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CONFERENCE PAPER

## Project success assessment – business and individual perspectives

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### Synopsis

The evolution of project success assessment started with Barnes' Iron Triangle, which was one of the first attempts to evaluate project success based on time, cost and performance. Those criteria were expanded over time, focusing on the satisfaction of stakeholder groups. The question arises whether this focus is also manifest in practice. This article aims to find out whether companies use satisfaction criteria to assess project success and whether different internal project participants are satisfied with project success assessment within their companies.

### Research design

To obtain new information about project assessment in practice, we chose a qualitative research approach and conducted expert interviews. Experts from different corporate hierarchy levels were asked about the project assessment method applied within their companies, and their opinion about this approach. The interview roadmap was fine-tuned in a pretest at a randomly selected company to ensure its handiness and understandability. The field study was conducted between January and March 2016 with 21 persons interviewed face-to-face and one telephone interview. To improve the quality of digitalized transcripts and protocols, we

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eliminated redundancies and mistakes, gathered scattered and similar information, compiled information by content, and reduced data needing analyzing.

## Relevance for practice and education

Practitioners know about the importance of soft criteria; however, the utilization rate of soft criteria to assess project success in the companies they work at is still low. This paper could help trainers step up their efforts to demonstrate the importance of soft criteria, and practitioners to start and continue the assessment of projects by using soft criteria.

## Main findings

The findings of our empirical study show that project success assessment varies from company to company. Some companies' focus is on Barnes' Iron Triangle exclusively, while others factor in the satisfaction of different stakeholder groups like customers or project members. Half of the interviewees would like to add satisfaction criteria to the success assessment system used within their companies. Some of them wish to use additional satisfaction criteria to take the satisfaction of further stakeholder groups into account, and others would like to consider soft criteria for first-time project success assessment.

## Keywords

**Project success assessment; soft project success criteria**

## Type

Empirical

## Introduction

Tasks in day-to-day business are becoming more and more complex (Kledt, Evers, & Benson 2016). Many different people are responsible for, or affected by, the execution of complex tasks, forcing companies to change their organizational structures to handle increasing complexity. Many firms pool employee skills in project teams to cope with complexity and cover incoming tasks (Bakker 2010; Shenhar & Dvir 2007). By doing this, organizations intend to increase their chances to stay on top of the market (Scott-Young & Samson 2008). Therefore, project work changes the way people collaborate, and influences company structures fundamentally. Proponents of the agile movement even foresee the full replacement of traditional organizational set-ups by highly adaptable and self-organizing teams (Kurki & Wilenius 2016; Oswald & Müller 2017). But even in more traditional organizational structures, project work is replacing routine work in the day-to-day business more and more. Nevertheless, if there is more and more project work, the question arises: *How can the successful implementation of this way of working be measured?* Using the same procedures and criteria for measuring project work success forms a sound basis for scrutinizing project success. Transparent procedures and criteria for assessing project success also support project managers and project team members in making the 'right' decisions during project execution (Christenson & Walker 2004).

Project success is a topic frequently discussed in project management research; however, researchers are far from agreeing on its definition (Cao & Hoffman 2011). The only commonality of nearly all approaches is that Barnes' so-called 'Iron Triangle' serves as a basis

(Chan & Chan 2004; Chang, Chih, Chew, & Pisarski 2013). Barnes developed the Iron Triangle to improve communication between production engineers, executive managers and cost managers by visualizing the dependencies between time, budget and performance (Delo 2013; Weaver 2007). This fundamental insight still influences the development of other approaches to assess project success (Howsawi, Eager, Bagia, & Niebecker 2014; Milis, Meulders, & Mercken 2003).

Building on Barnes' Iron Triangle, a rising number of articles covering project assessment (Kloppenborg & Opfer 2002) have criticized the limiting expressiveness of the three success dimensions (Baker, Fisher, & Murphy 1997; Berssaneti & Carvalho 2015; Creasy & Anantatmula 2013; Williams, Ashill, Naumann, & Jackson 2015). For instance, one aspect of this limitation is the focus on the company running the project, instead of putting customer satisfaction into center stage (Morris 2013; Pinto, Rouhiainen, & Trailer 2000). Another point is that stakeholders have different motivations to run a project and, therefore, different bases for project evaluation (Aaltonen 2011; Bakker, Boonstra, & Wortmann 2011; Mir & Pinnington 2014).

