



**9TH INTERNATIONAL ASECU CONFERENCE ON
“SYSTEMIC ECONOMIC CRISIS: CURRENT ISSUES AND PERSPECTIVES”**

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**CRITICAL SUCCESS FACTORS OF PROJECT
MANAGEMENT: EMPIRICAL EVIDENCE FROM PROJECTS
SUPPORTED BY EU PROGRAMMES**

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Abstract

The paper suggests a review of the existing approaches to the analysis of the “project success” concept. It focuses on the exploration of possible indicators for its evaluation and the identification of the critical success factors. The paper considers in particular the critical factors of project success regarding projects funded by the Operational Programmes of the EU in Bulgaria. It suggests a version of a conceptual model for assessment of the effects of these factors on the project success. It reflects the experience of Bulgarian organizations that actually participate in this process through management of such projects. For this purpose, the paper suggests a selection of the results from an empirical study of project success factors conducted in 2012 by a sample survey of managers and experts from relevant organizations.

Keywords: *project management, project success, critical success factors.*

JEL codes: O22, H43, M10.

1. Introduction

It is widely accepted that project managers need focused efforts to gain an expanded comprehension of the potential effects of the critical success factors which in turn could assist their work on current and future projects management. This way, their chances for achieving the projected goals could substantially increase in the framework of time, resources, and budget constraints. We postulate hereafter that the importance of this analytical approach should be emphasized in light of the current necessity for increasing the effectiveness of European projects management.

The current paper suggests a version of a generalized model for assessment of the effects of core factors on the degree of project success. It considers in particular the critical factors of project success in respect of projects funded by the Operational Programmes of the EU. Empirical support for the impact of such critical factors of project success is provided by survey data which brings out evidence about their potential positive or negative impacts on the human and organizational aspects of project activities. In its perspective, the model shows a capability to distinguish between successful and unsuccessful project management. This way, it can be applied at the stages of planning, monitoring, and controlling of project activities.

Traditionally the research on project success factors aimed in the identification of the tools which project managers can utilize to increase the chances of achieving successful



9TH INTERNATIONAL ASECU CONFERENCE ON “SYSTEMIC ECONOMIC CRISIS: CURRENT ISSUES AND PERSPECTIVES”

project outcomes. Initially, the research on the issues of project success factors has been oriented to the aspects of project control. Further studies found that this initial research has been too narrowly focused on the effectiveness of project management tools. On this basis, a new approach emerged which involved studies on a complex of topics treating the so called critical success factors of project management. This approach identified a much wider range of factors that can potentially influence the project success.

2. Literature review

The success of a project as well as the factors that affect this success are considered in a various ways by different project management scholars. There is no unified treatment and definitions of these concepts although there is a consensus about the importance of this aspect for the project management practice. In this respect, Prabhakar (2008) generalizes that the only agreement is the disagreement on the issue “what is project success”. Baker, Murphy and Fisher (1983) note that what is really important is whether project stakeholders are fully satisfied by its results. Good schedules and correctly utilized budgets will not matter if the final project outcomes do not meet the expectations and goals.

H. Kerzner (1987) defined the critical success factors as those components that are required to establish an environment where projects are “managed consistently with excellence”. Typically, the satisfaction of clients is identified as the main factor of project success. Stakeholders’ satisfaction became increasingly important due to the competitive character of the marketplace and uncertainty of the environment.

As a first systematical classification of critical success factors in the area of project management is provided by Schultz, Slevin and Pinto (1987). These authors identify two groups of factors – strategic and tactical – which influence project performance at various stages of project life cycle. For example, the “strategic” group consists of factors as project mission, top management support, and project scheduling. The “tactical” group includes factors as client consulting, human resource selection and personnel training. Additionally, Pinto and Slevin (1988) augmented the range of success factors by considering the specifics of the various stages of project life-cycle. Research has shown that success factors impact can vary at different phases of the project life-cycle and in relation to the measures of success chosen by analysts.

This approach is further developed by Kerzner (2001) who states that in the past (at least 20 years ago) project success was related to the completion of project activities in the due term, budget, and expected quality. Later the understanding of project success has been altered by including the limitation of minimum changes in the scope of activities without interruptions in the workflow, without shifts in the corporate culture, and with full acceptance of results by the project client.

