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The relationship between success criteria and success factors in organisational event projects

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Abstract

Project success is a widely studied and discussed phenomenon of project management. Whilst certain success criteria and success factors are common across different project types, there are unique criteria and factors that apply only to specific projects. This paper presents the development and investigation of the attributes of the success criteria and factors of organisational event projects, as well as an analysis of the relationship between the criteria and factor areas. The study is based on a questionnaire survey of world and European championships. The findings of the study are of interest because they distinguish the success factors that represent relationship orientation and task focus. An analysis of the correlations suggests that relationship-oriented success factors, such as communication, co-operation and project leadership, play a crucial role in carrying out successful organisational event projects.

Keywords: Success criteria and success factors; Task and relationship orientation; Organisational event projects

1. Introduction

Approaches to project success have changed continuously over the past several decades from definitions of success and critical success factors to a more strategic, holistic view (Judgev and Müller, 2005). However, the evolution of project success frameworks alone cannot guarantee the successful implementation of project objectives. Several studies report that despite improvements in terms of project success, quite a large number of projects fail (KPMG International, 2008; The Standish Group, 1994). Conversely, it seems impossible to define a common approach to project success; it is a matter of which dimensions best represent project success (Baccarini, 1999; Thomas and Fernández, 2008). Different projects have specific characteristics that should be considered in terms of project context, such as objectives, stakeholders, environment and risks, which determine diverse combinations of success criteria and factors.

In recent years, international sport events have come to the fore because participants of the sporting world have engaged in even more, greater and more varied ones. The number and extent of international sport events are increasing; the crowds and the volume of investments are rising; competition for sporting organisations between cities and countries is becoming increasingly intense (Zeman, 2005). Organisational event projects have well-confined parameters, such as fixed deadlines, strict competition rules, numerous stakeholders and environmental aspects. Hosting a sport event, especially a large international event, takes several years. Such events generally require large construction projects, and they are mainly financed through public funds. The preparation and implementation of events are covered constantly by the media (Masterman, 2004; Rofner, 2009). The benefits created during the staging of these events, such as increased revenue, additional employment and social aspects, can have a positive impact on local economies, whilst positive lasting effects for the tourism industry can affect a wider region (Dreyer and Krüger, 1995).

The purpose of this paper is to identify the attributes of success criteria and factors for organisational event projects, as well as to reveal the relationships between them. This approach

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is vital for sport organisations that plan or produce international sport events because success can contribute to their financing and ensure a competitive advantage for the future. After the introduction, we structure our work in five sections. First, we compare the findings of previous studies about project success criteria and success factors. Next, we introduce the measures and methodology of the research. Then, in the most important section of the article, we present the results of the study: the identified attributes of success criteria and success factors of organisational event projects followed by an analysis of the relationship between them. In the last section, we interpret the results and background of our findings.

2. Background of the study

To understand the enigma of project success, researchers have analysed various areas of project management, including how projects are accomplished, the contexts in which they are executed (Papke-Shields et al., 2010) and how their outcomes should be evaluated. Most of the recent literature summarises the findings of previous studies and tries to understand the "real" success factors of projects (Cooke-Davies, 2002) as well as emphasise the strategic and holistic view of project success (Judgev and Müller, 2005; Kandelousi et al., 2011; Yang et al., 2011). In the following section, we synthesise the results of previous studies in terms of success criteria and factors as well as task and relationship approaches.

2.1. Project success criteria

Amongst the several project success criteria that are mentioned in the literature, 'the iron triangle' (Turner and Cochrane, 1993) constitutes the basis of the success approaches (Agarwal and Rathod, 2006; Fortune and White, 2006) because fulfilling the criteria for the completion of a project on time, within budget and according to performance specifications are easy to assess (Judgev and Müller, 2005). However, this conception does not satisfactorily evaluate project success because examining these parameters merely shows the direct contributions to profit, whereas it fails to take into account whether the project was implemented properly (Kerzner, 2006). Traditionally, project managers have not assumed that cost and time are not the exclusive criteria of their project's success because these criteria are closely determined by a project's stakeholders (Turner, 2000). Towards the strategic significance of projects makes it reasonable to investigate to what extent the reached results contribute to the effectuation of organisational strategy (Görög, 2003; Jarjabka, 2009; Judgev and Müller, 2005). A productive evaluation of project success should not only address project efficiency and the fulfilment of project aims, but it should also examine project effectiveness, the support of corporate strategy and stakeholders' interests (Deák, 2006; Szabó and Gaál, 2006).

The distinction of task and psychosocial-related criteria reflect the importance of stakeholders' satisfaction; task-related aspects are mainly based on the 'iron triangle', whereas psychosocial-related criteria include the satisfaction of customers and end users, the happiness of project team and the opinion of other project stakeholders (Pinto and Pinto, 1991). Researchers have relied more on measurable aspects rather than attempting to divide criteria into groups of objectively measureable aspects such as schedule, cost, performance, safety, disputes, accident rate, and a set of subjective evaluation criteria such as quality, client, contractor, project team and other stakeholders' satisfaction (Chan and Chan, 2004; Jha and Iyer, 2007). Studies that have been carried out in certain industries, especially in information technology and construction practice, have identified technical success, environmental impact and the effects on business operations as the most important criteria (Agarwal and Rathod, 2006; Ahadize et al., 2008; Thomas and Fernández, 2008). Most of the recent studies have tended to emphasise that project success criteria should include benefits to an organisation and preparing for the future in terms of innovations and competence development (Judgev and Müller, 2005; Papke-Shields et al., 2010).