Authors distinguish between hard and soft criteria in scientific articles on project assessment (Baccarini 1999; Pinto & Slevin 2006). Hard criteria such as time, budget and performance are rather objective and can be measured very well (Baccarini 1999). In contrast to hard criteria, soft criteria take into account the perception of the stakeholders involved in a project or affected by it (Davis 2014; Freeman & Beale 1992) and assess the so-called human factor (Chiocchio & Hobbs 2014). They are scarcely objective and rather difficult to measure (Hussein 2013; Pinto & Slevin 2006). Nevertheless, soft criteria are an important part of project success assessment (Briner, Geddes, & Hastings 1990; Pinto & Slevin 2006). Müller and Jugdev (2012) even argue that soft criteria account for half of a project's success.

The explanations above outline the controversial discussion on project success criteria in literature and the importance of soft criteria for project success assessment. However, it is not clear whether the importance of soft criteria for project assessment has reached practice. The aim of this study is, on the one hand, to find out on the basis of randomly selected companies whether soft criteria are considered when assessing project success in practice. On the other hand, we intend to find out whether stakeholders within a company want to take soft criteria into account, regardless of whether they are capable of making such a change or not.

## Different facets of project success

Project success is a multidimensional concept. It means different things to different people, can be viewed from different angles, and depends on the context (Davis 2014; Jugdev & Müller 2005; Unterkalmsteiner et al. 2012). This is precisely why this section aims to contribute to a better understanding by referring to various classifications and interpretations propounded in the literature (Chan & Chan 2004).

### PROJECT SUCCESS FACTORS AND PROJECT SUCCESS CRITERIA

The first step to provide clarity on the multidimensional concept of project success is a differentiation between project success factors and project success criteria (Cooke-Davies 2002). Project success criteria assess the success of a project, whereas project success factors can be understood as levers to increase the probability of project success, being neither part of a project's mission nor explicitly defined tasks (Ashley, Lurie, & Jaselskis 1987; Atkinson 1999; Müller & Jugdev 2012; Westerveld 2003).

Piscopo, Sbragia, and Thamhain (2010) argue that the company-wide utilization of identical project success criteria facilitates comparable assessments, and enables organizations to choose the project from a stock of ideas that will provide the highest benefit to the organization's success. Customer satisfaction, adherence to budget, and economic success are examples of project success criteria. Disregarding project success factors increases the probability that a project fails (Bansal 2011; Belassi & Tukul 1996; de Wit 1988). Project success factors include, for example, project spirit, user advocacy, or communication among project parties (Aronson, Shenhar, & Patanakul, 2013; Tam, Shen, & Kong, 2011; Wang, Chang, Jiang, & Klein, 2011).

According to Ashley et al. (1987), there is a connection between project success factors and project success criteria. However, since the assessment of project success is in the spotlight of our study, only project success criteria are considered here. Project success factors are not taken into account because they cannot be used to evaluate project success. (Baker, Murphy, & Fisher 1997; Jacobson & Choi 2008; Khan 2014).

## HARD AND SOFT PROJECT SUCCESS CRITERIA

Another possibility to classify project success criteria is the distinction between hard and soft criteria (Baccarini 1999; Pinto & Slevin 2006). As mentioned above, hard criteria are rather objective and can be measured very well. In view of this delineation, the concept of hard project success criteria in this study includes the dimensions of the Iron Triangle (time, budget and performance) as well as economic success and quality. Although it can be argued that the dimension of 'budget' already considers the economic success of a product, we decided to highlight it as an additional criterion. This is due to the fact that we want to avoid assessing technical achievements developed within a budget as success, as keeping a budget is not a prerequisite for subsequent market success (Wateridge 1998). We define quality as a hard criterion, because performance is replaced by quality in some publications referring to the Iron Triangle (Atkinson 1999; Tukul & Rom 1998). There is, however, no agreement on the use of the term 'quality' instead of 'performance', because it is rather unspecific, used in different ways, and leaves leeway for interpretations (Turner 1999).

