



## IMPACT OF LEADERSHIP STYLES ON PROJECT SUCCESS – THE CASE OF A MULTINATIONAL COMPANY

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### Abstract

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*Literature on project success mainly focused on identifying and analyzing success criteria and critical success factors. Success criteria are used for evaluating the success of a project and critical success factors are those factors which increase the potential for achieving project success. However, the interrelationships among them were rarely analyzed, although researchers highlighted the importance of these interrelationships.*

*The aim of the paper is to identify a leadership style, of which project managers can maximize the potential for achieving project success. Project success is analyzed from the point of view of success criteria. This approach manages the shortcoming mentioned above, the lack of analyzing interrelationships among critical success factors and success criteria. This outcome is drawn from qualitative field research at a subsidiary of a Scandinavian-based multinational company.*

**Keywords:** *project success, success criteria, critical success factor, leadership style*

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### 1. INTRODUCTION

Organizations always found important to measure success of the company so as to achieve it. Advanced qualitative and quantitative methodologies have been developed and used in practice, such as Balanced Scorecard developed by Kaplan and Norton or the complex financial indices (ROE, ROI, ROA) (e.g. Mészáros, 2005).

However, until the mid 90's there have been no widespread and accurate methodologies for measuring project success. While projects are at least as important for companies and deliver as much added value as their daily, operational tasks (see e.g. Görög, 2003). Without projects, strategic actions cannot be carried out, thus strategy cannot be realized. And a company without realized strategy becomes static, cannot adapt to the changing internal and external environment. This can lead to the cessation of the company. Thus, projects bear of great importance for companies, and based on that there

is a high need for measuring projects properly and identify management practices, which lead to an increased potential for achieving project success.

However, in the early era of project management (which was characterized by Taylor), one of the most important roles of management was to integrate – mostly unqualified – workforce into the company. This philosophy manifested in project management as well, enhanced by the need for realizing plans. So the proper planning and execution of tasks indicated a project (see e.g. Dobák, 2006).

Later the complexity and knowledge demand of a project has increased, they were harder to quantify and harder to manage and the chance for failure has increased to a greater extent (see e.g. Görög, 1996, Ives, 2005). The ratio of success is especially low in IT industry. The success ratio of IT projects was below 30% (by the mid-2000s) and cost overrun was very common among them (see e.g. Deák, 2001). One third of the projects have been cancelled before delivery, which means that the management faced such

a time and/or cost overrun, that could not be tolerated (Lee-Kelley & Loong, 2003).

The ratio is worse in case of military projects. Only 2% of them are completed in accordance with the plans and 3% of them are put in use (Fehér, 2008).

Nevertheless, nowadays not only atypical projects have a high project failure ratio; it is characteristics for the construction industry or for the non-profit sector as well (FOVOSZ, 2010).

In general more than two third of the projects have not met the predefined requirements. The most important reasons for project failure were as follows (Standish Group, 2009):

- inappropriate project scope definition,
- inappropriate project communication,
- lack of appropriate project management competencies.

However that the lack of resources is not a main leading cause for failure, since the required resources are mainly available on the market or the organizations already possess them. Nowadays companies realize the considerable amount of added value generated by projects, and because of this fact, high amount of money is dedicated to projects in each year. World Bank statistics points out, there was more than 19% of the World GDP is allocated to projects by the mid 2000s (Bredillet, 2007; World Bank, 2005). Based on this and considering the low success ratio of the projects, the need for increasing the chance for project success is essential for the academic sector and for the private sector as well.

The aim of the paper is to analyze project success, highlight those success criteria which the project managers have an impact on in the sample company and identify a leadership style which can maximize the potential for them to achieve project success. Thus providing a way for companies to increase project success rate.

## **2. LITERATURE REVIEW**

The understanding of projects has developed in the last century to a great extent. Projects were considered as unique tasks (Project Management Institute, 2010), which should be carried out. This was

enhanced by two approaches so that projects can be considered as temporary organizations (Lundin & Söderlund, 1995) and as strategic building blocks (Cleland, 1994). Due to this evolution, nowadays projects can be defined as follows (Görög, 2013b):

*Projects are one-time, complex, unique sequence of activities carried out in a project organization with time, and budget constraints and they implement a definite output (project result).*

Based on this definition and the enhanced approach towards projects, the most important aims of the project managers are to: manage the implementation process of the project, manage the temporary organization and deliver the beneficial change. This means managing the stakeholders of the project, planning, realizing the plans and delivering the output which was defined, so to achieve project success.

Project success nowadays is highly complex phenomenon which has an input and output oriented view. The output oriented view measures project success with the help of success criteria. Success criteria can be defined as follows (Görög, 2013b): *those base values based on which project success can be evaluated.*

The input oriented view analyzes projects from the point of view of which factors help to realize project success in a greater extent. These factors are the (critical) success factors. Boynton and Zmud define them as follows (Boynton & Zmud, 1984, p. 17):

*'Critical success factors are those few things that must go well to ensure success for a manager or an organization, and, therefore, they represent those managerial or enterprise area, that must be given special and continual attention to bring about high performance. CSFs include issues vital to an organization's current operating activities and to its future success.'*

In order to analyze project success properly, there is a need for both an input and an output oriented approach.

The understanding of project success has developed in accordance with the understanding of projects. Four distinctive phases, four eras can be identified (Judgev & Müller, 2005). The first phase was mainly throughout of the '50s , '60s and early

70's, when the environment was static and based on that the demands of the clients have not changed. In this phase project success meant the realization of the so-called project triangle: time, cost and quality constraints (see e.g. Olsen, 1971).

