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Further Considerations in Project Success

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Abstract

The project management profession in the broader sense is mostly satisfied with the usual, widely used success criteria and factors, which are actually useful in themselves; they express the essence of the project's aspirations and are easy to use, and their fulfillment really correlates with success according to the relevant literature. It is understandable that certain players, for example contractors, almost exclusively concentrate on these, but still, the prediction and interpretation of success is a more complex problem. Researchers and experts have long been trying to answer the most important questions relating to the success and failure of projects. Their approaches differ fundamentally; therefore, the possibility of a consensus is a continuous quest. Everyone suggests different solutions and names different factors and criteria to define success. In what direction and how much the range of criteria and factors have to be integrated raises further questions, effectively making research endless and limitless. This summary concentrates on a smaller section of the whole research on success; the prediction and definition of success can only be done well with a well thought-out, customized set of tools adapted to the given project. This article gives a survey on ideas, principles, attempts and results based on a deep literature research to help the reader get better immersed in this topic and perhaps develop a new, unique view of success by understanding this review.

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Keywords: Project success; criteria; factor

1. Introduction

The literature commonly distinguishes the success of the project from the success of project management (e.g. [13]). Nevertheless, there is an obvious relationship between them – a successful project management leads to a successful project. The success of the project is assessed by taking into consideration the general goals of the project (or enterprise), while the success of project management is assessed based on traditional factors such as cost, time and

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quality. Many researchers concentrate on these two directions exclusively when researching the causes of success but Cooke-Davies (2002) integrated this with elements that lead to consistent, sustainable success [10].

Three directions of analysis have evolved: the factors affecting success have to be determined, the criteria of success defined, and their relationship examined [16]. The success factors of the project are independent elements of the project, which can be used to affect the project in order to increase the probability of success. The success factors of the project are measures that can be used to assess the success of a project [15].

Hereinafter – since the project management and the project are inseparable – the paper does not distinguish between their successes; ideas are mentioned whether they only affect the success of the project (factors) or they are considered as conditions (criteria).

2. Extensions to the original approach

The traditional cost-time-quality triangle appears in every project definition. Project managers basically consider these as criteria for success. This view is so widespread that it can be considered as an industrial standard. However, the current use of these criteria is not surprising since together they capture the essence of success in many respects, and can be used easily (Fig. 1.).

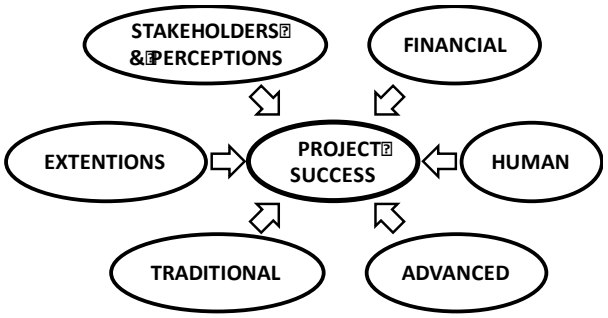

Fig. 1. Aspects of success.

There has been a need for decades to create a more sophisticated system of criteria or factors; more and more people feel the shortcomings of the traditional approach [3]. Remaining in the classical direction, numerous extensions to the basics can be found in the literature. One of the most important is that the traditional triangle of criteria should be extended with the notion of creating and transmitting value. Reich, Gemino and Sauer (2010) published the importance of creating value: the final goal of the project manager should be to create business value [30]. In the case of investment projects – due to their special character – an industry-specific success factor appeared that would not be so important and characteristic in other areas. Morris and Hough (1986) named four success factors: in addition to the most important factors of cost, scheduling (time) and performance, safety was introduced [23].

Based on Rockhart's (1979) three-step suggestion let us first create the list of critical success factors (Critical Success Factor – CSF), which is clearly identified for business success [31]. As a second step, organizational goals are defined based on these factors, and in the third step they have to be made measurable. For example, if the critical factor is market success, then an easily measurable factor is the change in market share, or if there is a risk relating to contracts or offers, the experience concerning similar products of the company can be measured (with time). In the meantime Rowe, Mason and Dickel (1985) expanded Rockhart's CSF theory by introducing the area of key results (Key Result Area – KRA) [32]. Belassi and Tukel gave a comprehensive summary of thinking concerning success factors in 1996 [6].

Lim and Mohamed's (1999) framework was based on indicators classified on two levels. On the micro level they selected time, cost and performance, along with safety, similarly to Morris and Hough, although they used these factors

solely in the execution (implementation) phase. On the macro level they selected total project time, and satisfaction during the use and operation of the final product (satisfaction will be discussed later, in the chapter about stakeholders).

