te Czech Republic there might be a problem with project management education in general or with the qualification of project managers in the field.

The second thing that has to be improved instantly is strategic analysis and definition of company's strategic goals. Without such goals the project portfolio management implementation is absolutely impossible.

The following research will be qualitative and will be focused on the main problems that SMEs face while improving the project performance and also during handling multiple projects at the same time.

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