As mentioned before, soft criteria consider the so-called human factor and, therefore, are rather difficult to measure. Many people are involved in, or affected by, project approval, project planning, project execution, or utilization of the project product and, thus, can influence project success assessment (Belout 1998; Cserháti & Szabó 2014). All this leads to the necessity to consider various stakeholders when deliberating on project success. Soft criteria should handle these requirements. Each soft criterion should be defined in detail, and consist of a combination of various elements with different weightings. Moreover, individual elements could be made up of different soft criteria (Rashvand & Zaimi Abd Majid 2014). To sum up, soft criteria include all criteria related to the satisfaction of people involved in, or affected by, a project.

## Field study about project success

The previous section presented different facets of project success. This section covers theoretical principles, implementation, analysis and interpretation of the field study. The methodological fundament of our study follows the suggestions of Przyborski and Wohlrab-Sahr (2010) for designing empirical research processes shown in Figure 1. According to Diekmann (2009), a researcher should choose the most appropriate method in each step of the research process, always considering the research objective, research resources such as time available, human

resources and materials, as well as his own assessment of research objective accessibility. In general, there is no panacea for achieving a research objective, thus researchers need to develop a research design depending on the respective research question. In the following subsections, we present decisions made while conducting our research.

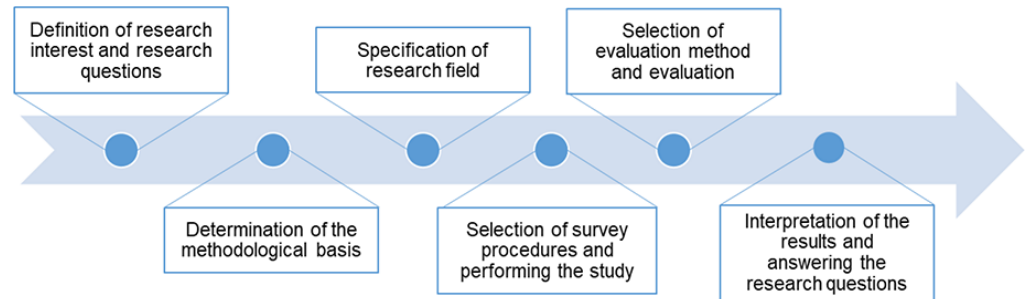


Figure 1 Design of empirical research processes (own representation based on Przyborski & Wohlrab-Sahr 2010, p. 15)

## RESEARCH INTEREST AND RESEARCH QUESTIONS

Two meta-studies about project success assessment, undertaken by Kloppenborg and Opfer (2002) and Ika (2009), indicate the increasing relevance of soft criteria. However, the authors only considered research articles. The implementation of research findings into practice was disregarded. In the present paper, we want to investigate the utilization of soft criteria in practice to figure out whether the scientific research discussion on the importance of soft criteria for project success assessment has already influenced the practical application within industrial companies and, in consequence, formulate the following research question (RQ):

RQ<sub>1</sub>: Do companies consider soft criteria when assessing project success?

Besides the identification of the status quo of project success assessment in practice, we also want to consider a future perspective. Changes in organizational processes often take some time, but the awareness that changes are unavoidable is on hand. It is up to management to define currently valid regulations and instructions. Therefore, those regulations and instructions represent the way they want to assess project success. Nevertheless, the current view of management on project success evaluation need not be the view of other project stakeholders. Therefore, the question arises whether people within a company are satisfied with the way project success is assessed. This leads to the following research question:

RQ<sub>2</sub>: What suggestions do project managers and other project team members come up with to change the way of project success assessment within their companies?

## DETERMINATION OF THE METHODOLOGICAL BASIS

Based on research interest and research questions, the next decision to take within empirical research processes is to determine the methodological basis. In general, researchers distinguish between quantitative and qualitative methods. Quantitative social research aims to confirm a hypothesis made at the beginning of the research. In contrast, qualitative research aims to discover information and correlations so far unknown and based on real-life observations. (Mahoney & Goertz 2008)

We chose a qualitative research design because we want to obtain new information about project assessment in practice. The aim of our study is to gain detailed data and not to compare

different companies and their way of assessing project success. In detail, to answer research question 2, we want to identify new project success criteria practitioners want to use in future.