From another point of view, a stream of scholars (e.g. Belassi and Tukel, 1996; Lim and Mohamed, 1999) prefer not to distinguish between the project success and the success of project management as a whole. Rather, they consider the project success as a part of – or even a consequence from – the overall managerial success. By further research (e.g. Baccarini, 1999; Shenhar, Levy and Dvir, 1997) the project success



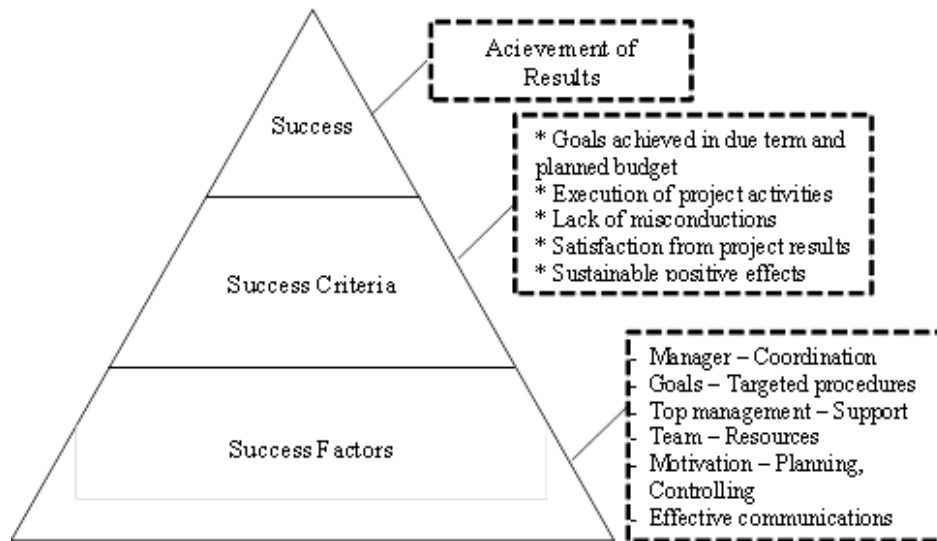
9TH INTERNATIONAL ASECU CONFERENCE ON “SYSTEMIC ECONOMIC CRISIS: CURRENT ISSUES AND PERSPECTIVES”

concept has been expanded to a six-dimension construct where, additionally to the original dimensions (time, cost and quality), other important issues have been incorporated. These facets are: (i) meeting the strategic goals of the client organization, (ii) achieving satisfaction of the end users, and (iii) attaining satisfaction of all other stakeholders. Finally, in case that the criteria for project success are defined in a particular setting, there are still some conditions that should be provided in order to consider a project as successful.

3. Model of Critical Success Factors

On the basis of the literature sources and theoretical achievements we can conclude that there is a very close link between the type and scope of projects and respective Critical Success Factors (CSF). Conducting an empirical study for identification of CSF specific for a particular type of projects requires imposing limits on the range of possible factors and measures of CSF. This way the current study focuses on CSF identification and impact on the success of projects realized in the framework of the Operational Programmes of the EC (OP-EC).

Figure 1. Conceptual model of critical success factors and project success

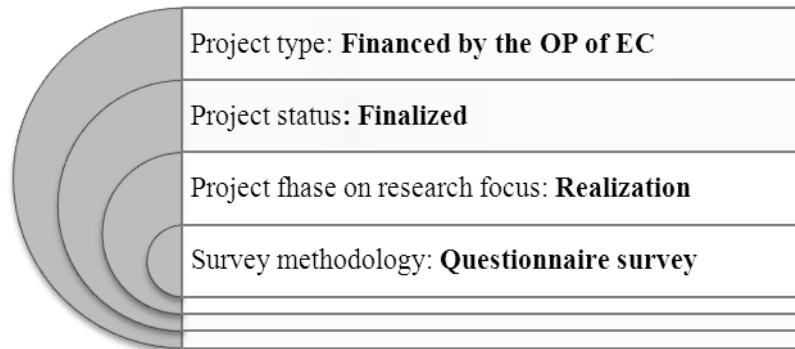


For the goal of the current study a conceptual model was developed in order to reveal the basic constructs and relationships between CSF and project success (fig.1). It is based on the main achievements in the field of project management regarding project success measurement and evaluation. It provides the fundamental elements that allow an organization and accomplishment of an empirical study of CSF and project success where the target group is restricted to projects executed with the support of the OP-EC. The scope of the survey that provided empirical data for the goals of the current study is depicted on fig.2.



9TH INTERNATIONAL ASECU CONFERENCE ON “SYSTEMIC ECONOMIC CRISIS: CURRENT ISSUES AND PERSPECTIVES”

Figure 2. Scope of the survey on CSF



4. Survey methodology

The survey was conducted in the period March 2012 – August 2012 where 132 project managers and members of project teams have participated. They were selected as representatives of projects executed in the framework of OP-EC clustered by the 7 Programmes: “Transport”, “Environment”, “Human Resources Development”, “Competitiveness”, “Administrative Capacity”, “Regional Development”, and “Technical Support”. The sample of projects have been selected by the method of purposive sampling using the database of financed projects maintained by the administering public bodies.