2.2. Project success factors

Project success factors require special and permanent attention to guarantee a strong likelihood of project's success; otherwise, if these factors are not taken seriously, it could contribute to the failure of a project (Kandelousi et al, 2011). Early studies (Baker et al., 1988; Pinto and Slevin, 1988) concentrated on revealing the factors that influence a project's success or failure and defined success in terms of achieving the objectives of adhering to a schedule, keeping costs within an established budget and achieving a high level of performance. Based on empirical surveys, Pinto and Slevin identified coordination, communication and relationships, structure and control, monitoring and feedback, a project's significance and publicity, and management support as well as the predetermination and acceptance of success criteria as the factors that have a positive impact on a project's outcome. Other publications (Belassi and Tukel, 1996; Cooke-Davies, 2002; Lechler, 1997) have attempted to classify these factors and to create a consistent model for success factors. Belassi and Tukel (1996) grouped them into four categories: factors that are related to a project, to a project manager and team, to an organisation and the factors that are related to the external environment. Their classification facilitates an overview of where the cause of success or failure can be located and an understanding of the intra-relationships between the factors in the different groups. Similarly, based on the comparative analysis of the earlier empirical success factor studies, Lechler (1997) elaborated on a conceptual success factor model in which he grouped factors into categories such as context, participants and functions. In relation to this framework, an extensive survey was carried out in which the qualities of top management and the project team as well as communications were identified as the factors that exerted a considerable impact on project success (Gemünden and Lechler, 1997). Cooke-Davies (2002) studied so-called real success factors at three different levels: the success of project management activity, project success and consistent project success. Summarising the results of several studies and outlines, Judgev and Müller (2005) suggested four necessary conditions for project success, including the agreement on success criteria with

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the stakeholders before a project starts, a collaborative working relationship between the project owner and project manager, the empowerment of the project manager with a certain amount of flexibility in special situations, and the owner's interest in the performance of the project. Experts who have specifically analysed the success of organisational event projects have identified that a clear objective, the concept and feasibility of an event, detailed project planning and control, effective and committed leadership, the management of human resources, problem solving, the handling of relationships and good communication with stakeholders as key factors of success (Rofner, 2009; Waeffler and Pfister, 2008).

2.3. The relationship between success criteria and success factors

The most recent literature seems to focus more on revealing the relationships between success criteria and factors that are based on empirical surveys (Table 1). With regard to construction projects, technical planning and the controlling expertise of contractors (Doloi et al., 2011) as well as the commitment, coordination and competence of the project participants (Jha and Iyer, 2007) can support successful project performance. Furthermore, behavioural management issues, such as commitment, participation and goal commitment, can have a considerable positive correlation with participant satisfaction, whilst a high level of team and task conflict impairs overall satisfaction (Leung et al., 2004). Top management involvement (Kandelousi et al., 2011), a project manager's leadership style, communication, collaboration and the cohesiveness of a project team (Yang et al., 2011) are related to project success, especially in the case of high complexity projects in the areas of manufacturing, building, industry and infrastructure. With regard to the standards and practices of project management (PM), the studies overall could not confirm the relationship between a project managers' performance against the widely used PM standards and the perceived effectiveness of workplace performance (Crawford, 2005). However, a more recent study on Project Management Institute (PMI) members established that the level of PM practice usage is related to project success. Groups of "low" and "high" performance projects showed differences in terms of communication, human resource, cost, scope, risk and quality management areas in favour of "high" levels of project success (Papke-Shields et al., 2010).

The results of the above-mentioned studies prove that two groups of success factors can be distinguished that date back to the task and relation oriented approach of leadership theories. The framework for the school behaviour studies that were conducted at University of Michigan defined two types of leadership behaviours, employee orientation and production orientation. The Michigan researchers believed that these styles represented opposing sets of leadership behaviour (Hackman and Johnson, 2004). By contrast, researchers at Ohio State University assumed that it was possible for a leader to demonstrate task orientation and interpersonal orientation at the same time (Northouse, 2004). The well-known leadership grid by Blake and McCanse (1992), which was also based on this issue in which task (concern for production) and relationship (concern for people) orientation have two intersecting axes in the model. In their concept, task orientation focuses on the objectives, achievements and activities of the staff, whereas a relationship orientation concentrates on an interest in the staff, the teamwork of colleagues as well as on the relationship between different departments, customers and clients. Other studies within the framework of the situational approach also emphasised the conception of task and interpersonal orientation. One of the most widely recognised situational approaches was developed by Hersey and Blanchard. According to their theory directive (task) behaviours give directions, establish objectives and methods, define roles and introduce how goals are to be achieved, whilst supportive (relationship) behaviours show social and emotional support for others, share information, request input, praise and involve two-way communication (Blanchard, 2010). In addition, the task and relationship approach also appears in the contingency theory from Fiedler (1995) as well as in transformational leadership model of Bass (1990), who suggested that leadership can simultaneously display both transformational (people-focused) and transactional (task-focused) behaviours.

The task and people-oriented focus of leadership has also emerged in the area of project management in the last few

Table 1
Findings on the relationship between success criteria and factors.

Publication	Research characteristics	Task-oriented success factors	Relation oriented success factors	Relations to success criteria
Leung et al. (2004)	Survey with 90 project participants in construction industry		Commitment, participation and goal commitment	✓
Crawford (2005)	Qualitative study of PM practitioners in Australia, UK, USA	PM practices and PM standards		–
Jha and Iyer (2007)	Survey with 114 and 90 respondents, analysis of 20 case studies		Commitment, coordination and competence of project participants	✓
Kandelousi (2011)	Survey with 110 respondents in manufacturing industry in Malaysia		Top management involvement	✓
Doloi et al. (2011)	Survey amongst 43 medium to large construction firm in Australia	Technical planning, and controlling expertise of contractors		✓
Papke-Shields et al. (2010)	Survey with 142 PMI members in the USA	Cost, scope, risk and quality management	Human resource management communication	✓
Yang et al. (2011)	Interview with 213 senior individuals in Taiwanese construction industry		PM's leadership style, communication, collaboration and cohesiveness of project team	✓

