



## THE RELEVANCE OF PROJECT SUCCESS CRITERIA AND REQUIREMENTS IN PROJECT MANAGEMENT

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### Abstract

Projects have become key players in national economies today. Projects are concrete manifestations of investments, there are no investments without projects, and without them the economy can not grow substantially. However, projects are unsuccessful in many cases, because they aren't prepared in time, don't achieve the required performance they expect from them. A common cause of project failure is a poor planning process, budgetary problems, the missed investment calculations, or the omission of sustainability, relevance, and feasibility.

These expectations are expressed in every project management course, all of the literature dealing with the projects, but the project actors don't give the required relevance to them. The aim of this paper is to examine the above-mentioned triple success criteria system based on the opinion of Hungarian companies, in addition to measuring the elements of a classical project triangle.

**Key words:** *Project success, project management, primary research, SME*

**JEL code:** O10, M10

### Introduction

Projects are always temporary arrangements that are established for pre-set objectives. Success for a project means achieving the objectives, but the road to success is paved with various risks and difficulties. Therefore in many cases the expected success of a project turns into failure. Several organizations have already tried to estimate the number of unsuccessful projects. An organization called Wellingtone (n.d., a.) defined the project as such a change-inducing endeavour that has to meet three criteria for the sake of success:

- Alignment to the strategy of the project promoter,
- Must have priority over other initiatives, which are in competition with the project for scarce resources,
- Must have a positive impact in the future.

Based on some surveys, 70% of the projects fail due to inadequate planning. The most common mistakes are the underestimation of the budget and the insufficient management of risks. The failed projects will not be able to contribute to the increase of the investment ratio and to the promotion of the economic growth. Hence the failed projects will always appear as a loss or damage, for which the organization wasted the resources in vain. These effects also show up at the level of the national economy as a loss in the form of lost growth.

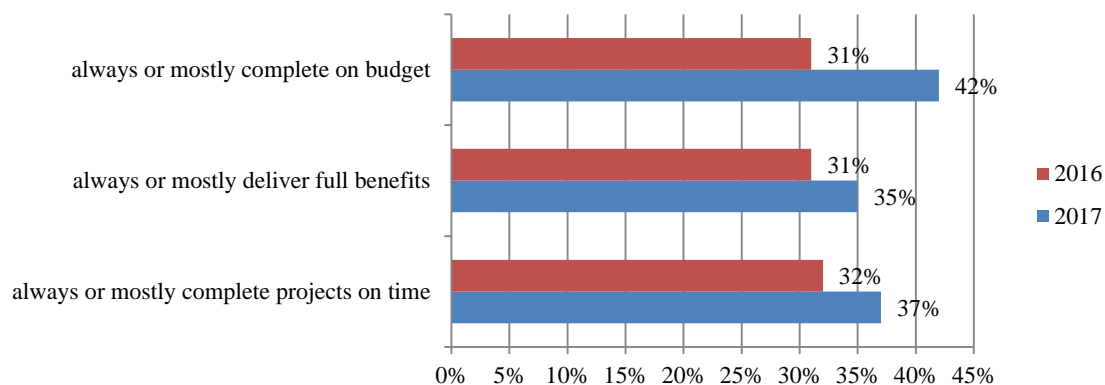
The above cited organization also interpreted success in three dimensions:

- Successful project management that is capable of delivering the predefined result on time and within the budget, in which setting up the correct milestones has a huge role,
- Successful project, which reaches the pre-set business goals,
- Successful enterprise, which is able to approach the strategic goals, meeting the expectations of all actors (owners, managers, employees, other stakeholders).



The organization provided methodological recommendations as well (n.d., b.) for the sake of achieving the project's success. Based on their theory there are six steps leading to the success of the project: preparation, planning, communication, monitoring, controlling and review.

The annual project management survey conducted by the organization examines the key factors along the project characteristics, through which success is measurable and the tendencies can be determined too. The results are summed up in the diagram below.



Source: Wellington, 2016, 2017

Figure 1.: **The performance of the project success criteria**

As the chart shows, there has been a significant improvement in the success features of projects: while in 2016 only one-third of the projects had been carried out on time and within the budget under the given performance characteristics, a year later this proportion was notably above 35%. All this was due to the better project management, the more thorough planning and the more conscious application of the project management methodologies.