Cooke-Davies (2002) identified factors not only in connection with the success of the project and project management but also other factors playing a role in continuously sustaining project success (although he used slightly different terminology concerning factors and criteria). He suggested the following main areas for the classification of success criteria of the project and project management:

- Practices correlating with keeping the deadlines (project management):
- Practices correlating with keeping to the budget (project management):
- The critical success factor relating to the project:
- Factors connected to continuously, consistently sustaining project success (assuming that the end product of the project is operated or becomes commercially available and its success influences the success of the project)

Not deviating from the classic direction, one can find numerous additions in the literature. One of the most important is that in addition to the regular three criteria the idea of value creation and value transfer should also be included: the project is successful if it keeps to the schedule and the budget; it is of the expected quality and transmits value to the stakeholders. The Engineering and Physical Science Research Council (EPSRC) in the UK declared in 2003 that the primary goal of projects should be value creation instead of producing a product. Later, for example the empirical measurements published by Reich, Gemino and Sauer (2010) focused on value creation.

This tendency can also be felt today and many papers have been published recently focusing on value creation in journals of high reputation. This suggests that researchers believe that the identification of numerous CSFs makes the success model more accurate. CSFs are continuously being defined for various industries, geographical regions and fields. Alreemy et al. (2016), for example, defined the necessary CSFs specifically for IT Governance Framework [2]. Lately, for construction projects in developing countries the CSFs have been identified taking sustainability into consideration [5]. Marzagão et al. (2016) determined how to identify and understand the relationship between CSFs for Six Sigma projects and project performance [21].

Some researchers go to the other extreme and come up with solutions that can handle many existing factors but the irrational size of the model makes the problem unmanageable (e.g. de Wit's framework system takes so many factors into account that it is too difficult to handle [13]).

3. Stakeholders and perception

In the mid-90s, Verma (1995) stated that in addition to the accomplishment of traditional technical performance (specification) and the mission, success is also a function of communication, teamwork and leadership [36]. Compared to the classical approach, Verma provided an entirely new approach to include perception and satisfaction into success factors. The roots of the idea go back ten years earlier. Several authors before Verma included perception as a new element in several ways (e.g. Baker, Murphy and Fisher in 1983 suggested taking into account the perception of project performance [4]).

Different stakeholders can therefore perceive success differently. Although the term stakeholder appeared in management literature as early as in the 1960s (e.g. Stanford Research Institute), almost twenty years passed before it was used in the sense used today. Freeman (1984) defined stakeholders as groups or individuals who are affected by and also affect the achievement of organizational goals [15]. The idea to examine stakeholders from the point of view of success appeared around the end of the 20th century [25]. Consistent with the principles of quality management, the "happy user" appeared among success factors. Studying projects in various industries, Collins and Baccarini (2004) reached the conclusion that the most important criterion is the fulfillment of the owner's needs [9]. The fulfillment of specification has only secondary importance and traditional criteria of time and cost only follow them. Bryde and Robinson (2005) showed that clients consider the fulfillment of the needs of stakeholders the most important, while for contractors keeping to the cost and time limits was the most important [8].

Although perhaps the stakeholder concept and perception concept are most to the point, and therefore the most important new approach, they appear in fewer papers compared to the number of articles on the traditional approach.

Some papers of fundamental importance, however, have been published in this field in recent years. Originally a single stakeholder, the client was identified as vital participant in addition to CSFs, and Jugdev and Müller (2005) investigated communication with the customer [18]. A step forward was when owner and sponsor were also identified as important stakeholders. Gradually it became clear for everyone how important the concept of perception is in the case of every stakeholder. Recently Davis (2013) added senior management, the project core team and the project recipient stakeholder groups to the group of stakeholders relevant from the point of view of success [12]. Williams et al. (2016) evaluated project success in two areas: customer satisfaction and client relationship quality in project management [37]. This proves that the importance of perception also features prominently in up-to-date research.

4. Human side

Many have realized that human assets have to be included in success criteria, in addition to the easily measurable technical parameters. Since these are not easy to quantify, less research has been done in this area compared to traditional factors [19]. Researchers have begun to introduce criteria connected to persons such as flexibility and adaptability, enthusiasm, spontaneity, aggressiveness, confidence, preferences related to initiative and leadership, ambition, verbal abilities, etc. On the human side, Yang and his colleagues suggested examining how the international character of the project and the leadership style affect success, in addition to the factors recommended by technical literature, such as teamwork, project type, sector of industry, team size, etc. [38]. Pereira and his colleagues emphasized the importance of the perception of success but also suggested examining further human factors: the need for the assessment of cultural differences appeared [27]. Out of the examined factors, Pinto and Prescott (1988) found only the personnel factor insignificant from the point of view of success [28]. Belout and Gauvreau (2004) backed this standpoint based on similarly large-sale research; however, they found the dependence of factors on project life cycle and organizational structure significant [7]. This finding is not surprising since in every project management organizational maturity model the structure of the parent organization plays a key role.

Wang and Huang (2006) defined three main groups in investment projects from the point of view of success. They claim that attention should be paid to the execution supervisory body, in addition to the owner and the contractor – the others do not play an important role in success. Besides traditional success factors, the relationship between the three main groups of stakeholders determines the success of the project, therefore key success factors have to be defined to each important stakeholder separately. A more refined technique is the “power/interest” matrix used by Mendelow, which was originally developed to map stakeholders. Its essence is that the success criteria of the project have to be defined separately in the life cycles of the project (as in different phases different success criteria have to be used), then the stakeholders have to be analyzed based on their position in the matrix because this can reveal the possible influence of each stakeholder on the success of the project in the whole life cycle of the project (Niu, Lechler and Jiang, 2010).