The second phase was mainly characterized the '70s and 80's due to the fall of the long-term planning (see e.g. Antal-Mokos et al., 2003). The environment lost its stability mainly due to the oil crises and the demand of the client also could change during the implementation period (since the environmental characteristics could also changed). Due to this, the era was focusing on the importance of the client satisfaction. Thus the two criteria at that time were as follows (see e.g. Wateridge, 1997):

- project triangle (time, cost and quality),
- stakeholder (client and end-user) satisfaction.

The third era of the understanding of project success was in the '90s. At that time the understanding of projects should have been looking upon from strategic point of view, there was a need for a stronger integration with the organizational strategy (see for ex. Mészáros, 2005). Besides, there was a need not to consider the critical success factors and success criteria as separate, independent factors, but two sides of project success which are in an interrelationship with each other. Another characteristic of this is era is the realization that the internal and external stakeholders and the project environment contribute in a great extent to project success.

The fourth era started at the dawn of the new millennium and still lasts. In this era, the strategic orientation – which was the characteristic also of the third era – was deepened due to the rapidly changing and more complex world (enough to think about the globalization and the widespread of the technological novelties, like the internet) (see for ex. Görög, 2013a; Mészáros, 2010). Due to this, the need for analyzing the interrelationships among critical success factors and success criteria has increased.

Success criteria are those base values, based on which project success can be evaluated. With the help of these base values, it can be decided whether a certain project was a success or a failure (Görög, 2013b).

Due to the reasons mentioned above, from the beginning of the 1980s, the project triangle (time,

cost, quality) is not sufficient for measuring success. There was a need for new indicators in order to get a comprehensive and reliable set of criteria. Although the trinity of time, cost and quality is a very important set of criteria even nowadays (see for ex. Görög, 2008).

Based on the understanding of project success, there is a need to add new success criteria in order to get a comprehensive picture. In addition, based on the literature, the proper model should meet the following requirements (e.g. Baccharini, 1999; Cooke-Davies, 2002; Fortune & White, 2005; Judgev-Müller, 2005):

- Holism: the model should contain all the relevant criteria which the project can be measured appropriately against.
- Realism: the model should evaluate projects properly, not diverting the outcome of the project.

Like it was mentioned earlier, the project triangle is important but not a sufficient criterion to measure project success. This triangle measures the completion of the project from the point of view of efficiency. However, due to the rapid changes of the environment, the lack of stability, there is a need to analyze the project from the point of view of effectiveness (Judgev & Müller, 2005). This is a complex phenomenon which can be decomposed into two: the satisfaction of the client and the satisfaction of the stakeholders. The first one encompasses the realization of the underlying objective why the project was initiated for. For example in case of an ERP system, that system could deliver that efficiency increase and cost saving as it was planned. The latter criterion is about the acceptance of the project result from the point of view of the important stakeholders. For example, the workers of an organization use the ERP system implemented or not. Based on this three important criteria can be identified against which a project can be measured:

- project triangle (time, cost, quality),
- client satisfaction,
- stakeholder satisfaction.

The first one evaluates the project from the point of view of the efficiency. Whether the resources were used efficiently or not. The latter two measure from the point of view of effectiveness. Those, who play an

important role in the life of the project (in the project delivery period or in the operational period), are satisfied with the project result or not.

With the help of these three criteria, project success can be evaluated holistically.

However literature reveals other criteria (like project success, project management success, user satisfaction) but these do not contain novelty, since they belong to the previously mentioned three criteria (project triangle, client satisfaction, stakeholder satisfaction) (see for ex. Project Management Institute, 2013).

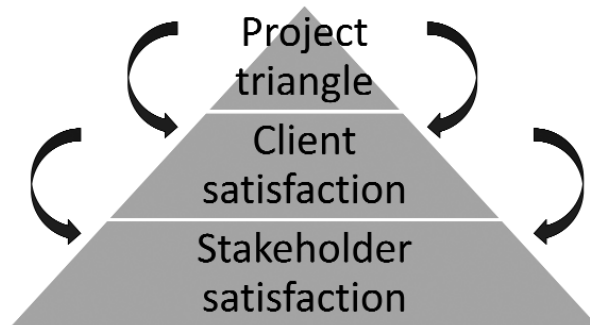
The second very important factor against the model should be realism. The model should not distort the result. Two kinds of model can be identified in the literature: the hierarchical models (see e.g. Baccarini, 1999; Cooke-Davies, 2002; de Wit, 1988; Görög, 1996; 2008) and the non-hierarchical models (see e.g. Atkinson, 1999; Freeman & Beale, 1992; Gardiner & Stewart, 2000; Labuschagne & Brendt, 2005; Toor & Ogunlana, 2010; Wateridge, 1997; Yu et al., 2005). The first kind of model does not assign equal weights to every criterion, while the non-hierarchical models analyze the project in a system where the criteria are equally important.

Non-hierarchical models cannot be considered as realistic (although very popular nowadays). Based on that many successful projects can be classified as unsuccessful. One of the most famous examples is the Opera House in Sydney. The original budget was 7 million Australian dollars and the final total cost of the project was over 100 million dollars, and the opening ceremony was postponed by 10 years. Using non-hierarchical models for evaluation, the project was unsuccessful. However, it was not. The Opera House is the symbol of Sydney and one of the symbols of Australia, one of the 100 wonders of the world (Kun, 2005). This result can compensate the excess two components of project triangle, the time and cost overrun. Based on that it can be concluded that the non-hierarchical models are not adequate nowadays. Hierarchical models are needed to be applied in order to get a realistic picture about the success of the project.