According to Pinto and Slevin (1988) the success of a project also highly depends on how well it can be implemented into the project promoter organization. This process almost always hinges on the successful implementation of three factors: the technical and organizational validity, and the organizational efficiency. Afterwards they defined the criteria of project success too from the perspective of the project and the client. In order to carry out successful projects, on the project part there are always three factors that need to be carefully and accurately determined: time, cost and efficiency, which became known as the classic project triangle or iron triangle. From the client's point of view usability, efficiency and satisfaction are the success factors.

The success of the projects can only be measured by the clear definition of the success criteria. Görög (2008) defined the success criteria as such benchmarks that give an unequivocal answer to whether the project was successful or not. The success criteria can also be defined by certain indexes that are called key performance indicators (KPI) in the literature. This method is applied in the projects in a way that the indicators and the related minimum acceptable ratings are established at the planning stage (Toor – Ogunlana, 2010), and the success of the projects is measured against their fulfilment. The KPI method can be excellently used in projects where the objectives are quantitative, meaning that they are measurable and analysable. The method is



hard to use in the case of outputs that are difficult to measure, due to the lack of measurable performance.

According to De Wit (1988) the success of a project can be measured from two aspects, the success of the classic project triangle or project management, and the success of the project itself. The latter can be best defined by the satisfaction of the users. Baccarini (1999) continued De Wit's theory and said that the success of a project is basically the success of the product and the project management together. Baccarini's theory also referred to the project triangle, and turned to user satisfaction with regard to the product success. Both recently introduced theories are described as two-dimensional.

Görög (2007) measured project success in three dimensions. The iron triangle being the starting point, he considered organized satisfaction to be the criterion of success, in addition to the satisfaction of the stakeholders.

Bannermann (2008) interpreted project success in several dimensions. The forms of success can be:

- Success of the project management, which can be measured via the implementation of the above mentioned project triangle, and it is the most often used criterion. However, this success factor has many limitations. It is criticized by its opponents mainly for putting the primary focus on the assets of the project, while disregarding the purpose it was created for.
- Success of the product, which includes satisfaction with the end product of the project, usability and quality as well, based on the factors of the iron triangle.
- Business success, which – on top of the success of the project management – also takes into consideration how the project, carried out on the basis of the triangle, will be able to be integrated into the organization and what kind of benefits it will bring to the organization.
- Strategic success, which is integrally linked to the previous criterion and underlines the long-term utility and developmental role of the project in the long term.
- Success of the process, which is the most neglected criterion and describes the success of the path towards the objective. For the sake of the full implementation of this process, the organization needs to make serious efforts so that the project can meet its target.

Fortune and White (2006) also dealt with the identification of success criteria. As a result of their extensive researches they found that there are five crucial areas in the projects that are of particular relevance on the road to success, which are the followings:

- Clear-cut objectives (scope),
- Clear, detailed, up-to-date plans (plan),
- Communication with the stakeholders,
- Support of the management, and
- Involving the client/user from the start.

It can be seen from the above literature that project success can be defined by a lot of factors. However, we mustn't forget the basic principles suggested by the classic iron triangle, namely that a project cannot be successful if it does not meet the characteristics set in the triangle, nor if it overachieves them. These are only supplemented by the other criteria, so that the projects could reach their objective for the sake of the organization and the clients.



## Research results and discussion

### 3. Methodological background

The research results introduced in this study are part of a primary questionnaire research conducted in 2017. The research was carried out in Hungary with the help of a pretested and standardized questionnaire form. The present research was preceded by a previous survey among enterprises, which had been preceded by an in-depth interview analysis. The present questionnaire form was created as a result of these two former rounds, and it was a complex questionnaire, covering the financing and investment activity of the enterprises. The survey paid special attention to the enterprises' project management and project financing practices as well. During the research we received 521 questionnaires, but only 416 of them were assessable enough to be included in the sample. The results of the research are presented in this study based on the employment figures of the responding enterprises. The composition of the sample is illustrated in the below graph.

As it is shown, the majority of the sample, 85%, comprised of smaller enterprises with less than 50 employees, which meant 355 enterprises. The proportion of the medium-sized enterprises was 9% (38 enterprises), while the larger companies had a percentage of 6% (23 enterprises), therefore it can be established that the results presented in this study introduce the possible ways of the achieving the success criteria mainly from the aspects of the small and medium-sized enterprises.