### SPECIFICATION OF RESEARCH FIELD

Specification of the research field deals with the observability of the research subject in the field (Przyborski & Wohlrab-Sahr 2010). Qualitative research cannot be conducted under laboratory conditions, qualitative research needs to be done in the field (Mayring 2014). Following this, it should be noted that, due to a high number of correlations with other fields, it is impossible to draw a clear line between the field to be considered and its surrounding environment (Przyborski & Wohlrab-Sahr 2010).

In our field study, companies serve as source for information retrieval. Yin (2014) divides field research based on the dimensions 'data collection source' and 'design'. Distinguishing between 'individual' and 'organization' in both dimensions, four quadrants shown in Table 1 could be defined. We took both categories of an individual as data collection source into consideration. This is because we decided to ask people within different companies about the way project success is assessed in their companies to answer research question 1 and about their opinion on this way of assessment to answer research question 2. Furthermore, we decided to interview experts on different hierarchy levels in different companies to gather different demands for, and perspectives of, project success assessment.

Table 1 Further detailing of research field based on 'data collection source' and 'design' (Yin 2014, pp. 92–93)

Design	Data Collection Source	
	From an Individual	From an Organization
About an Individual	Individual behaviour, attitudes and perceptions	Individual employee records and interview with individual's supervisor and other employees
About an Organization	Individual interviews on how and why organizations work	Personnel policies and organization outcomes

### SELECTION OF SURVEY PROCEDURES AND PERFORMING THE STUDY

Next, we chose the most appropriate method to collect data depending on research interest, research questions, methodological basis, and research field.

#### Survey procedures

Researchers distinguish between collection of primary data and utilization of secondary data (Vartanian 2011). If there is no secondary data available to suitably answer a research question, researchers are forced to conduct a study on their own and decide between the methods of observation and questioning (Bryman 2015). Observation allows looking at processes, people executing these processes, and items affected by process execution. Researchers are only able to collect information on how a process is conducted, but they do not obtain information on the intentions of each person for doing something in the process. In contrast, conducting



interviews opens up the possibility for researchers to ask people about their motives, intentions and interpretations. However, it should be noted that interviewees tell how they perceived the situation and, therefore, interpret the situation influenced by their own perception.

We decided to choose the interview method, because the information necessary to answer the research questions could not be obtained by observing. Taking into account the various survey methods, we further decided to conduct expert interviews instead of handing out questionnaires to answer the stated research questions. In general, it is possible to communicate with interviewees in person, by telephone or by electronic communication (Flick 2013). Even though carrying out interviews personally generates higher costs compared to other ways of communication, we chose this type. Our decision was based on the advantages of the method: high flexibility, the possibility of raising additional questions, and personal contact in a familiar environment.

### Selection of interviewees

Researchers always decide on the basis of the respective research interest whether a person is an expert or not. Characteristic of an expert is that he or she has a research interest-specific advantage in terms of knowledge compared to other people. In addition to advanced knowledge, further aspects such as limited time, availability and willingness of interviewees and effort, proportional to the number of interviewees, affect the selection and the number of interviewees in a proportionate way (Blaikie 2010; Flick 2013).

In view of all these considerations, we decided to conduct an intentional selection of suitable experts, defining experts as people having advanced knowledge of assessing project success within their companies. Other possible selection criteria such as experience in project management or educational attainment were of minor importance. Balancing time availability of the interviewees and our research interest, we determined an interview duration of one hour. Twenty-two out of 153 selected experts declared their willing to participate.

### Performing the study

According to Sudman and Bradburn (1982) and Presser et al. (2008), survey instruments should be fine-tuned in a pretest as a fundamental requirement for a successful study. Pretests ensure handiness and understandability of single questions and the complete survey instrument, show the time required to answer all questions, and provide for new questions to be generated or new topics to be identified. For pretesting, one interview partner was chosen randomly. The pretest lasted more than one hour and revealed some inconsistencies and duplicate questions. These findings led to a reduced number of questions, an optimized sequence of questions, some additional filter questions, and changes in wording.