Combining the two criteria against the models (holism and hierarchy), Görög's (2013b) model

should be applied which analyzes the project success in a hierarchical structure and contains the three important and comprehensive success criteria. His approach is encapsulated in the following figure:

Figure 1. The hierarchical model



Source: adopted from Görög, 2013

It is important to analyze that project success not just from an output perspective, but from an input perspective as well. The critical success factors are those terms which help to do this (see Boynton & Zmud, 1984). The evolution of the critical success factors is more rapid than the evolution of project success or the success criteria (see for ex. Judgev & Müller, 2005).

At first they mainly focused on the project triangle, but later (due to the development of understanding of project success) other factors started to receive higher importance (see for ex. Fortune & White, 2006). Like ensuring the project management competencies or support of the senior management (see e.g. Bryde, 2008; Chen & Chen, 2007; Fiedler, 2010; Hartman & Ashrafi 2002; Ho, Chang & Wang, 2008; Papke-Shield, Beise & Quan, 2010).

Fortune and White (2006) analyzed more than 60 publications and they come concluded that the most popular were as follows:

- support of the senior management,
- clear, realistic objectives,
- good, up-to-date project plan,
- good communication/feedback,
- end-user involvement.

Based on that it can be concluded nowadays the soft, stakeholder-centric critical success factors became popular (see e.g. Lindner & Wald, 2011;



Müller & Turner, 2010), although the quantitative, project triangle-related critical success factors are also important and should not be neglected (see e.g. Umble, Haft & Umble, 2003; de Bakker, Boonstra & Wortmann, 2010).

An interesting approach is Turner's perspective towards the input side of project success, which is encapsulated in four statements (2004, p. 350):

- The success criteria should be agreed with the stakeholders before the start of the project, and repeatedly at configuration review points throughout the project.
- A collaborative working relationship should be maintained between the project owner and project manager, with both viewing the project as a partnership.
- The project manager should be empowered, with the owner giving guidance as to how they think the project should be best achieved, but allowing the project manager flexibility to deal with unforeseen circumstances as they see best.
- The owner should take an interest in the performance of the project.

These also emphasize the importance of the role of the project manager or the organizational characteristics of the environment surrounding the project. But these factors are not real critical success factors, rather critical failure factors. Without realizing them, the project ends with failure. Critical failure factors also analyze what influence project success, but from another perspective, which factors lead to project failure. Although they seem a radically opposite approach, but due to the same aim, it is advisable to remain at the critical success factors.

There were many critical success factors identified in the last three decades of which 9 categories can be created, which are as follows (see e.g. Black, Akintoye & Fitzgerald, 2000; Cheung, Yiu & Chiu, 2009; Clark, 1998; Fortune & White, 2005; Gelbard & Carmelli, 2009; Görög, 2008; Jang & Lee, 1998; Ng & Tang, 2010; Pinto & Kharba, 1996; Pinto & Slevin, 1987; Turner, 2004; Yang, Huang & Wu, 2011; Yeo, 2002; Yu & Kwon, 2011; Westerveld, 2003):

- Clarity of the underlying strategic objective of the project
- Scope definition of the project

- Continuous communication amongst the project team members (including the user's involvement and the support of the senior management)
- Reliability of the project triangle and the availability of the resources needed
- Competency of the project manager and his/her leadership style
- Competency of the project team and the team's motivation
- Risk management
- Change management
- Organizational and environmental characteristics

These 9 factors encapsulate the most important areas which the critical success factors cover.

As a result of the increasing popularity of the critical success factors, in the beginning of the '90s the so called critical success factor method became widespread (see Boynton & Zmud, 1984; Earl, 1989; Earl, 1996). The essence of this methodology is to identify a few (3-7) critical success factors, which should be realized and the project finishes with success. Thus the main and most important role of the project manager is to realize these critical success factors. The popularity of this methodology nowadays is limited, since practice does not justify the use of it (see e.g. Westerveld, 2002). Project management cannot be simplified to concentrating on a few area of it.

Although the critical success factor methodology is not applicable in project management, it can enhance the management process. It can help other people to realize what is very important to focus on – especially the project team and the senior management.

Although critical success factors are very popular and useful even nowadays, but they have serious shortcomings as well. In the literature three remarkable shortcomings are mentioned, which are as follows:

- Projects are very specific and due to that critical success factors are very likely characteristic to that specific project. Based on that the critical success factors cannot be generalized. Critical success factors of a project vary project by project (Görög, 2008).

- Identification of the critical success factors lacks the identification interrelationships among them. Although in some cases, the interrelationship itself can be more important than the factor itself. For example senior management support and the availability of resources are not independent from each other (Fortune & White, 2006).
- The importance and relevance of a critical risk factor can change during the progress of the project and this is rarely considered (Fortune & White, 2006).

Besides these, another shortcoming can be identified. This is derived from the nature of critical success factors; they are concentrating on the input side of the project. It is rarely analyzed which critical success factor having an impact on which success criteria.

Although these are serious shortcomings of the critical success factors, critical success factors can enhance project management (see e.g. Fortune & White, 2005). If they are used as supportive techniques which helps to mobilize project team members and other important players, then they are very useful.

Based on the literature review one of the critical success factors, the project management competencies and project management leadership can bear of high importance (see e.g. Cleland, 1994; Turner, 2009). The style or attitude of the project manager can make a considerable impact on the life of the project delivery and thus project success. Since projects can be considered as unique task, temporary organization or strategic building block (or rather the combination of these), project managers tend to manage projects differently (Görög, 2008). Fiedler (1964) identified two kinds of attitude which are as follows:

- task-oriented,
- relationship-oriented.

