

SUSTAINABILITY OF STRATEGIC PROJECTS

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Abstract. *Project management is one of the key management areas that determine the successful realization of organizational strategy. Therefore, it is important to implement strategic projects successfully which requires not only to complete projects on time, on budget and meeting the quality requirements, but to take into consideration the long-term sustainability of the project outcome. This paper introduces the most important approach to strategic project management and project success as well as of sustainability concepts by analyzing scientific publications and related standards and studies. Then the PSEM is presented. The model was empirically tested by structured interviews with selected project- and functional managers of Hungarian SME-s and multinational companies as well as non-profit organizations. The article gives an overview of the most important results of the empirical survey and designs the future plan of an international empirical survey.*

Keywords: *sustainability; strategy; project; success; assessment tool.*

Introduction

Nowadays we deal with projects in several areas of our lives. Large infrastructural investments – subway, bridge, railway, or highway reconstruction, building residential communities – are completed in projects. Large enterprises start projects to develop new products, services and to introduce them to the market. Project is also one of the most often used terms regarding the planning, organizing and hosting of international sport and cultural events. The culture of projects is spreading rapidly in the last few years among small- and medium-sized enterprises and the public sector in the member states of the European Union. Today we are working and living surrounded by projects. These projects have become part of the organizational and regional development strategies, therefore the purpose of projects is to contribute to realizing the organizational and regional development strategy.

Project managers focus on the successful realization of the projects they are responsible for. The chase for successful implementation of project objectives results in short-term interpretation of project success. Through the lenses of project managers project success is considered as meeting the deadline, finalize the project within budget, and provide all features and functions as initially specified. This approach of project success reflects the expectation of the project owner. For having a broader approach to project success we have to take into consideration the expectations of different other project stakeholders. Each interest group or individual involved in the project may have different and sometimes

conflicting criteria for evaluating project success. One of the most complex and widely used tool for analyzing project success is the Project Excellence Model. The model is an adaptable and open concept which allows many different project approaches to be used. It evaluates projects based on 3 key areas: people and purpose (leadership and values, objectives and strategy, project team, suppliers and partners), processes and resources, as well as project results (customer satisfaction, project team satisfaction, other stakeholder satisfaction, project results).

Despite all of strengths and advantages of the Project Excellence Model it concentrates on the project life-cycle from the goal setting to the project closure and pays little attention to long term success. For this reason, we have to consider the extended life-cycle which puts the project and the product life-cycle together and success criteria contain the components of the project outcome's operation. For this, the business, social and environmental aspects of project sustainability should be involved in the analysis.

Lots of papers and research focus on sustainability in business. These studies argue that sustainability will be very important to the future business success. The GPM 5 is a tool developed for highlighting the importance of sustainability in project management. The most important advantage of the P5 standard that it is the first tool that provides a systematic framework for the analysis of companies' sustainability. Besides it creates difficulties when applying it at the project level. However, business sustainability criteria can be interpreted to different projects, environmental and social sustainability criteria analyze governance policies, organizational approaches, standards, processes and practices. These are very important factors but they appear at the organizational level and it is very difficult to interpret them to a single project. To fill this gap Project Sustainability Excellence Model (PSEM) was developed by the author of this article. The frame of the model is the Project Excellence Model in which the modified and reinterpreted GPM Global P5 Standard is integrated.

Pitfalls of strategic project management

Pitfall No. 1: The gap between strategic planning and project planning

Strategic planning, strategic management and project management have been subject to scientific analysis and practical application in the last decades. However, these fields have been treated separately. Top managers and strategic management scientists have focused on strategic planning processes and strategic management systems shifting from one paradigm of strategic management to another, and on strategic management tools that support strategy development of firms. Project managers and project management researchers have concentrated on how projects are planned and implemented, what are the most important project success criteria and success factors (Blaskovics, 2016; Cserhádi & Szabó, 2014). These different approaches led to the gap between strategic planning and project planning.

Solution No. 1

To fill this gap, the article introduces a new approach in which the strategy development process is aligned with project management. Strategic projects are generated and realized in order to support the realization of strategic goals. The project portfolio reflects the

strategic direction leads the organization toward long term success. This, in particular, is the importance of strategic projects.