In recent years, this approach seems to have been gaining ground. Liphadzi et al. (2015) found correlation between leadership styles and project success [20]. The human factor appeared in a multi-cultural environment [26] and even in the mediating role of team-building [1].

5. Financial approach

An interesting approach is to approach project success on a financial basis [34]. If a business project is viewed “from a distance”, it can be seen that although the business activity and time horizon of their activities are different, the contractor, the client, the creditors and other stakeholders all agree that their activity in a project is only acceptable if the returns of their activities in the projects are higher than their costs.

In finance a project is considered a dynamic process, therefore after investment the question is whether the operation or selling of the project is more profitable, instead of whether it was worth realizing the project. In this respect, the cash flows of previous years are irrelevant since they can no longer be influenced. What is important is only how much the project can be sold for here and now, and what cash flows can be achieved later if the project is operated. If, however, the goal is to measure success afterwards, then obviously all the profit and all costs incurred earlier are taken into account.

In private projects, it seems less important to measure afterwards how much the project fulfilled success criteria. On the other hand, it is important in the case of some community or public investments. The goal of private projects is the creation of financial value, which can usually be measured objectively but the goal of public projects is the creation of economic value, which contains numerous subjective elements. Since social values sometimes change drastically, the perceived economic value creation of a public or community project may also change.

An interesting consequence of the economic approach is that a delay in the project, an inaccurate definition of quality parameters or a lower level of quality, or even considerably greater costs than planned does not necessarily cause the project to be a failure. Rather, in these cases the added financial and/or social value is not the greatest possible value. Therefore, the financial approach has many possibilities and it would be worth developing a synthesis of finance and project management as they may produce a synergy.

6. Advanced considerations

Müller and Turner (2007) showed that to identify the success criteria of a project, the type of project (complexity, importance, and contract type), the sector of industry (private or public sector or voluntary) and the personal excellence and parameters of the project manager (age, gender, qualification, nationality etc.) have to be taken into account [24]. The Project Management Institute (2006) also recognized the dependence of project management on the sector of industry with specialized versions of their most important professional publications, the Guide to the Project Management Body of Knowledge [29].

Finally, let us list factors that are considered by a limited number of professionals only. These factors influence success, but to a significantly minor degree compared to the others. It was mentioned earlier that Cooke-Davies named three factors that affected the sustainability of success [10]. Mishra, Dangayach and Mittal (2011) ranked ethical issues among the factors of sustainable project success [22]. They pointed to the interesting contradiction concerning economy and ethics in affecting success. Profit has to be achieved at almost all costs, and this often leads to ethically questionable actions, corruption and suspicious or even illegal business practices. Achieving business goals may result in success but because it is unethical, it can be short-lived. According to Dvir and Lechler (2004), the way the issue of success factors is approached is too static [14]. However thoroughly projects are planned, the extent and frequency of changes can destroy the prospects of success that were based on suitable planning. Yang, O'Connor and Wang (2006) examined how technology-intensive the project is. In their study, they pointed out that the success of the projects of small and medium-sized enterprises depend far more on technology than the success of projects of large enterprises [39]. Gemünden, Salomo and Krieger (2005) claimed that success could only really be achieved in the case of autonomous projects [16]. If the project can set its goals freely, is independent structurally and at the organizational level, and can use its resources freely, it increases the chance of success.

Based on a worldwide, cross-sectional survey, Joslin and Müller (2015) found that the project management methodology applied has an impact on success [17]. Agile methods can improve the likelihood of project success [33]. It is no coincidence that a considerable number of professional organizations declared that they expect the trend in 2017 that the agile method will spread significantly to non-IT projects. In their study Cserháti and Szabó (2014) outlined success factors in specific environments: relationship-oriented crucial success factor attributes: project leadership, communication and cooperation with partners, and partnerships with future stakeholders [11]. Their study therefore belongs to studies adopting a more strategic, holistic view of success factor research. This more complex direction has such high importance that Varajão (2016) went as far as suggesting that Success Management be included in the areas of PM knowledge [35].

7. Conclusion

The project management profession in the broader sense is mostly satisfied with the usual, widely used success criteria and indicators, which are actually very practical in themselves; they express the essence of the project's aspirations and are easy to use, and their fulfilment really correlates with success. It is understandable that certain players, for example contractors, almost exclusively concentrate on these, but still, the prediction and interpretation of success is a more complex problem. Looking at the research of success in the past decades one can state that further

criteria and factors have to be defined. In what direction and how much the range of criteria and factors have to be integrated raises further questions, effectively making research endless and limitless. This summary concentrates on a smaller section of the whole research on success; the prediction and definition of success can only be done well with a well thought-out, customized set of tools adapted to the given project. A well-prepared professional forms an opinion about the possible success of a project only in possession of such a set.

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