The first approach emphasizes the importance of the completion of the tasks of the project. Planning, control and optimization are important to a great extent. Thus the realization of plans and – if there is a need – a modification of the plan and the realization of this new one. This approach relies on the assumption of the project is primarily a process and should be lead according to this.

The second approach emphasizes the importance of stakeholders. The most important assumption of this approach is the project is mainly a temporary organization, and based on that the most important task of a project manager (deriving from the nature of the organizations) is to manage people.

It is essential to notice, that there were many papers, which encompass analyzing the leadership styles (see for ex. El-Sabaa, 2001; International Project Management Association, 2006, Mantel et al., 2001; Pinto, 2000; Turner, 2009), but they rely on this approach – although they enhance it by adding other dimensions.

In accordance with these, most common leadership styles that can be identified based on the literature and gathered by researchers, which are as follows (Müller & Turner, 2007; 2010):

- Leadership based on trait: the essence of this approach is that the project manager should possess personal characteristics (like confidence) which are essential to manage successfully. If the project managers posses these, then the project will be successful.
- Leadership based on behavior or style: the essence of this approach is different projects require different leadership styles. Due to this, the project managers should use those attributes and up to that extent which are required for the given project. An example for this can be empowerment.
- Leadership based on contingency: according to this approach, it is vital to identify the characteristics of the project and the project manager should adapt to this (or find a project manager who fits to the greatest extent to these identified characteristics).
- Leadership based on charisma or vision: this is a complex leadership style; it is composed of two categories. The first one emphasizes the importance of personal characteristics and leading by examples. The second one emphasizes the importance of realizing the plans via bonuses and reaction to deviations.
- Leadership based on emotional intelligence: this leadership style assumes that the emotional intelligence ensures project success than leadership style and based on that the project manager

should concentrate on applying the emotional intelligence during the management of projects.

- Leadership based on competency: the project manager should possess certain competencies (e.g. emotional competencies) in order to achieve project success.

As it can be seen, both leadership styles contain elements of the previously mentioned task-lead and stakeholder-lead attitudes. The difference is as follows: the combination of amount of adapting to an external situation and/or to the project team and the project management personal characteristics.

Based on that it can be of vital importance to analyze which project manager uses what kind of leadership style.

### **3. THE RESEARCH AND THE RESEARCH METHOD**

The research had a twofold aim. One of the aims was to identify those success criteria of which the project managers having an impact on. The second aim of the research was about leadership styles; a democratic or dictatorial leadership style is applied by project managers in order to ensure project success.

The propositions of the research were as follows:

Project managers have a direct impact of both three success criteria of the hierarchical model.

Project managers mainly use democratic leadership style in order to ensure project success.

In order to achieve the aims of the research, the research had two parts: a library research and a field research.

In the course of the library research, the literature related to project success, critical success factors, success criteria and leadership styles were analyzed. The aims of this part was to identify the appropriate model for evaluating project success, creating a comprehensive list of critical success factors, which could be the base for the interviews and find a comprehensive leadership style that could lead to project success. Based on the literature, the

hierarchical model was found to be the most appropriate, and 47 critical success factors could be identified, which are different in terms of name and/or content. The aims of the field research were to justify or reject the propositions and to refine the leadership style revealed in the literature.

The company that was the base for the field research is a subsidiary of a Scandinavian-based multinational company operating in the ICT sector. The organization mainly concentrates on selling projects. The projects are mainly hardware and software development projects.

The ICT sector, in which the company operates, is very knowledge-intensive, turbulent with very short technological lifecycles. Based on that, the client's demands may change very frequently.

The company follows a Scandinavian management style, that is the satisfaction of its workers and the constant learning are very important for it. These derive from the nature of the industry (knowledge-intensive) and the knowledge-holders are the project team members, thus keeping them and utilizing their knowledge in the course of projects are very important for the company.

In the course of the field research qualitative research methodology were used. The combination of open-ended and well-structured interview was the best-suited to gather the required data. The aims of the research were to identify the success criteria that the project managers have an impact on; and the leadership style they use to reach these criteria. Quantitative research methodologies would not have given the required details to reveal to interrelationships (Babbie, 1994; Creswell, 2003).

The population of the sample was the project managers employed in the previously mentioned company. Four of them have been chosen with the help of the Project Management Office (PMO). The four project manager (PM) sample size – despite the pool of 50 – is enough, since they depict the project management structure of the company. Only hardware and software development projects are initiated (and sometimes the belonging maintenance and transfer projects) with medium complexity. All of the project managers managed both kinds of projects, so the sample size can be considered enough to form

conclusions regarding the company, and companies with similar characteristics. Besides them, two PMO members have been asked also in order to check the righteousness of the PM's answers. They have a comprehensive vision about the project success related to the company. Although they do not have the required knowledge to evaluate the leadership styles of the project managers, but they can tell the impact of project managers on project success from a different viewpoint. The number of PMO members is four with a homogenous knowledge, so the answer of the two chosen can be considered as comprehensive regarding project success.

The interview with the project managers had two plus one phases. In the first phase in the course of an open-ended interview their impact on project success were mapped. The previously described hierarchical model was used as a basis for project success evaluation, and the project managers were asked to highlight which project success criterion they could have an impact on. The project managers were asked to describe how they could influence project success. At the same time, the three success criteria were provided to them (project triangle, client satisfaction, stakeholder satisfaction). The respondents were asked tell with the use of their own words, how they could ensure that aspect, that criterion of project success. The answers provided were categorized in accordance with the classic project management tools and techniques (c.f. Görög, 2013a; Project Management Institute, 2010).