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years, when more and more studies have featured the role of the human factor as a key element of successful project implementation (Belout and Gauvreau, 2004; Kendra and Taplin, 2004). Beyond that fact, researchers have addressed the role of the project manager's leadership style in achieving project success. More studies have found that successful project managers are primarily relationship-motivated managers (Lee-Kelley and Leong, 2003) and that project managers who are relationship-oriented generate more successful projects (Prabhakar, 2005). For medium-complexity projects, emotional resilience and communication have been found to be significant, whilst for high complexity projects, sensitivity has been found to be considerable (Müller and Turner, 2007). Because of continuous development and innovation, project management methods are available for each project that has been presented in the recent literature. Nevertheless, one project will end successfully, whilst another will fail, despite their having similar project management methods. Accordingly, in a successful project, the implementation is not primarily determined by project management techniques, structures and systems, but rather the orientation towards the project participants and stakeholders is fundamental (Müller and Turner, 2010).

The present study addresses these issues by focusing on the management and performance of organisational event projects as well as the link between them. The following research questions guided our research:

1. What are the attributes of success criteria for organisational event projects?
2. What are the attributes of success factors for organisational event projects?
3. Are there any relationships between the attributes of success criteria and success factors for organisational event projects?

3. Research method

Earlier studies about project success provide us with potential measures for a construct variable regarding project success criteria and success factors. At the same time, specified measures of organisational event projects were elaborated based on semi-structured interviews with organisers of international sporting events.

The dimensions of the "iron triangle": cost, time and quality (Turner and Cochrane, 1993) were still considered to be the central aspect by which to measure to project success. (Agarwal and Rathod, 2006; Atkinson, 1999; Bryde, 2008) However, more studies established that project success goes beyond meeting cost, time and quality goals by focusing on meeting a project's specified aims and business success not only with short- but also on longer-term projects (Atkinson, 1999; Chan and Chan, 2004; Cooke-Davies, 2004; Müller and Turner, 2010; Papke-Shields et al., 2010; Shenhar et al., 2001; Thomas and Fernández, 2008; Wateridge, 1998). The satisfaction of project stakeholders has been used widely in project success studies, which have focused specifically on the customer satisfaction, project team and partners, as well as on the contentment of other stakeholders (Ahadize et al., 2008; Belassi and Tukel, 1996; Chan and Chan, 2004; Cooke-Davies, 2004; Lim and Mohamed, 1999; Milosevic and Patanakul, 2005; Müller and Turner, 2010; Papke-Shields et al., 2010; Pinto and Slevin, 1988; Shenhar et al., 2001; Thomas and Fernández, 2008).

The results of the previous studies on identifying success factors represent, on one hand, a task-oriented approach, and, on the other hand, a relationship-oriented approach (Belout and Gauvreau, 2004; Kendra and Taplin, 2004; Lee-Kelley and Leong, 2003; Müller and Turner, 2010; Prabhakar, 2005). In the case of the task-oriented approach, project management processes (Baker et al., 1988; Belassi and Tukel, 1996; Cooke-Davies, 2002; Gemünden and Lechler, 1997; Kendra and Taplin, 2004; Kerzner, 2006; Leung et al., 2004; Milosevic and Patanakul, 2005; Pinto and Slevin, 1988; Turner, 2004) and project resources (Belassi and Tukel, 1996; Cooke-Davies, 2002; Doloi et al., 2011; Leung et al., 2004; Munns and Bjeirmi, 1996) were the most commonly accepted attributes of success factors. Considering the relationship-oriented approach, the features of project team (Baker et al., 1988; Belassi and Tukel, 1996; Cooke-Davies, 2002; Gemünden and Lechler, 1997; Jha and Iyer, 2007; Kendra and Taplin, 2004; Kerzner, 2006; Leung et al., 2004; Milosevic and Patanakul, 2005; Pinto and Slevin, 1988; Turner, 2004; Yang et al., 2011), organisational culture (Baker et al., 1988; Gemünden and Lechler, 1997; Kendra and Taplin, 2004; Kerzner, 2006; Leung et al., 2004; Milosevic and Patanakul, 2005) as well as communication and co-operation with project stakeholders (Baker et al., 1988; Belassi and Tukel, 1996; Gemünden and Lechler, 1997; Jha and Iyer, 2007; Judgev and Müller, 2005; Leung et al., 2004; Milosevic and Patanakul, 2005; Pinto and Slevin, 1988) comprised the measureable variables of project success studies.

To supplement the measures of the study with the specific variables that are essential for organisational event projects, we conducted semi-structured interviews with event managers of international sporting events, four of whom Hungarian, two of whom German and one of whom Czech. During the interviews, we asked the event managers about their experiences and the attributes of success factors and criteria that they had identified based on completed projects—as well as those that they would anticipate for future organisational event projects. As a result of the interviews, we arrived at specific and complementary indicators by which to measure the success factors and criteria of organisational event projects (Table 2).

Our study adopted quantitative methods to answer research questions in the form of statistical analyses. The aim of a quantitative study can be to conduct either a confirmatory study or an exploratory study (Creswell, 2003). Using exploratory research, this study was able to define the existence and intensity of the relationships between the success criteria and the success factors of organisational event projects. The data collection instrument was a questionnaire that was constructed especially for this study based on the analysis of past studies and semi-structured interviews. The questionnaires were given to the event managers via post and email, with an online option for providing answers. We collected the dates of the sport

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Table 2
The success criteria and success factors that were used for this study.