There are several approaches to create an organizational strategy (Hunger & Wheelen, 2011). However, they all share a common feature that the foundation of a successful strategy is the analysis of internal conditions and external environment. During the analysis of internal conditions, the strengths are collected and the weaknesses are faced, then an attempt is made to adjust these to market opportunities and threats. The best solution for analyzing the external environment is to have an integrated approach to examine the different environmental segments (legal, economic, political, social and geographical). As the result of these analyses, a decision can be made on those business areas that the operation needs to focus on in the future (Luthans & Doh, 2012).

The next step is the formulation of the vision and the mission. The vision describes the desired future state of the organization. The mission is the formulation of the guidelines of the core of the organizational strategy and values which is the guiding principle for managers and employees. The vision and mission are essential because, during the development of strategic goals, the determination of the operational and action plans, the development of the control system, the achievement of the goals and objectives defined in the vision and mission need to be taken into consideration.

The organizational goals compared to the mission are more specifically defined. They are the core elements of the organizational management system (Luthans & Doh, 2012). During their formation, their quantitative determination should be kept in mind.

The organizational strategy and thus the strategic goals are related to different areas: customers (products and services, markets or market segments), financial (profit, income, cost), internal processes (effectiveness, productivity) and learning and growth (courses, training) (Kaplan & Norton, 2007). These key areas are of high importance not only for for-profit but also for non-profit organizations.

The strategic goals defined in the above mentioned target areas can also be converted into specific, short-term operational plans. However, the market introduction of a new product or the organization of an international festival also has a significant impact on the organization's success. Therefore, it is necessary to deal with these target areas from a strategic point of view. In these areas, the strategic goals can be accomplished through a series of projects, the purposes of which are aligned to the strategic goals. The organizational strategic goals can be successfully achieved by the successful accomplishment of the projects conducted in the same target areas. The above presented system is called project-oriented strategic planning.

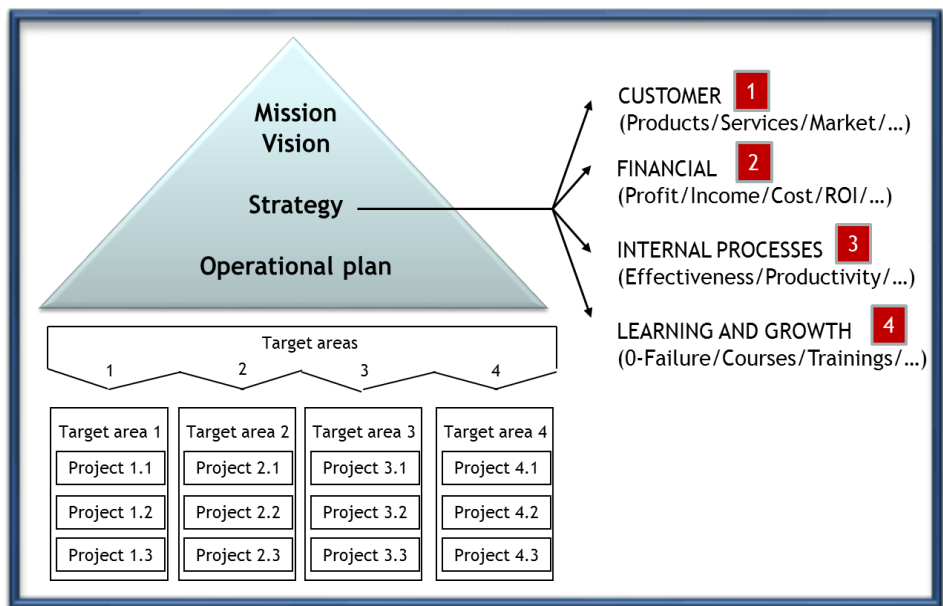


Figure 1. Project-oriented strategic planning
(based on the model of Kessler and Winkelhofer, 1997)

Pitfall No. 2: The gap between the project life cycle and the product life cycle

Once a strategic project is selected, the main purpose of the project is to deliver the project outcome by keeping the deadline, the budget and meeting the quality requirements. This three requirements of project success are considered as the magic triangle of projects. The so called project manager's view concentrates solely on the successful project realization within the magic triangle. The consequence of this approach results in short-run project success: the project is completed on-time and on-budget, with all features and functions as initially specified, but what happens with the project outcome (product, service, system or other output) on the market, or during the operation is not covered. This focus takes into consideration sustainability issues neither in the planning nor in the execution phase of the project life cycle.