The second part was a well structured interview phase. The main aim of this part was to identify the applied leadership style with the help of critical success factors they found important from a list that contains the 47 different critical success factors. Then the project managers were asked to evaluate them on a 10-point Lickert-scale ranking them by importance. 10 points should be assigned to the very important critical success factors, 1 for the negligible critical success factors. The aim was to identify the 7 most important critical success factors. The 7 derived from the critical success factor methodology, where 3 to 7 should be identified. Due to the complexity of the industry, the maximum 7 was defined as the target number (c.f. critical success factor method). If more than 7 critical success factors were found to be the most important, in other words the 7 most im-

portant could not be identified due to the fact that more critical success factors received the same score, a second round of this phase must have been implemented. In the course of this phase project managers should focus on those critical success factors which received the most score or scores. Then the project managers should have ranked them pair wise. Based on that, the 7 most important critical success factors could be identified. After that, in the third part of the interview a discussion was initiated to map the project manager's leadership style. The aim of this part was to justify or falsify the preliminary results derived from the previous, second part. The project managers were asked to describe with their words what kind of leadership style they follow (primarily focusing on the applied tools and techniques). Then (combining with the results derived from the ranking of success criteria) this leadership style was categorized based on Müller's and Turner's (2007; 2010) six categories.

Thus, the project managers' interview had a twofold aim: in the course of the open-ended interview identifying those success criteria, on which the project managers have an impact, and to find the 7 most important critical success factors for the project managers. This latter procedure was enhanced by a discussion about their leadership style.

The interview with the PMO members had one aim, reinforcing (or falsifying) the results of the first part of the interviews with the project managers. The PMO members have a broader overview about projects, thus their answers could be a reliable check of the answers of the project managers. The structure of the interview was identical to the first part of the interview with the project managers. They were asked to describe what success criteria have the project managers an impact on. The list of success criteria (project triangle, client satisfaction, stakeholder satisfaction) was provided. Then they were describing using their own words, how the project managers could achieve that aspect of project success. The second part is less relevant in this case, since the PMO members are not involved in projects directly, thus they have a limited overview about the tools and techniques applied by the project managers. Although it was useful as a general verification, especially considering that the PMO members were selected from project managers.

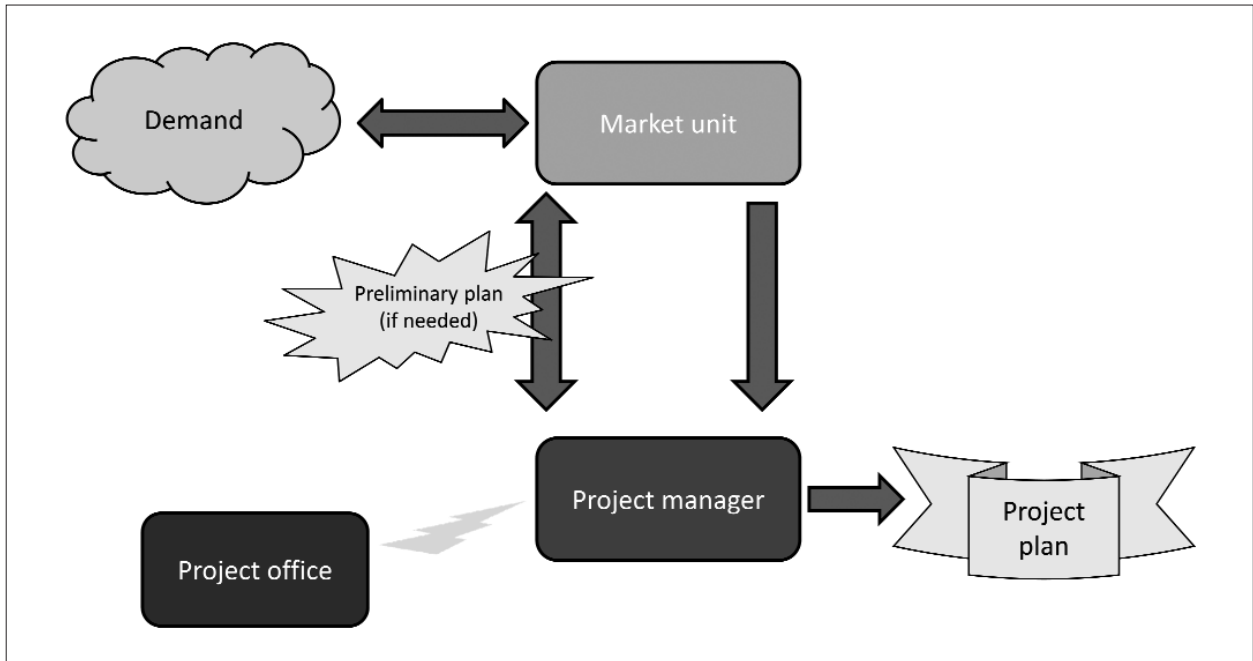


#### 4. DISCUSSION

During the interviews it was identified that two internal parties (from the perspective of view of the company) have an important role in achieving project success (besides the supervising organizations, which are the Project Steering Group and the Project Management Office). One of them is the project manager, who (in the planning phase) does the operational, detailed planning of the project. The other is the so called market unit, who is in touch with the client and if there is a need, the external end-users. This unit does the comprehensive scoping of the project. The project planning process is as follows:

on either the time, cost or quality (or the special combination of these). The first one is the time constraint impact, which is twofold. The first one is the project managers have an impact in the planning phase, since (s)he defines, together with the client and the market unit, the target deadline. The market unit knows the clients demands and translates them into project level, while the project manager prepares the detailed planning and the scheduling – taking into consideration the pieces of information provided by the market unit. The second one is during the completion phase, when the project manager should manage the project in accordance with the time plan, and if there is deviation, (s)he should manage or should justify the late completion.