### 4. The results of the research

During the research through 27 statements I was looking for an answer to how the responding enterprises assess the success criteria of the projects on a four point Likert scale. Several of the listed statements were related to planning and implementation, but there were success factors deriving from the micro and macro environments as well. I asked the respondents to grade the importance of the criteria on a scale of four, where the highest grade represented the most important criterion. The below table contain the results of the research by the average ratings, highlighting also the ratings given by the certain segments.

Table 1

**Assessment of the project success criteria based on the mean values given to the certain levels**

Criteria	Mean	Below 50 emp.	Between 50-250 emp.	Above 250 emp.
Actual and real cost planning	3,43	3,44	3,26	3,57
Actual and real resource planning	3,42	3,43	3,21	3,48
Actual and real time planning	3,36	3,39	3,11	3,30
Accurate, thorough planning	3,30	3,32	3,42	2,70
Solid financial background of the project	3,28	3,31	3,13	3,13
Continuous communication	3,27	3,31	2,84	3,39
Flexible reaction to changes	3,27	3,28	3,11	3,30
Adequate risk management	3,23	3,23	3,08	3,48
Real and accurate needs assessment	3,23	3,25	3,26	2,78
Well-trained and prepared project team	3,22	3,23	3,21	3,13



Well-trained and prepared project manager	3,22	3,22	3,16	3,30
User satisfaction	3,17	3,22	2,82	3,04
Adequate risk assessment	3,11	3,14	2,66	3,30
Adequate level of financial reserves	3,09	3,12	2,74	3,26
Adequate level of human resources	3,05	3,08	2,55	3,35
Meeting the user expectations	3,01	3,06	2,68	2,78
Technical compliance of the project result	2,99	3,03	2,82	2,74
Implementation of adequate milestones and control points	2,96	2,92	3,03	3,48
Stable and strong sponsor	2,89	2,88	3,13	2,78
Content definition of the project result	2,86	2,92	2,47	2,61
Integration of the project result into the organization	2,75	2,74	2,61	3,09
Wide acceptance of the project result within the organization	2,70	2,69	2,63	3,00
Predictable macro environment at a domestic level	2,67	2,66	2,95	2,35
Supporting economic policy at a domestic level	2,65	2,66	2,29	3,13
Predictable macro environment at an international level	2,48	2,47	2,68	2,26
Wide acceptance of the project result in a social context	2,44	2,43	2,50	2,57
Supporting economic policy at an international level	2,39	2,35	2,37	3,13

Source: own research, 2017, N = 416

It can be stated on the basis of the results that for the enterprises the most important success factor with the highest average rating (3.43) was the real cost planning. The enterprises can perfectly see that without a real budget the projects will fail, so they will not be carried out to the original plans. The importance of the actual and real resource planning tightly followed with a rating of 3.42. The actual and real time planning was the third with an average rating of 3.36. The first three success criteria of the sample mean were practically the iron triangle, except for efficiency. The responding enterprises found the other planning-related factors significant too, which came in after the third place, and they considered the stakeholders' involvement in projects to be important as well. Interestingly, the supporting economic policy at an international level was deemed the least crucial success criterion. Based on the opinion of the enterprises it can be established that changes in the international environment cannot substantially influence their projects. Wide acceptance of the project result in a social context was also deemed less significant. It is peculiar, because the majority of the projects fail due to the insufficient support from the environment, as the society does not accept them or agree with them. This statement only received an average rating of 2.44. Finally, the criterion regarding the macro environment, namely the predictable macro environment at an international level, was among the last ones too. The economic policy and the domestic macro environment were considered to be more important than this, since they were not included in the last three factors.

The smallest enterprises – the ones with less than 50 employees – also put the actual and real cost planning, resource planning and time planning to the first three places. All three success criteria received higher than average ratings. In their point of view the macro environment at an international level, the international economic policy and the wide acceptance of the project result were the least relevant factors. Since mainly the smallest enterprises constituted the sample, therefore their priority ranking was evidently the same as the assessment of the enterprises in the whole sample.



The accurate and thorough planning was the most important for the medium-sized enterprises with employees between 50 and 250. It got a lot higher rating than the sample mean (this criterion was fourth in respect of the entire sample). In their opinion cost planning and needs assessment were also essential. They gave an average rating of 3.26 to the actual real cost planning, the same as to the real and accurate needs assessment. The latter criterion was only eighth in terms of the whole sample. On this basis it can be established that the medium-sized enterprises put a lot more emphasis on the planning work preparatory to the projects than their counterparts from other segments. They also placed the actual and real resource planning to the fourth place, which further confirmed the former conclusions. From their perspective the domestic economic policy was the last, slightly preceded by the rating of the international economic policy. Third from bottom was the content definition of the project result again, which was even less important than it was for the whole sample.