The respondents have been asked to fill in a set of questionnaires specifically developed for the purposes of the study. The following questionnaires have been used:

- Questionnaire for project success measurement – contains statements organized by 11 items; 5-rank Likert scale has been used for capturing the opinion of respondents on the formulated questions. The Cronbach’s alpha (0.754) shows an acceptable level of consistency of the set of items used for the evaluation of project success.
- Questionnaire for project execution – contains statements organized by 27 items (similar 5-rank Likert scale utilized). The Cronbach’s alpha (0.890) shows a high level of consistency of this set.
- Questionnaire for the importance of CSF – contains statements about 15 preliminary identified and suggested factors; the importance of each factor for the project success has been evaluated by a 5-rank Likert scale. The Cronbach’s alpha (0.851) also shows a high level of consistency of this set.

5. Survey results

The structure of the sample in respect of the OP-EC covered shows that the majority of respondents (30%) have been involved in projects financed by the OP “Human Resources Development”, next is “Regional Development (21%) followed by



9TH INTERNATIONAL ASECU CONFERENCE ON “SYSTEMIC ECONOMIC CRISIS: CURRENT ISSUES AND PERSPECTIVES”

“Administrative Capacity” (13%) and “Transport” (12%). The other three programmes have equal shares of about 8% each. The distribution of projects (where the respondents have been involved) by the project duration shows that almost half of the projects have been executed for 13-24 months (48%); the other half is split into project executed for up to 1 year (32%) and over 2 years (20%). The financial scale of the projects could be outlined through the distribution by their total budget – 38% have budgets over half a million euro; 23% are financed by an amount in the range of 130-500 thousand euro; the same share is obtained for projects in the range of 50-130 thousand euro, and 16% for projects up to 50 thousand euro.

Table 1. Structure of project organizations by type

Type of organization	Number	%
Municipalities	36	21.6
Central public administration	41	13.5
Educational institutions	10	10.8
Business organizations	38	51.4
NGOs	7	2.7
Total:	132	100.0

Table 2. Structure of project organizations by the number of employed

Number of employees	Number	%	Cumulative %
Up to 10	15	11.4	11.4
11-50	22	16.7	28.0
51-100	26	19.7	47.7
101-150	11	8.3	56.1
151-200	2	1.5	57.6
Over 200	56	42.4	100.0
Total:	132	100.0	

Tables 1 and 2 present the distribution of organizations (where the surveyed projects have been executed) by type and size. About half of the organizations are actually business companies and 35% are governmental institutions. The large organizations prevail (42% with employees over 200) although 48% of the organizations are small-to-medium sized (up to 100 employees).

Empirical information about CFS has been obtained by asking the respondents to consider the importance of a set of 15 suggested potential factors that are expected to influence project success. This set has been developed on the basis of literature review as well as through a pilot survey. This pilot survey has been conducted in the early 2012 aiming in questionnaire pre-test and identification of relevant variables and other issues that were initially overlooked.

The respondents were asked to indicate the degree of importance of each potential factor on the basis of their background and experience originating from their work on the finalized projects. This evaluation approach is a version of the so called “project echo” procedure suggested at the early stage of project management development



**9TH INTERNATIONAL ASECU CONFERENCE ON
“SYSTEMIC ECONOMIC CRISIS: CURRENT ISSUES AND PERSPECTIVES”**

(Bavelas, 1968). The results obtained by the opinions of respondents (table 3) served as the basis for the identification of CSF in the framework of the conceptual model of the study.

Table 3. Importance of suggested success factors

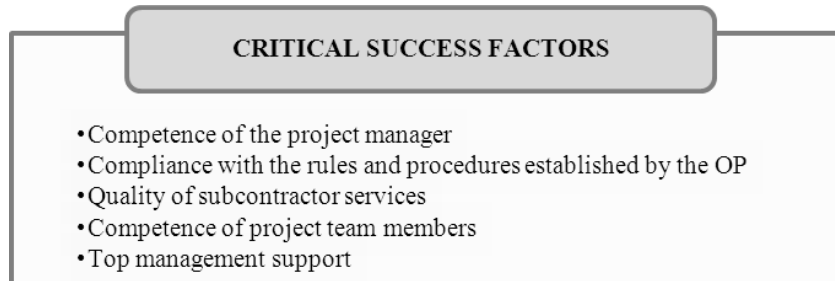
Success Factors	Not important	Low importance	Medium importance	High importance	Extremely important
Competence of the project manager		2.3	1.5	14.4	81.8
Support from the agency administering the respective OP		1.5	5.3	34.8	58.3
Clarity of project goals			3.0	49.2	47.7
Top management support	0.8		6.1	28.8	64.4
Competence of project team members			3.0	30.3	66.7
Motivation of project team members		2.3	5.3	29.5	62.9
Effective communication between project stakeholders			4.5	39.4	56.1
Quality of subcontractor services			1.5	31.8	66.7
Precision in documenting and archiving of project information	0.8	2.3	12.9	37.1	47.0
Effective coordination of project activities			3.0	40.9	56.1
Compliance with the rules and procedures established by the OP		0.8	0.8	20.5	78.0
Systematic control over the project execution			5.3	37.1	57.6
Access to organizational resources		1.5	5.3	37.1	56.1
SMART planning			6.8	39.4	53.8
Competence and adequate support from a project consultant	3.8	2.3	12.9	34.8	46.2