Figure 2. The process of project planning in the analyzed company



As a result of the interviews, it was clearly identified that the project managers have a direct impact on two criteria out of the three of the hierarchical model. They are as follows:

- project triangle (time, cost, quality),
- stakeholder satisfaction.

Besides these, the project managers also have an impact on the scope as well, which is a direct combination of the project triangle. However, it has a retrospective impact as well, since the scope of the project result is modified, it also has an impact

The project managers also have an impact on the costs throughout the resources. The project manager should focus on the resource demand, again taking into consideration the client's demand regarding the scope and deadline, with which (s)he could manage the project successfully. As a result, the project manager defines the budget of the project. The responsibility of the market unit is to check the reality of this resource demand, and if it is too high, then try to find a compromise or cancel the project. The responsibility of the project manager in the completion phase is to keep the costs

(throughout the resource demand) in accordance with the plans, not exceeding a certain limit, which is usually 105%.

The project manager also had a direct impact on the quality, similarly to the previous two subcategories of the project triangle. The project manager, together with the market unit, defines the quality requirement of the project result and the project manager implements the project in accordance with the plans. Thus, the project manager has an impact on the quality in the planning phase and in the project implementation phase as well.

The project manager also has a direct impact on the stakeholder satisfaction, although the impact is mainly limited to the internal stakeholders - the most important and usually only external stakeholder group is the vendor (besides the client). Since the project manager manages the project, the satisfaction of these stakeholders is very much up to him/her. The most important tool of the project manager to achieve this aspect of project success is the proper communication. The project team's satisfaction is very important due to the special, Scandinavian organizational culture and hierarchy of the firm.

Nevertheless, the project managers can also influence the client satisfaction as well, though more like indirectly. Since, if the project manager delivers that product which the client desires, the potential for a satisfied client can be increased to a high extent. So that – together with the marketing team – the project manager has a very important role in achieving the second success criterion, but his/her impact is indirect and not direct due to the lack of continuous communication. The results are summarized in the following table:

*Table 1. Applied tools by the project manager to achieve project success*

Success criteria:	Applied tools to achieve success:
time	planning, scheduling, control, optimization
cost	resource, allocation, control
quality	planning, control
client satisfaction	indirect (delivery of the product)
stakeholder satisfaction	communication

As a conclusion the project manager has a very important role in achieving project success, since (s)he has a direct impact on two of the success criteria, the project triangle and stakeholder satisfaction and indirect on the client satisfaction. This result was reinforced by the interviews with the PMO members.

This result falsifies the first proposition.

Identifying those project success criteria which the project manager has an impact on, was just one aim of the research, the other part of this was about to identify what kind of leadership style is used by the project managers to ensure the completion of these success criteria. Subsequently, the project managers chose the following critical success factors among the 47 previously gathered. The results are shown in Table 2.

The number in brackets marks the score, which the project manager dedicated to that given critical success factor based on a 10-point Lickert-scale.

As a result, it can be concluded that 3 out of the 4 project manager find stakeholder-related critical success factors, so called soft factors more important than the hard critical success factors which mainly focus on the hierarchical/organization-related characteristics of the company. The first critical success factor group contains for example proper communication, well-prepared project team and the management of the stakeholders. The latter critical success factor group contains for example competence of the project manager, the hierarchical power granted for the project manager and the adequate resource pool. Thus it can be concluded that, the first three project managers focus on mainly or more on stakeholders and the fourth project manager focuses on the hierarchical/organization-related characteristics. Therefore the first three project managers follow a relationship-oriented way of managing project, while the fourth project manager follows a task-oriented approach (c.f. Fiedler, 1964).

The second part of the interview revealed the leadership styles of the project managers and it can be concluded that the first three project managers use a special combination of leadership style based on emotional intelligence and leadership style based on behavior. The fourth project manager uses

Table 2. Critical success factors found important by project managers

Respondent 1:	Respondent 2:
Support from senior management (10)	Support from senior management (10)
Clear realistic objectives (10)	Good communication and feedback (10)
Skilled/suitably qualified/sufficient staff/team (10)	Competent project manager (10)
Competent project manager (10)	Past experience and learning from it (10)
Risk addressed/assessed/managed (10)	Experienced project manager (10)
Staff team spirit/morale (10)	Relationship with main contractor/client/consultant (10)
Cooperativeness and communication of/with stakeholders (10)	Cooperativeness and communication of/with stakeholders (10)
Respondent 3:	Respondent 4:
Sufficient/well allocated/available resources (10)	Support from senior management (8)
Good communication and information sharing (10)	Clear realistic objectives (8)
Good communication and feedback (9)	Competent project manager (8)
Skilled/suitably qualified/sufficient staff/team (9)	Sufficient/well allocated/available resources (8)
Risk addressed/assessed/managed (9)	Strong business case/sound basis for projects (7)
Experienced project manager (9)	Collaboration among the different technical departments (7)
Adequate budget (9)	Adequate planning (7)

a leadership style based on competency. This is derived from the tools and philosophy they apply during their work. The first three project managers use empowerment, continuous communication and act as more like a coach or democratic leader than a classic project manager. Thus he or she can be categorized as a project manager following a combination of leadership style based on behavior and emotional intelligence (c.f. Müller & Turner, 2007; 2010). The fourth project manager uses tools like planning, control, the power of hierarchy and act as a leader, thus can be categorized a project manager following the leadership style based on competency (c.f. Müller & Turner, 2007; 2010).