	Attributes	Indicators
Success criteria	Meeting project's performance objectives	SC1 Delivery on time
		SC2 Delivery on budget
		SC3 Delivery of contractual obligations
		SC4 Achievement of business success
	Meeting project's specified objectives	SC5 Number of accredited athletes
		SC6 Number of spectators
		SC7 Boost of local tourism and economy
		SC8 Popularisation of sport and home athletes
	Stakeholders' satisfaction	SC9-15 Satisfaction of project owner, users, project team, contractors, sponsors, local and national stakeholders
		SC16-18 Long term partnerships with sponsors, local and national stakeholders
Success factors	Project management processes	SF1 Elaboration of objective structure
		SF2 Elaboration of task structure
		SF3 Improvement of project plans
		SF4 Definition of scope and responsibilities
	Project resources	SF5 Selection of contractors
		SF6 Control of contractors
		SF7 Responsibility sharing in sub-contracts
		SF8 Financial conditions in sub-contracts
	Project team	SF9 Competence and skills of project leader
		SF10 Competence and skills of team members
		SF11 Commitment of project team
	Organisational culture	SF12 Communication within the project team
		SF13 Information sharing within the project team
		SF14 Support of teamwork
		SF15 Support of individual efforts
		SF16 Organisational learning
	Communication & co-operation	SF17-20 Communication with project owner, users, contractors and sponsors
		SF21-22 Partnerships with local and national stakeholders

events and the organisers based on sport yearbooks from 2000 to 2008. In the survey, we asked the presidents or general secretaries of the organising committees of all of the world and European championships that were organised between 2000 and 2008 in selected European countries (Austria, Czech Republic, Germany, Hungary, Poland, Slovakia, Slovenia and Switzerland) to base their responses on the sport events that they had organised. The first section requested information about the event and the respondent. The second section contained questions about the execution of success factors, where the extent of implementation was assigned based on a five-point scale from "Not at all important" to "Very important". The last section gathered information about the scope of the results that had been achieved and the satisfaction of the stakeholders based on a five-point scale from "Not at all" to "Entirely".

Altogether we received completed questionnaires from 71 sport associations, which constitute a return rate of 38.8%. The total number of returned and appraisable questionnaires was 104. Amongst participating sport organisations, the proportion of Hungarian sport associations was the highest, but the German, Swiss and Austrian associations had significant representation as well. Approximately half of the analysed sport events were organised between 2006 and 2008. Taking the duration of the sport events into consideration, some 40% of the analysed events had durations of 1 to 4 days and approximately 50% had durations of 5 to 10 days. Most of the analysed sport events were organised in individual Olympic or in Olympic team sports. The distribution of analysed sport events in terms of different aspects (country, year, duration, sport) reflects the original proportion of all of the championships that were organised between 2000 and 2008 in the selected countries (Appendix A). A Cronbach's coefficient (α) was calculated to test the reliability and the internal consistency of the responses. Values above 0.5 are considered to be acceptable, and values above 0.8 are considered to be meritorious (Hair et al., 1998). The Cronbach's α was assessed for success criteria at 0.877 and at 0.868 for success factors. These values indicated an adequate degree of internal consistency.

The study's first and second research questions that focused on revealing the attributes of success criteria and success factors of organisational event projects were examined using exploratory factor analysis. Exploratory factor analysis helped us to detect structures in the relationships between variables to classify them as well as to reduce the number of variables, if necessary. The process brings the intercorrelated variables together under more general, underlying variables. In addition, the analysis offers the possibility of using the output in subsequent analyses. Before applying the factor analysis, the correlation coefficients of the variables must be examined. The variables that correlate highly with a group of others but at the same time correlate poorly with the variables that are outside of that group are suitable for factor analysis (Field, 2005). The values of the correlation matrixes for success criteria and factors showed an adequate correlation amongst several of the variables. The critical assumptions for the analysis were tested using the Kaiser–Meyer–Olkin (KMO)

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measure of sample adequacy and the Bartlett Test of Sphericity. According to the values of the KMO index (0.820 for success criteria and 0.776 for success factors) and the zero significance of Bartlett's tests, the variable set met the reliability requirements of the analysis (Field, 2005). The factor analysis was carried out with the maximum likelihood method and the Varimax rotation with Kaiser Normalisation. According to the significance level of the factor loadings, we identified a variable as being a part of the factor when its factor loading was more than 0.4 (Hair et al., 1998).

The third research question was tested by exploring the relationships between the identified attributes of success criteria and success factors. The first multivariate linear regression analysis was applied, which involves identifying the relationship between a dependent variable and one or more independent variables. Next we proceeded to a regression analysis by which the partial correlation coefficients were calculated, which represent the intensity of the association between the variables (Field, 2005). Before using the regression analysis, the linearity of the relationships between the dependent and the independent variables as well as the independence, homoscedasticity and normality of errors had to be examined (Hair et al., 1998). The testing of the results assumptions was achieved by applying Kolmogorov–Smirnov, Goldfeld–Quandt and F-tests that verified the acceptance of the variables that had been created through the factor analysis for the regression and correlation analyses. The multivariate regression analysis was carried out with the backward method, and the adjusted R^2 (which represents the explained ratio of total variance) and the significance level of the F-test (p must be less than 0.05) were examined. During the correlation analysis, the partial correlation coefficients were calculated, and the significance of the coefficients was verified by a t-test (p must be less than 0.5). Estimating the intensity of the relationships, the partial correlation coefficient (r) under ±0,3 was defined as a small effect, and the correlation coefficient between ±0,3 and ±0,5 was defined as a medium effect, whereas the correlation coefficient over ±0,5 was defined a strong effect. If the value of correlation coefficient is zero there is no linear connection between variables (Field, 2005).