We conducted our field study from January to March 2016 and interviewed 21 people face-to-face in their companies. One interview was conducted on the telephone because of the significant distance between the interviewee and us. We recorded 19 interviews on an electronic voice recorder, with the consent of the respective interviewee. Subsequently, we transcribed each record to allow for scientific analysis (Lapadat & Lindsay 1999). The level of detail of the transcription depends on the matching of economic reasons and research interest. However, all information necessary to answer the research questions has to be considered (Noaks & Wincup 2006). As three interviewees did not consent to recording, the information gained from the hand-written records of these interviews were taken into consideration after digitalization.

## SELECTION OF EVALUATION METHOD AND EVALUATION

The purpose of this phase is to make available all empirically collected data which are necessary to answer the research questions stated in the beginning of research projects. There are no standard evaluation patterns to reveal the necessary information because every empirical study has its own objectives and research questions. One common goal of every research project in this step is to improve the quality of digitalized transcripts and records through methods such as elimination of redundancies and mistakes, or gathering of scattered and similar information. Furthermore, evaluation includes ordering information according to content aspects and reducing data which needs to be analyzed (cf. Mayring 2014). We chose qualitative content analyses to prepare the digitalized transcripts and records.

## INTERPRETATION OF THE RESULTS AND ANSWERING THE RESEARCH QUESTIONS

This section aims to create links between the evaluation results of our field study and the theoretical findings. Furthermore, these linkages are interpreted and evaluated. To sum up, this section aims to answer the research questions stated in the beginning.

### Demographic data

In the following, we show some demographic information about the interviewees and their companies to demonstrate that we considered a balanced range of participants. First of all, we subdivided the companies according to their number of employees and turnover into small and medium-sized enterprises and large companies (cf. European Commission 2003) as shown in Table 2. Eight people work in small and medium-sized enterprises, whereas 14 interviewees work in large companies.

Table 2 Assignment of participating companies by company size

Name	Number of employees	Turnover	Total
Small and medium-sized enterprises	Up to 249	Up to € 50 million	8
Large companies	Over 249	Over € 50 million	14

The industry affiliation of the participating companies according to the Statistical Classification of Economic Activities in the European Community (cf. European Commission, 2008) represents another possibility to avoid biased observation. As Table 3 shows, we did not focus on one industry only; rather, we included companies from different industries. Although most interviewees belong to manufacturing companies, we also included the mining and quarrying industry; financial and insurance activities; professional, scientific and technical activities; administrative and supportive service activities; and human health and social work activities.

Table 3 Industry affiliation according to the Statistical Classification of Economic Activities in the European Community

Abbreviation	Sector	Total
B	Mining and quarrying	1
C	Manufacturing	14
K	Financial and insurance activities	2



Table 3 continued

M	Professional, scientific and technical activities	2
N	Administrative and supportive service activities	2
Q	Human health and social work activities	1

At the beginning of the paper, we stated that people involved in, or affected by, a project have different perspectives on project success. Considering this, we tried to interview people on different hierarchy levels to ensure that different perspectives on project work are taken into consideration. Figure 2 depicts the allocation of our interviewees based on hierarchy level and project participation. The bulk of hierarchy levels taken into account belong to management level. In addition, we also interviewed two project managers, two project team members, and one staff member of a project management office. More than 80% of the interviewees are managers outside the project and, therefore, assess projects from a business perspective. A high ratio of project managers and project team members would have resulted in a project-internal focus. The numbers on the Figure show the relevant number of interviewees.