The combinations of these two results two types of behavior can be identified: a democratic way of leadership and a dictatorial way of leadership. The first approach uses mainly the stakeholders to ensure project success, the appropriate project team, the proper motivation and the continuous communication. This is similar to a chess player, where the chess player plays with the chess pieces. So that group can be called as chess player. The second group tries to manage project in the course of the hierarchy, applying a direct control. The plans, the realization of the plans and the supported, capable, and able project manager are the most important factors which lead to project suc-

Table 3. Fundamental differences between 'General' and 'Chess player'

General:		Chess player:
Strong and competent project manager	Relies on	Good and competent project team
Direct control	Philosophy	Indirect control (cooperation)/empowerment
Leader	Project manager	Coach, emphatic/democratic manager
Obeying and well-organized project team	Project team	Motivated and willing project team
Planning and control	Most important tool	Involvement and communication

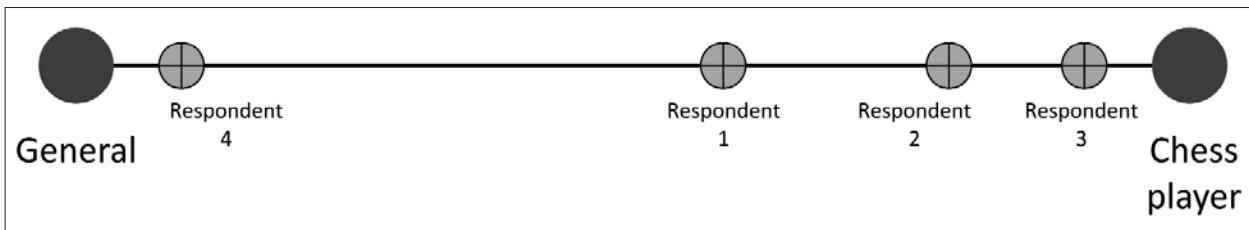
cess. Therefore, this behavior is similar to a general who commands in a battle. Thus, this group can be called as general. The most important differences are summarized in the Table 3.

Of course, neither of respondents belong to one of the poles, a combination of the general and chess player way of managing project could be identified. However, one pole is dominant. Three are closer to the chess player (especially the third) and one is close to the general way of project management (fourth project manager). It can be seen in the following figure:

Thus, it can be concluded that the project managers in an agile project management methodology should follow a chess player leadership style. Therefore, this adaptation ex post validates the key finding of this research that is as follows:

In a knowledge intensive, worker centric IT company the correct leadership style by project managers is the chess player or a leadership style where the chess player elements are the dominant, if the project manager and the company want to maximize the potential for project success.

Figure 3. Leadership styles in the sample company



If we consider the fact that these project managers lead their projects successfully, it can be concluded that the most efficient way of managing project is the chess player leadership style or at least that kind of leadership style where the chess player features are dominant. However, in some cases the general way of management can lead to project success. Thus if the project managers want to maximize their chances to achieve project success in the given company, the chess player elements should be the dominant in their leadership style.

This result justifies the second proposition.

A reinforcement of this research is the post-research life of the company. The company adapted the agile project management methodology. In the course of this methodology, the project team has bigger role in project completion, and due to this, the role of project manager changes (c.f. Aljaz, 2013). The project manager in this agile project management methodology is primarily a mentor or coordinator with the most important role of supporting the project team and dissolving any external difficulties that the project team should face with. The communication between the client and the organization who implements the project become more intense and it is also continuous.

## 5. CONCLUSIONS

The aims of the research were: to identify those success criteria which the project manager having an impact on and identifying the leadership style based on which they manage their projects.

The research outcomes were the project managers directly have an impact on the project triangle and on the stakeholder satisfaction, while they have an indirect impact on the client satisfaction. So project managers could have an impact on all three layers of project success. They have a direct impact on two. These are the project triangle and stakeholder satisfaction. They have an indirect impact on one. This is the client satisfaction. The second outcome of the research was the identification of two poles of leadership style: general or chess player. The first one finds the hierarchical/organizational features very important, while the second one finds communication and proper, capable and motivated project team very important. Although neither of the project managers belonged to one of these poles, but a dominant leadership style could be identified in each case. Thus, the chess player characteristics are



the dominant among project managers. Considering the success of the subsidiary, it can also be concluded that the better approach toward projects is the leadership style dominated by chess player elements. Although the leadership style is difficult to change or improve (c.f. Görög, 2013a), it is worth considering to do so. There is a need to improve tacit elements, which can be done in the course of discussions with other project managers, situational games, suggestive courses, and simulations, shadowing or mentoring (c.f. Horváth, 2013). The shift in the leadership style (from the dictatorial to a more democratic) might increase the potential to achieve project success, which is vital for companies. Alternatively if the project manager is an entrant, then it is advisable to help them becoming a project manager applying a leadership style where the chess player elements are the dominants. This can be achieved by mentoring or shadowing in the most efficient way (c.f. Horváth, 2013).

However, the research does not state that there is no need for classic project management tools and techniques (like planning, control, resource allocation or risk management), it states only that the dominant elements in the course of implementing the projects in the sample company (or companies having similar features) should be the less dictatorial ones. Like the more democratic elements: like communication, empowerment or creating an atmosphere which supports generating innovative ideas. These are those elements which contribute to project success to a greater extent. As it can be seen from the results of the interviews, classic elements are very important to achieve project success and cannot be neglected, but it should be enhanced by a more democratic leadership style. Even a competent and guided project team should be controlled and should follow a project plan, but such a team (with a chess player project manager) might be more successful than a strictly controlled, directly managed and less competent project team (especially with a general project manager). At the same time, the potential for arising problems can be much lower in case of a project manager following a chess player leadership style, since the communication is more intense.