The results obtained from the survey provide an option to identify – using the general evaluation technique – the five most important factors of project success, which can be considered as *critical* for projects executed under the regime of OP-EC (they are presented on fig.3).



9TH INTERNATIONAL ASECU CONFERENCE ON “SYSTEMIC ECONOMIC CRISIS: CURRENT ISSUES AND PERSPECTIVES”

Figure 3. Identified CSF



According to the current study, the *competence of project manager* has been identified as the most important factor of project success – over 80% of respondents indicate that this aspect was “extremely important” for the successful realization of their project. This factor is related to the skills and characteristics of project managers which are crucial for the successful completion of any project. This provides an additional empirical evidence in support of previous research indicating that technical and administrative skills of the project manager, as well as his/her commitment and competence, becomes the most critical component during the project life cycle.

It is not surprising that the strict *compliance with the rules and procedures* established by the respective Operational Program were evaluated as “extremely important” by almost 80% of the respondents. Their experience showed that many other projects – although generally achieving their goals – have been considered as unsuccessful due to formal violations and obstacles in the administrative work. It is known that the OP-EC projects have strict bureaucrat procedures for documenting, reporting and monitoring, where any deviations from the formal requirements induce sanctions of different kind (including financial penalties).

Another critical factor is the degree of *competence of project team*, or in other words, the effective recruitment of project personnel. It was indicated as “extremely important” by two thirds of the respondents and as “highly important” by additional 30% of the respondents. Evidently, the knowledge, skills, personal aims, and personal traits should be considered not only as a vital component of the overall organizational culture but also as an essential factor of the integrity and multi-functionality of the project team.

This study identified a new factor of essential importance for project success which can be considered as specific for Bulgarian practice (and most likely, for countries with similar status and background in public project funding). This factor is the *quality of services provided by subcontractors* – indicated as a core factor by shares of respondents similar to the former factor. It provides evidence in support of the up-to-date tendencies for expansion of the public-private partnerships and – more general – the development of networks and project partnerships of various character. Such partnerships are typical for networks with partner organizations having complementary competencies. In the contemporary world, it is rarely possible for one and the same organization to have capabilities and competencies in every aspect of the work required



9TH INTERNATIONAL ASECU CONFERENCE ON “SYSTEMIC ECONOMIC CRISIS: CURRENT ISSUES AND PERSPECTIVES”

for full achievement of project mission and goals – especially for complex multidimensional projects.

The fifth critical factor is the **support of the top management** of the base organization which executes the project. Top management support was indicated as “extremely important” by 64% and as “highly important” by other 29% of the respondents. This factor reflects both the nature and intensity of the aid provided by the top management to the project manager and project team when accomplishing their duties on the particular project. The flexible and adequate access to organizational resources is considered as a core precondition for effectively executing the project activities. This can hardly be available without definite and timely reaction and support from the top management of the project-executing organization.

6. Conclusion

The conceptual model of CSF should be considered as implementing a holistic view on the complex topic of project success. The practices of Bulgarian organization in realization of projects supported by OP-EC are still in the initial stages of their maturity, and various problems still hinder their successful realization. This paper presents a fraction of the results obtained from a questionnaire survey on project success factors which provide valuable insights on a range of issues related to the topic. There is still much to be done in order to improve and refine the instrument and methodology of the study as well as to utilize many options for further analyses.

Project managers in Bulgaria still develop their competence in planning, executing, monitoring and controlling of project activities – as far as this is a professional area requiring high level of specialized knowledge and expertise. A proper understanding of the concepts and the issues related to project success and failure is indispensable for them. Having this in mind, the current study provides helpful information in respect of the identification of CSF that should focus the attention of both researchers and practitioners in the field. This appears to be of increasing importance in light of the global economic crisis and limited options for obtaining financial resources, when the European funds provide realistic opportunities for financial support to the local, national and regional initiatives with high level of social and economic significance.



9TH INTERNATIONAL ASECU CONFERENCE ON “SYSTEMIC ECONOMIC CRISIS: CURRENT ISSUES AND PERSPECTIVES”

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