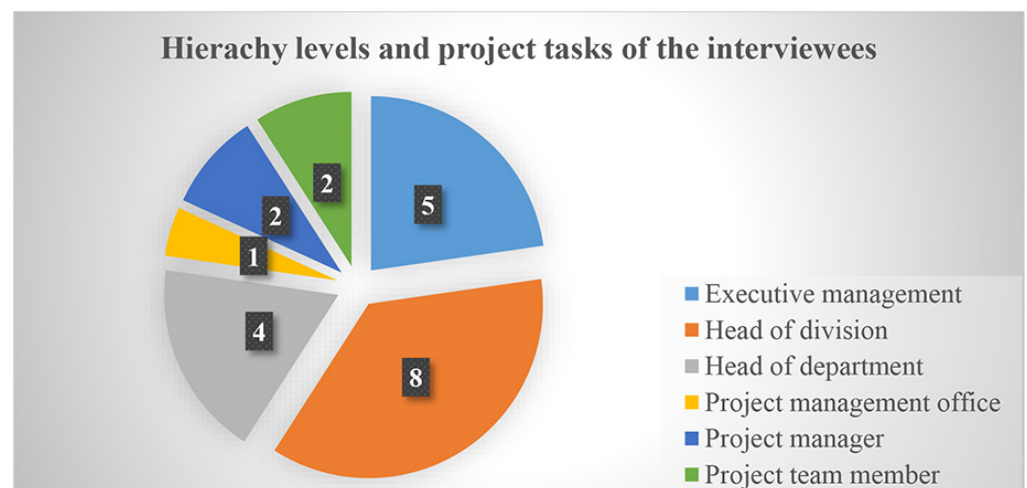


Figure 2 Hierarchy levels and project tasks of the interviewees

We interviewed a balanced participant field of different stakeholder groups, different company sizes, and different industries. Although our study does not contain all combinations of company size, industry, and hierarchy level, it still puts us in a position to answer our research questions.

### Answering research question 1

Research question 1 focuses on the utilization of soft project success criteria in practice. The consideration of soft project success criteria needs to be analyzed for two aspects. The first touches the question whether soft criteria are used to assess project success, and the second aspect addresses the weighting of soft criteria for project success assessment.

One of the results is that soft criteria are taken into account to assess project success in 12 of the 22 companies. In contrast to those 12 companies, nine companies assess project success solely according to hard dimensions, and one company assesses project success based on subjective evaluation. As shown in Table 4, further analyses revealed that the dimensions

of Barnes' Iron Triangle are the project success criteria mentioned most frequently. Only four companies do not deem it necessary to use any one of Barnes' Iron Triangle criteria to assess project success. Although customer satisfaction is the soft project success criteria mentioned most frequently, it is only taken into consideration in less than 50% of the selected companies. Furthermore, relatively few interviewees mentioned additional soft criteria like employee satisfaction or corporate image.

**Table 4** Selection of the project success criteria mentioned in the study.

Project success criteria	Allocation	Mentions	Percentage
Budget	hard	15	68%
Time	hard	14	64%
Performance	hard	12	55%
Economic success	hard	9	41%
Customer satisfaction	soft	9	41%
Quality	hard	7	32%
Corporate image	soft	2	9%
Employee satisfaction	soft	2	9%

Besides the utilization of soft criteria to assess project success, we asked the interviewees about the importance of soft criteria for project success and whether there is a change of this importance during the project. According to the interviewees, the importance of customer satisfaction is comparable to the importance of the dimensions of the Iron Triangle. That means, if the soft criterion customer satisfaction is taken into account, its importance is at least comparable to the adherence of time, budget, or performance goals. It is not possible to make a reliable statement on further soft criteria because they are only used to a limited degree in the considered companies.

The second aspect we investigated was the change of the importance of individual success criteria during project execution. The analysis of the interviewees' answers showed a mixed picture. Importance changes took only place in roughly one third of the companies and they took place for different reasons. In most cases, a change was necessary to compensate for plan deviations, tracing back to the fact that problems were not considered during project execution. For instance, adherence to budget is considered more critical if the project manager can foresee a budget overrun, and adherence to customer satisfaction is considered more important if the customer is unsatisfied with project execution. The interviewees also noted that the importance of success criteria depends on strategic considerations. Assessing one single project, a company can decide that customer satisfaction is the most crucial success criterion, whereas a company must produce profit to ensure its long term existence. That means, in the long term, economic success stands for the most critical success criterion.