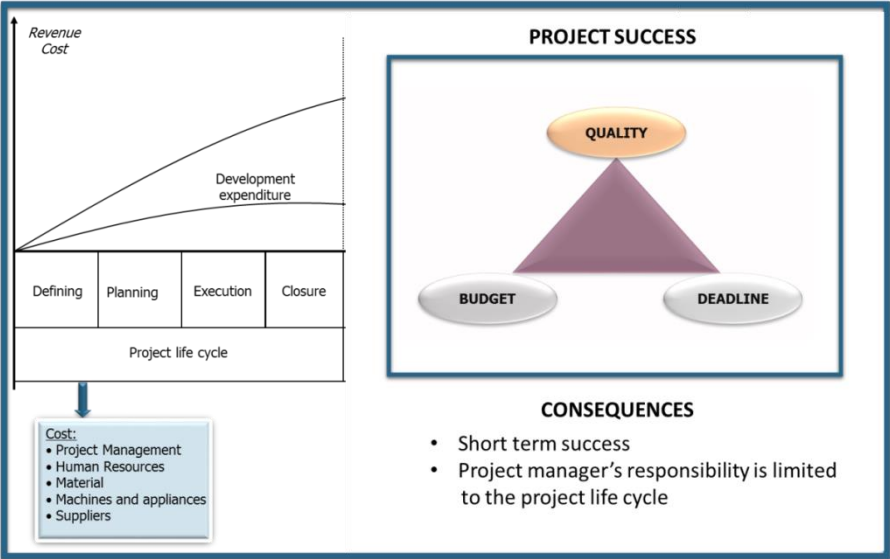


Figure 2. The project manager's view of strategic projects

The sales managers and production managers take over the ownership and the responsibility of the project outcome after the project is completed and closed. The main role of these managers is to deliver the project outcome to the customer (user, buyer) as soon as possible or to operate it effectively. This approach doesn't take into account what is happening during the project life-cycle, indeed it focuses on the product life cycle.

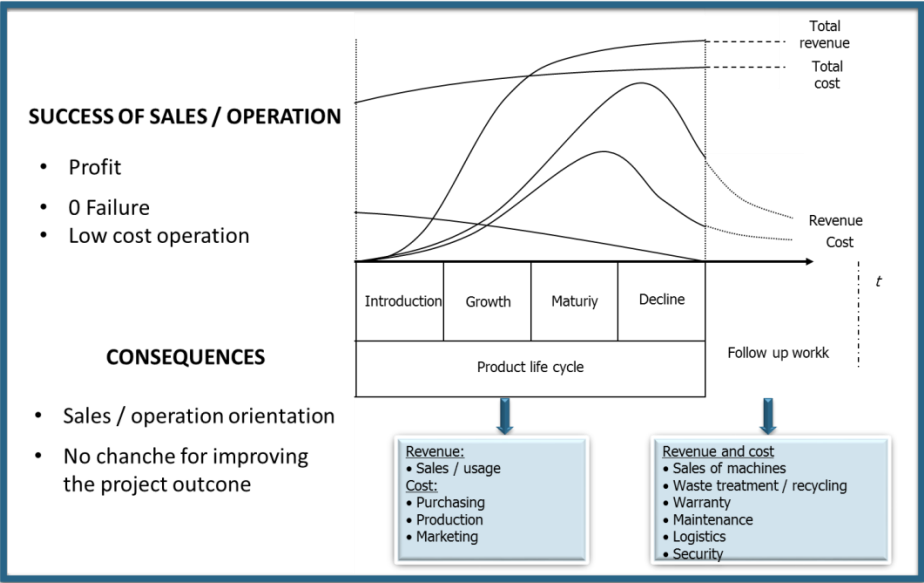


Figure 3. The sales/operation manager's view of strategic projects

Solution No. 2

The solution of this problem is that we focus on the sustainability of strategic projects in order to realize long term success. The ambidextrous strategic project management means that the two approaches i.e. the project manager's view and the sales or operation manager's view are integrated. This occurs when instead of looking at these life cycles as a separate two, we consider them as two sequential phases of a unified system. Figure 4 highlights the sustainable approach of ambidextrous strategic project management.