4. Results

4.1. The exploration of the attributes of success criteria and success factors

The exploratory factor analysis on 18 variables that represent success criteria identified four factors. In the factor model, the total variance that was explained by the four factors accounted for 53% of the total cumulative variance. The first factor contained variables that represent the most important aims of a project: delivery on budget, the achievement of business success as well as the satisfaction of the international sport association as the project owner and of the project team. The second factor involved the indicators that measure the fulfilment of a project's specified objectives such as the number of athletes and spectators as well as the support of the local economy, sport industry and home athletes. The third factor includes the satisfaction of the partners, a long term partnership with sponsors as well as delivery on contractual obligations. The fourth factor includes the variables that represent the satisfaction of local and national stakeholders as well as a long term partnership with those stakeholders (Table 3). Two variables out of 18 (delivery on time; satisfaction of users) belonged to no particular factor category. Based on the examination of the variables that create separate components, the following interpretation was made for the success criterion of organisational event projects: 1. *meeting a project's primary aims*; 2. *meeting a project's specified aims*; 3. *the satisfaction of the contractors and the sponsors*; and 4. *the satisfaction of the local and national stakeholders*. The first two factors describe the fulfilment of project objectives, whereas the third and fourth factors represent the satisfaction of the project stakeholders as well as their approach to long term partnerships.

An analysis on 23 variables that represent the success factors of organisational event projects identified six factors. The total variance that was explained by these factors describes 59% of the original content of the variables. The first factor represents the elaboration of the objective- and task structures of a project as well as the continuous improvement of project plans. The second factor includes the definition of financial conditions and the responsibility for sharing in sub-contracts. The third factor contains the variables that are connected to the competence and commitment of a project leader and a project team as well as the division and scope of responsibilities. The fourth factor includes variables that represent information sharing, communication, teamwork and organisational learning within a project team. The fifth factor's indicators involve the selection and control of

Table 3
Rotated factor matrix of success criteria.

Factor	1	2	3	4
Meeting a project's primary aims				
Delivery on budget	.770			
Project team's satisfaction	.597			
Owner's satisfaction	.552			
Achievement of business success	.487			
Meeting a project's specified aims				
Popularisation of sport and home athletes		.655		
Boost of local tourism and economy		.652		
Number of spectators		.617		
Number of accredited athletes		.495		
Satisfaction of contractors and sponsors				
Contractors' satisfaction			.766	
Sponsors' satisfaction			.760	
Long term co-operations with sponsors			.577	
Delivery of contractual obligations			.485	
Satisfaction of local and national stakeholders				
Local stakeholders' satisfaction				.763
Long term partnership with local stakeholders				.714
Long term partnership with national stakeholders				.657
National stakeholders' satisfaction				.482
Eigenvalues	2.36	2.27	2.20	1.80
% of variance explained	14.7	14.2	13.8	11.2
Cum.% of variance explained	14.7	28.9	42.7	53.9

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contractors as well as communication with the most important stakeholders: project owner, sponsors and contractors. The final factor includes collaboration and conversation with a wider range of stakeholders such as national and local authorities, the city and its inhabitants (Table 4). Three of the variables out of 23 (the selection and training of team members, communication with users) belonged to neither factor category. Based on an inspection of the variables that create separate attributes, the following interpretation was made for the success factors of organisational event projects: 1. *project definition*; 2. *contract strategy*; 3. *project leadership*; 4. *the organisational culture of the project team*; 5. *communication and co-operation amongst partners* and 6. *partnerships with local and national stakeholders*. The variables indicate that the first two factors mainly have a task focus, whilst the variables of the other factors primarily have a relationship focus.

4.2. An analysis of the relationship between the attributes of success criteria and success factors

In the course of the study, the relationship between success criteria and success factors was investigated to reveal which factors play an important role in the fulfilment of a project's aims and the satisfaction of project stakeholders. During the analysis, first, a multivariate linear regression was applied to define the nature and character of the connections between the variables. The attributes of the identified success criteria were loaded separately into the regression model as dependent variables, and the attributes of the identified success factors were loaded separately as independent variables, and four models were generated. The first model identified the connections between the success factor and the success criterion, *meeting project's primary aims* (R^2 0.215, *Adj*. R^2 0.188, p 0.000). The second model revealed associations between the success factors and the success criterion, *meeting project's specified aims* (R^2 0.123, *Adj*. R^2 0.104, p 0.003). The third model included the *satisfaction of contractors and sponsors* success criterion (R^2 0.315, *Adj*. R^2 0.300, p 0.000), whilst the fourth model included the *satisfaction of local and national stakeholders* success criterion (R^2 0.305, *Adj*. R^2 0.274, p 0.000) as dependent variables and the success factors as independent variables. The regression analysis verified the adequacy of the regression models and revealed significant ($p < 0.05$) associations between several success factors and success criteria attributes.

Table 4
Rotated factor matrix of success factors.

Factor	1	2	3	4	5	6
Project definition						
Elaboration of task structure	.743					
Elaboration of objective structure	.462					
Actualisation of project plans	.453					
Contract strategy						
Responsibility sharing in sub-contracts		.910				
Financial conditions in sub-contracts		.873				
Project leadership						
Competence of project leaders			.599			
Commitment of project team			.560			
Division of scope and responsibilities			.431			
Organisational culture of project team						
Support of teamwork				.839		
Support of individual efforts				.725		
Communication within project team				.702		
Organisational learning				.674		
Information sharing within project team				.456		
Communication & co-operation with contractors & sponsors						
Communication with contractors					.854	
Communication with sponsors					.654	
Communication with project owner					.636	
Control of contractors					.627	
Selection of contractors					.508	
Partnerships with local & national stakeholders						
Partnership with local stakeholders						.943
Partnership with national stakeholders						.444
Eigenvalues	2.88	2.87	1.98	1.48	1.40	1.28
% of variance explained	14.4	14.4	9.9	7.4	7.0	6.4
Cum.% of variance explained	14.4	28.8	38.7	46.1	53.1	59.5

Based on the results, a correlation analysis was carried out to describe the strength and intensity of the relationships between the attributes of the success criteria and the success factors. Table 5 represents the values of the partial correlation coefficients as well as the significance level of t-test.