### Answering research question 2

In order to answer research question 2, we asked the interviewees about their opinion on the way projects are assessed in their companies. In general, they are satisfied with the applied success criteria, and none of the interviewees wanted to remove any criteria. However, as Table 5 illustrates, a central finding is that half of the respondents want to add criteria to the way project success assessment is undertaken within their companies. These companies can be categorized into companies which have so far not considered soft criteria and companies which use soft criteria and are striving for adding further criteria. Only three interviewees recommended ignoring soft criteria, and assessing project success solely based on hard criteria.

If soft criteria were taken into account, eight interviewees recommended maintaining the current way project success is assessed in their companies.

**Table 5** Connection between project success assessment in the company and suggestions of interviewees

Suggestions of interviewees	Total
Recommends taking soft criteria into consideration	7
Recommends adding further soft criteria	4
Recommends maintaining existing hard and soft criteria	8
Recommends disregarding soft criteria	3

It is particularly interesting to note that nearly all criteria recommended for adding are soft criteria. Only five out of 29 suggested criteria belong to the dimensions of the Iron Triangle, economic success, or quality. Two respondents suggested these five hard criteria. Furthermore, project success assessment in one of those two respondents' company is not based on success criteria, they perform subjective assessments. For instance, the interviewees suggested adding follow-up orders as a hard criterion and stakeholder satisfaction or further development of project members as additional soft criteria to ensure holistic project success assessment. The suggested stakeholder satisfaction criteria were the satisfaction of top management, project members, end users and subcontractors.

We tried to identify connections between demographic data and the interviewees' responses. To be more specific, we tried to find out whether hierarchy level or company size influence the intention to add further project success criteria. As shown in Table 6, there is virtually no apparent connection between hierarchy level and intention to add further criteria. It is of no relevance whether a project team member or a member of executive management is asked about his or her intention to add further criteria to assess project success.

**Table 6** Connection between hierarchy level and intention to add project success criteria

Hierarchy	Additional criteria	No further criteria
Executive management	2	3
Head of division	5	3
Head of department	1	1
Project management office	0	1
Project manager	1	1
Project team member	2	2

As shown in Table 7, we could not find any connection between company size and intention to add further project success criteria.

**Table 7** Connection between company size and the intention to add further project success criteria

Company size	Additional criteria	No further criteria
Small and medium-sized enterprises	3	5
Large companies	8	6

Along with the investigation of the importance of individual success criteria in the companies, we asked the interviewees about their ranking of success criteria. The answers to this question were heterogeneous. In fact, if the interviewees suggested adding customer satisfaction, they recommended attaching great importance to these criteria. Adding other criteria did not result in more homogeneous patterns concerning the importance of project success criteria.

### Further findings

Some interviewees mentioned that project success assessment by means of soft criteria is not so widespread because of measuring issues. On the one hand, it is very time-consuming to define soft criteria in detail and, on the other hand, gathering the necessary detailed data is time-consuming. The reason is that the composition of soft criteria can easily change from project to project due to changing customers. Thus, the requirements and targets of this often heterogeneous stakeholder group change as well. According to some interviewees, the effort needed to define and measure soft criteria justifies the benefit by no means.

## Conclusion

The starting point of our investigation was that the current definition of project success varies within companies. Soft criteria related to the satisfaction of different stakeholder groups are becoming more and more part of project success assessment. Satisfaction of customers, employees and corporate image are the soft project success criteria mentioned most frequently in the field study undertaken. Suggestions for additional future criteria to assess project success largely depended on the individuality of the respective interviewee. Neither company size nor hierarchy level of interviewees were responsible for their suggestions. Most of the interviewees agree on the importance of soft project success criteria as such.

This field study has its limitations. First, the interviewees did not represent a cross-section of the population. We only considered twenty-one companies from Germany and one joint venture of a German company located in Russia. The majority of the companies taken into account operate in the manufacturing industry, while other industrial branches were disregarded. Furthermore, the vast majority of the interviewees could be assigned to the management level. Research findings could be different if the majority of the interviewees were project managers or project team members. Another limitation to be taken into account is the interpretation of qualitative data gathered from the interviews.

Without any doubt, more research is necessary to establish a shared understanding of project success in particular with regard to the needs of future generations.

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