However, there is a need to consider the characteristics of the subsidiary and industry. It operates

in a turbulent, knowledge-intensive industry with short technology lifecycle and thus there is a potential for changing the demands of the client even in the commencing of the projects. At the same time, the company adopted a Scandinavian organizational culture which puts an emphasis on the workers, their empowerment and satisfaction. Based on that, the organizational culture and industrial characteristics might have a serious impact on the project managers' leadership style. Although the project manager is always an active player (c.f. Görög, 2013; Fortune & White, 2006), who can influence the organizational and environmental features to a certain extent. Thus, he or she – even considering the characteristics of the industry and sample company – could follow a leadership style dominated by general elements, and this can be successful as well, however the research indicates that, it is better and more efficient to be a chess player than a general.

The research outcome might provide a leadership style model for companies which operate in similar industries and having similar features as the sample company.

## 6. LIMITATIONS AND FURTHER RESEARCH

The research outcomes are supported by literature review, but only one company was considered during the research. Thus, the research outcomes cannot be generalized. They are valid for only those kinds of company which operate in a similar industry and having similar characteristics as the sample company.

Further research should encompass analyzing more companies in the same industry, but with different characteristics. Another research should encompass analyzing companies operating in a different industry.

## EXTENDED SUMMARY / IZVLEČEK

Projekti so bili za združbe vedno pomembni. Vsako leto združbe namenjajo veliko denarja za nove projekte, celo več kot petino svetovnega BDP. Vendar uspešnost projektov pogosto ni v skladu s količino vloženega denarja. Raziskave so pokazale, da največji vzrok za neuspeh projektov niso kvantitativni, ampak kvalitativni elementi. Kakorkoli že, uspešnost projektov je zelo kompleksen pojav, ki ga ocenjujemo glede na vhod in izhod.

V izhod (output) usmerjen pogled vsebuje merila uspeha. To so tiste temeljne vrednosti, na osnovi katerih se lahko meri uspešnost projekta. Pri tem je dandanes potrebno uporabiti trojni sistem meril, ki vsebuje: projektni trikotnik (čas, stroški in kakovost), zadovoljstvo naročnika in zadovoljstvo deležnikov, ki so soodvisna; vsako merilo ima vpliv na drugi dve merili. S prvim merilom ocenimo učinkovitost projektnega ravnanja, medtem ko z zadnjima dvema ocenimo uspešnost projekta.

V vhod (input) usmerjen pogled zajema ključne dejavnike uspeha, ki večajo možnosti za uspešnost projekta. Veliko člankov/raziskav je napisanih na temo identifikacije ključnih dejavnikov uspeha, med katerimi so tudi kompetence in stil vodenja projektnega ravnatelja. O slednjem je v literaturi veliko napisanega, še posebej z vidika določevanja »čistih« stilov vodenja; eden od teh je usmerjen na odnose, drugi pa na opravila.

Za praktično uporabo je zaradi številnih kritik ključnih dejavnikov uspeha potrebno le-te povezati z merili uspeha. S takšno analizo ugotovimo vpliv stila vodenja na vsako merilo uspeha in prepoznamo stil vodenja, ki zagotavlja največjo uspešnosti projekta (izražen s tremi merili uspešnosti).

Raziskava je imela zato dva cilja. Prvi cilj je bil določiti merila uspešnosti, na katera imajo projektni ravnatelji vpliv. Drugi cilj pa je bil ugotoviti, kakšen stil vodenja uporabljajo ravnatelji projektov za povečanje potenciala uspešnosti projekta.

Raziskava je bila izvedena v hčerinskem podjetju skandinavske multinacionalke, ki deluje v IKT sektorju. Iz tega podjetja je bilo preučevano mnenje štirih projektnih ravnateljev. Velikost vzorca je bila dovolj velika za oblikovanje zaključkov za preučevano podjetje in druga podjetja s podobnimi lastnostmi. Seveda pa rezultati ne morejo biti posplošeni.

Rezultati raziskave jasno kažejo, da imajo projektni ravnatelji neposreden vpliv na dve merili uspeha: na projektni trikotnik in zadovoljstvo deležnikov, medtem ko imajo na zadovoljstvo naročnika zgolj posreden vpliv.

Naslednji korak je bil izbrati najbolj primeren stil vodenja. Glede na rezultate sta možni dve skrajnosti: stil igralca šaha in splošen stil vodenja. Splošen stil vodenja vsebuje bolj avtorski stil vodenja s poudarkom na hierarhični moči, načrtovanju in realizaciji planov. Stil igralca šaha je bolj demokratičen s poudarkom na krepitvi moči, komunikaciji in ustreznem ravnanju z deležniki. Jasno je, da v praksi noben projektni ravnatelj ne spada povsem v eno od teh skrajnih oblik stila vodenja. Vendar pa je mogoče ugotoviti, kateri elementi so prevladujoči pri njegovem stilu vodenja. V raziskavi smo ugotovili, da spada večina uspešnih projektnih ravnateljev v skupino, kjer prevladujejo elementi igralca šaha. Sklepamo lahko, da vodstveni stil igralca šaha v podobnih podjetjih povečuje možnosti za uspeh projekta. Vendar pa raziskava kaže tudi na to, da so tudi elementi splošnega stila vodenja zelo pomembni, vendar naj bi bil poudarek na značilnostih stila igralca šaha.

Zaključimo lahko, da se morajo ravnatelji projektov osredotočiti predvsem na komunikacijo, moč in ustvarjanje vzpodbudnega ozračja, pri čemer pa ne smejo zanemariti klasičnih orodij in tehnik ravnanja s projekti kot so planiranje in kontrola, s posebnim poudarkom na tistih orodjih in tehnikah, ki izhajajo iz stila vodenja igralca šaha.

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