The accomplished partial correlation analysis revealed strong and medium relationships between the success criteria attributes and certain success factor attributes that represented relationship orientation and weak correlations in the case of success factor attributes with task focus. The *meeting project's primary aims* success criterion had a medium connection with *project leadership* and a weak connection with *project definition* and the *communication and co-operation with contractors and sponsors* success factors. The *meeting a project's specified aims* success criterion had a medium relation to *partnerships with local and national stakeholders* and a weak relationship to the *organisational culture of project team* success factors. The *satisfaction of contractors and sponsors* criterion showed a strong correlation with the *communication and co-operation with contractors and sponsors* and a weak connection with *contract strategy* success factors. The *satisfaction of local and national stakeholders* success criterion had a medium correlation to *communication and co-operation with contractors and sponsors* and *partnerships with local and national stakeholders* success factors; at the same time they had a weak correlation to the *project leadership* and *contract strategy* success factors.

5. The interpretation of the results and recommendations

5.1. What are the attributes of the success criteria for organisational event projects?

The success criteria of organisational event projects included four attributes: meeting a project's primary aims, meeting a project's specified aims, the satisfaction of contractors and sponsors and the satisfaction of local and national stakeholders. These attributes of success criteria – in accordance with

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Table 5
Partial correlations between the attributes of the success criteria and the success factors.

Independent variables (success factor attributes)	Stand. coefficients	Partial correlation coefficients					
		Dependent variables (success criteria attributes)					
	Beta	*t*	*Sig.*	Meeting project's primary aims	Meeting project's specified aims	Satisfaction of of contractor & sponsors	Satisfaction of national & local stakeholders
Communication & co-operation	.192	2.043	.044	.212			
Project definition	.220	2.342	.021	.241			
Project leadership	.340	3.611	.001	.357			
Organisational culture	.188	1.906	.060		.197		
Partnerships	.299	3.029	.003		.304		
Communication & co-operation	.512	5.865	.000			.526	
Contract strategy	.225	2.577	.012			.262	
Communication & co-operation	.285	3.198	.002				.323
Contract strategy	.182	2.045	.044				.213
Partnerships	.316	3.547	.001				.354
Project leadership	.262	2.945	.004				.299

experiences of the previous success criteria studies (Ahadize et al., 2008; Chan and Chan, 2004; Cooke-Davies, 2004; Lim and Mohamed, 1999; Müller and Turner, 2010; Papke-Shields et al., 2010; Shenhar et al., 2001; Thomas and Fernández, 2008) – cover two main areas of evaluation, meeting a project's objectives and the satisfaction of project stakeholders. The results of the study confirmed the conception of Chan and Chan (2004). It verified that in the evaluation of project success, the objective criteria of aim-attainment and the subjective opinion of interest groups are both essential.

In the assessment of primary project objectives, the criterion of delivery on budget and realisation of business success as well as the satisfaction of internal stakeholders are the major aspects. As with many other projects, an organisational event project must adhere to a defined and often narrow budget. Nevertheless, in the case of organisational event projects, a project team needs to meet its budget under the pressure of a fixed deadline, several different requirements, uncertainty and change. Therefore, if a project team wants to succeed on behalf of the sport association and new generation athletes, they must seek out and secure event sponsors, ensure that tickets are purchased and other actions that guarantee income. However, the success criterion, delivery on time, did not belong to any of the attributes of success criteria. In organisational event projects the deadline of an event has to be observed under any circumstances as being distinct from other types of projects (engineering and construction, information technology systems, organisations and businesses), in which a planned deadline can be modified during a project's lifecycle (Görög, 2003). Therefore, the values of this criterion did not synchronise with the other criteria. Parallel with the cost and profit results, the satisfaction of the main internal stakeholders plays an important role. The project owner, the international sport federation, follows up and controls every moment of the organisational work. Their positive opinion is essential during the entire process of preparation and implementation as well as in making decisions about the organisation of future championships. On the other hand, the project staff also deserves considerable attention because the handling of participants, stakeholders and unforeseen events depends on their professionalism and commitment (Pinto, 2007). In addition, sometimes it is nearly impossible to replace the project staff, especially in the final phases of an organisational event project. Understandably, the organisers mainly concentrate on financial questions and ensuring the owner's satisfaction, as described above. In recent years other studies have also shown that a project's specified aims appear to be essential in the evaluation of the global benefits and long term effects of an event (Ahadize et al., 2008; Cooke-Davies, 2004; Müller and Turner, 2010; Shenhar et al., 2001). In the case of organisational event projects, the number of athletes and spectators and the support of the sport and local economy comprise the specific aims of a project. The number of athletes and spectators is important as the volume and performance of an event. A great number of accreditations and spectators facilitate the interest of the sponsors and media delegates for an event. The sustainability of both sport and home athletes is more complicated and can only be reflected by the number of club members, after-growth athletes and the interest of supporters. Similarly, it is difficult to give a definite evaluation of economic and touristic effects; however, more and more indices (the number of guest-nights, spending per person) can aid in objective measurement.