In the case of the largest enterprises cost planning and resource planning took the first places. The actual and real cost planning had an average rating of 3.57, and resource planning followed with an average rating of 3.48. Both figures were substantially higher than the sample mean. It is interesting that in their case the adequate risk assessment was ranked third with the same 3.48 average rating. This factor was only tenth among the enterprises of the whole sample. All this refers to a more conscious project management that takes the risks determining the project result into account more seriously. The last places were taken by the acceptance of the project result, along with the predictable macro environment both at a domestic and international level. Nonetheless, in the eyes of the largest enterprises the domestic and international economic policy had a more relevant role, which was proved by their ranking as well.

I classified the above assessed statements into groups with the help of factor analysis. First, through the KMO value I examined how suitable the data were for factor analysis. The result was 90.62%, which verified that the data were particularly suited to conducting the analysis. During the analysis I used the Varimax method, and after performing several trials I opted for the three factor matrix, since it shows the most optimal grouping of the success criteria the best.

Table 1

**Rotated factor matrix of success components**

	Component		
	Planning	Preparation, construction	Supporting
Actual and real cost planning	0,791		
Actual and real time planning	0,752		
Continuous communication	0,722		
Actual and real resource planning	0,651		
Well-trained and prepared project team	0,580		
Content definition of the project result	0,562		
Well-trained and prepared project manager	0,546		
Real and accurate needs assessment	0,517		
Adequate level of financial reserves		0,721	
Supporting economic policy at a domestic level		0,656	
User satisfaction		0,632	



Adequate risk assessment		0,614	
Flexible reaction to changes		0,593	
Adequate level of human resources		0,589	
Solid financial background of the project		0,565	
Meeting the user expectations		0,542	
Adequate risk management		0,516	
Technical compliance of the project result		0,513	
Accurate, thorough planning		0,490	
Predictable macro environment at an international level			0,743
Integration of the project result into the organization			0,725
Wide acceptance of the project result within the organization			0,702
Supporting economic policy at an international level			0,680
Wide acceptance of the project result in a social context			0,663
Predictable macro environment at a domestic level			0,600
Implementation of adequate milestones and control points			0,431
Stable and strong sponsor			0,399

Source: own research, 2017, N = 416

On this basis the criteria can be divided into three groups, namely criteria concerning planning, preparation and implementation, and finally there are support-related success criteria:

- Those criteria belong to planning that significantly affect the planning of cost, time and resources, which already includes the establishment of the support team (managers, team members),
- The statements belonging to the preparation and implementation factor are related to reserves, risk management and the stakeholders, which are able to have a great impact on the end result of the project during the realization stage,
- Support contains such factors like the aspects of the project result and its acceptance, but the macro-environmental factors are in this group too – these factors are relevant and emphasized rather towards the end of the project.

It is apparent which of these criteria are more pronounced, which ones the project promoter enterprise must pay more attention to. It can be seen through the above analysis that every enterprise prioritized the first factor, and rather disregarded the other two factors. It somewhat answers the question why the projects are failing in such great volumes.

## Conclusions

Based on the research results it can be asserted that the enterprises deemed planning crucial from every aspect, regardless of their size. They considered this as the strongest success criterion, meaning that if a project is well planned then there is a high probability that it will meet the expectations and achieve the desired result. It can also be acknowledged that the majority of the enterprises do not specifically deal with the economic policy and the macro environment in terms of success, they feel them to be distant with regard to their own projects, although they can largely steer these projects in a completely different direction. This is true both in a domestic and international context. The results of the research revealed that the enterprises do not see it as relevant to manage the risks appropriately, and they do not attach high importance to the project managers and the project team either. This is the case for the technical questions, the technical compliance, the determination of the milestones and the content definition of the project result as well.



From the aspect of the success factors it is important to highlight that– apart from planning – the enterprises of the sample neglect the other two factors. This rather proves the lexical project management knowledge and not the practical side. From the project management’s point of view the support mechanisms are truly essential, the underlying factors that seem to be insignificant, but they are capable of deterring the project from its set path. The challenge of the future is to emphasize the knowledge on the two neglected factors more in order to help initiating successful projects in higher percentage than these days.

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