Furthermore, organisers are required to pay more and more attention to a project's external stakeholders (Atkinson, 1999; Lim and Mohamed, 1999; Milosevic and Patanakul, 2005; Müller and Turner, 2010; Pinto and Slevin, 1988; Shenhar et al., 2001; Thomas and Fernández, 2008). External stakeholders often have a considerable effect on a project's implementation; however, their approach and behaviour generally cannot be influenced by a project team (Pinto, 2007). By organisational event projects on one hand, the satisfaction of contractors and sponsors can be achieved through organisational event projects; however, on the other hand, the satisfaction of local and national stakeholders must also be considered. Good co-operation and communication with contractors and sponsors can help organisers to recognise failures or deviations in a timely manner and solve them together. Their opinions about and experience with the shared work can sustain the improvement and strengthen further co-operation. In addition, the opinions and feedback of

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national and local stakeholders (authorities, national and local government, inhabitants) can facilitate an organisation if there is an adherent relationship, whilst in the case of conflicts, they may discourage a project's team. In contrast to the results of earlier studies (Atkinson, 1999; Baker et al., 1988; Lim and Mohamed, 1999; Müller and Turner, 2010; Pinto and Slevin, 1988; Shenhar et al., 2001; Thomas and Fernández, 2008) in organisational event projects, the satisfaction of users (athletes, sport delegates) criterion did not correspond to other success criteria; therefore, it did not belong to either attribute. The situation is the same with the deadline criterion. The organisers must ensure the best conditions for the athletes and their supporters in favour of great sport performance. In addition, the international sport associations also specify and require the swift preparation and implementation of all of the elements of an event.

5.2. What are the attributes of the success factors for organisational event projects?

The success factors of organisational event projects are comprised of six attributes: project definition, contract strategy, project leadership, the organisational culture of the project team, communication and co-operation with contractors and sponsors and partnerships with local and national stakeholders. The first two attributes cover success factors with task focus, whilst the other attributes mainly include success factors with a relationship focus. In accordance with results of the earlier studies about project success factors (Belout and Gauvreau, 2004; Kendra and Taplin, 2004; Lee-Kelley and Leong, 2003; Leung et al., 2004; Müller and Turner, 2010; Prabhakar, 2005) it was verified that success factors represent tasks, on one hand, and a relationship-oriented approach on the other. The success factors that represent project definition, such as the development, control and actualisation of aims and activities and the improvement of project plans are essential because these areas constitute the basis of the organisation, the planning and the follow up of activities of an event (Baker et al., 1988; Cooke-Davies, 2002; Gemünden and Lechler, 1997; Leung et al., 2004; Pinto and Slevin, 1988; Turner, 2004). First, the organisers must identify the objectives and even the structure of aims of an event, which will help them to define the scope and main areas of activity of the project, which can further serve as a set of success criteria of project evaluation. The elaboration of task structure sustains the division of tasks that constitutes the basis of responsibility sharing. Nevertheless, the detailed planning of aims, tasks, deadlines, resources and costs are not realised at all events because of the many uncertainties and changes that arise. Nevertheless, a good plan can serve as a baseline, so that changes and actualisations can be followed by the continuous improvement of plans. In addition to project definition, the delivery of required resources requires a great deal of attention and energy from a project team, which has to ensure the different resources (infrastructure, facilities, accessories and various services) within established deadlines (Belassi and Tukel, 1996; Cooke-Davies, 2002; Doloi et al., 2011; Leung et al., 2004; Munns and Bjeirmi, 1996). To fulfil these requirements, they need trustworthy contractors, sufficient responsibility sharing and financial conditions that are added in the sub-contracts, as well as permanent control.

Beyond the application of these methods in the successful implementation of organisational event projects, the leadership and organisational culture of a project team (Baker et al., 1988; Gemünden and Lechler, 1997; Kendra and Taplin, 2004; Kerzner, 2006; Leung et al., 2004; Milosevic and Patanakul, 2005) as well as the synergy with partners and further stakeholders (Belassi and Tukel, 1996; Gemünden and Lechler, 1997; Jha and Iyer, 2007; Judgev and Müller, 2005; Leung et al., 2004; Milosevic and Patanakul, 2005; Pinto and Slevin, 1988) are crucial factors. The best professionals and team players are needed to manage unforeseen situations and the changing requirements of the stakeholders without letting the athletes or the spectators know about any difficulties. To withstand such challenges, a project team should have a supportive organisational culture that supports individual efforts and decisions and ensures that the required information is disseminated and that there is direct communication amongst all of the members of the organising committee. At the same time, none of the events could be realised without partners, sponsors, and the national and local groups who must be committed and convergent with the aims of the event. Their initiation, education and enlisting can ensure advantages for all of the parties that have an interest in the event. The findings of the study confirmed that the theories that were presented by Ohio State University and its followers can also be fully proved in the case of organisational event projects. Our results correspond with studies on success factors and on project leadership (Müller and Turner, 2010; Papke-Shields et al., 2010), which retain the same methods, techniques and humanistic approach that are necessary for effective project performance.

5.3. Are there any relationships between the attributes of success criteria and success factors?

In the case of organisational event projects, there are strong and medium relationships between success criteria and there are more success factors that represent a relationship orientation, with weak correlations concerning the success factors that represent task focus. Based on the results summarized above the following thesis can be stated; certain success factor attributes that represent relationship orientation are major contributors to project success, whilst success factor attributes that represent task focus have less of an impact.

The findings of the study revealed that in the implementation of project objectives, human factors and relationship orientation play essential roles, whilst methods and techniques are less determining, which is a surprising outcome of the research (Fig. 1). However, taking the content of related factors into consideration, these correspondences are clarified. In the fulfilment of primary project aims, cost and profit requirements, the satisfaction of the project owner and project team, the competence and commitment of the project staff, the division of tasks and responsibilities, as well as the development of objectives, tasks and project plans are crucial areas. These primary performance criteria can only be accomplished through a process of detailed and mature task and responsibility sharing that is supported by an appropriate

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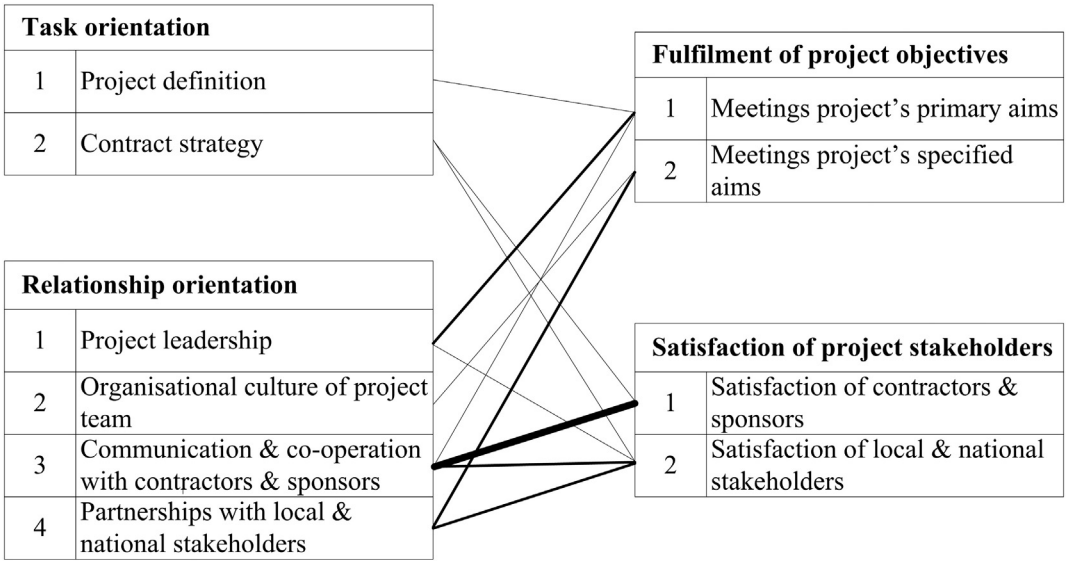

Fig. 1. Summary of findings.

direction, so that everyone knows when and what they have to do, who can support their work and is fully committed to the joint efforts. The fulfilment of specified aims can be influenced mainly by partnerships with national and local stakeholders. A sound relationship between organisers and the city, civil groups and inhabitants can influence their positive approach and increase the number of local spectators. Widespread regional or national co-operation sustains the extensive promotion of an event, which supports the popularisation of the sport and its athletes whilst boosting local tourism and the economy by appealing to more visitors through outside broadcasts.

Regarding the satisfaction of project stakeholders, it was not unexpected that factors that mainly contribute to communication, co-operation and partnership showed strong or medium correlations. Nevertheless, we note that the contract strategy factor, which suggests a task focus, can also influence the satisfaction criteria through well-defined conditions and expectations. Furthermore, the satisfaction of contractors and sponsors is considerably influenced by the method of selection and control and by continuous communication. These factors can establish a well-functioning process of co-operation, in which all parties are able to work together, support each other and solve emergent problems effectively. The satisfaction of national and local stakeholders mainly depended on the good relationship with the national and local authorities, representatives, civil groups and inhabitants. At the local level the city government and the organisers are interdependent. The organising committee requires the permission and support of the city, whereas local entrepreneurs, tourism services and the city as a destination can obtain advantages as a result of the championship. At the national level, a project team has to pay a great deal of attention to creating good partnerships with the authorities and institutions that can facilitate the organisation or conversely cause setbacks or even wholly impede its success.

According to these findings, we can state that, in the case of organisational event projects, in the implementation of project objectives as well as in the achievement of external stakeholders' satisfaction, it is mainly the soft, relationship-oriented factors such as project leadership, co-operation, communication and partnerships that are essential, whereas the hard, task-oriented factors play a less important role.

6. Conclusions

In the current article, we analysed project management practices and the results of European and world championships that were organised in Central and Eastern European countries, as well as in the German culture cluster. The purpose of the research was to define the attributes of success criteria and success factors of organisational event projects, as well as to reveal the possible correlations between success criteria and factor areas. Up to this point, there is not a large body of scientific research that could be applied to the analysis of the success of organisational event projects.

The variables of the success criteria and factors represent in detail the existing activities as well as the task objectives. In the market for international sport events, the fight for the organising rights is becoming more and more intensive, and the events are also becoming larger and more complex. In the coordination and implementation of such events, the application of various organisational methods and management tools is vital. The observations on the relationships between the attributes of success criteria and relationship-oriented success factors bear significant practical importance. Previous studies of project success revealed that task-oriented factors and human, relationship-oriented success factors of project management could be separated (Belout and Gauvreau, 2004; Kendra and Taplin, 2004; Lee-Kelley and Leong, 2003; Müller and Turner, 2010; Prabhakar, 2005), which complement each other and support effective project implementation. It was demonstrated in this study that during the implementation of project objectives, as well as in the satisfaction of stakeholders, the relationship-oriented success factor attributes,

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such as project leadership, communication and co-operation with partners, as well as partnerships with future stakeholders, are crucial factors. It seems that the attention of project managers needs to shift from technical aspects to more of a relationship orientation. Project management methods and techniques are essential in the definition and planning phases of an event. However, during the implementation, soft skills, relationships and appropriate communication can ensure the fulfilment of success criteria.

Appendix A. Distribution of analysed events and all events

	Number of analysed events	*Number of all events*	*Proportion by analysed events*	*Proportion by all events*
Country				
HUN	39	66	38%	21%
GER	6	30	6%	10%
SUI	6	28	6%	9%
AUT	5	27	5%	9%
POL	4	25	4%	8%
CZE	23	72	22%	23%
SVK	9	30	9%	10%
SLO	12	33	12%	11%
Sum	*104*	*311*	*100%*	*100%*
Year				
2000–2002	18	71	17%	23%
2003–2005	38	123	37%	40%
2006–2008	48	117	46%	38%
Sum	*104*	*311*	*100%*	*100%*
Duration				
1–4 days	44	131	42%	42%
5–10 days	49	145	47%	47%
11–days	11	35	11%	11%
Sum	*104*	*311*	*100%*	*100%*
Sport				
Olympic individual	62	180	60%	58%
Olympic team	21	58	20%	19%
Non Olympic	21	73	20%	23%
Sum	*104*	*311*	*100%*	*100%*

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