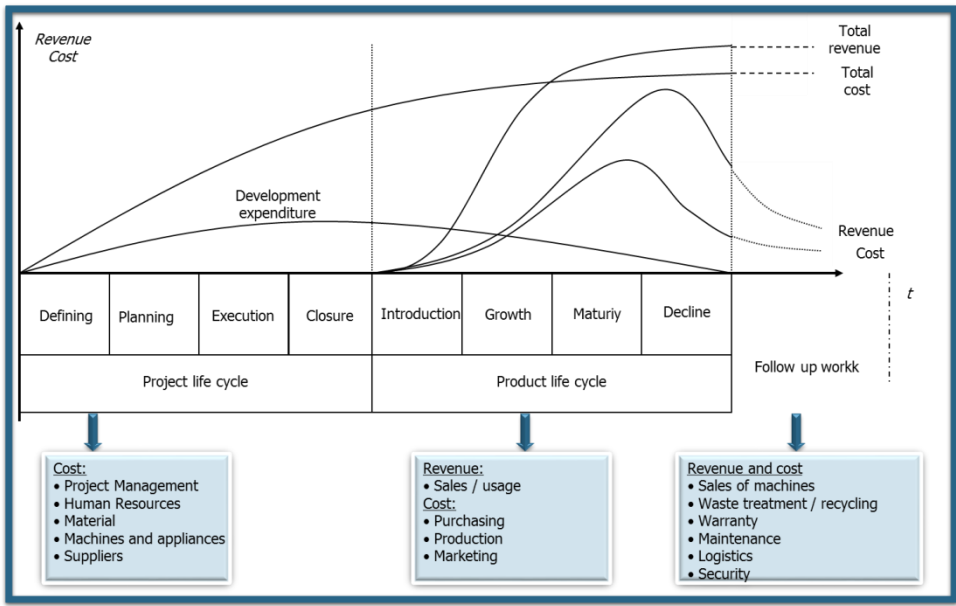


Figure 4. The integrated life cycle of strategic projects

Different approaches of sustainability in project management

The models presented in the previous chapter highlights the importance of sustainability in strategic project management. There are many papers and research that focus on sustainability in business (Deutsch et al., 2016). According to the UN Global Compact - Accenture CEO Study on Sustainability (2013) survey, 93% of CEOs believe that *sustainability will be important to the future success of their business* (Lacy - Hayward, 2013, p.11). The Accenture 2010 Report had already stated *CEOs believe that we are moving toward an era in which businesses will no longer focus purely on profit and loss as the primary means of valuation. Rather, [they will] take into account also the positive and negative impacts on society and the environment.* (Lacy at al. 2010, p.10).

Martens and De Carvalho (2013) state that project management and sustainability themes have been addressed by countless studies. According to studies, initiatives aiming at integrating these two themes are already in progress (Bodea et al. 2010; Fernández-Sánchez & Rodríguez-López 2010; Mulder & Brent 2006; Turlea et al. 2010; Vifell & Soneryd 2012), but much additional research is required to develop tools, techniques and methodologies (Singh et al., 2012; Thomson et al., 2011) that can be applied in project

management in order to analyze sustainability at the project level (Cole, 2005; Deakin et al., 2002; Thomson et al., 2011).

Paniagua Tufinio et al. set up a typology of different interpretations of sustainability in project management which demonstrates how sustainability is defined and interpreted by different scholars. Authors state that this concept includes different viewpoints, although the basic components are commonly defined by the triple bottom line, which aims to include social, environmental and economic goals (Paniagua Tufinio et al., 2013, p.93).

**Table 1. Different interpretations of sustainability in project management
(Paniagua Tufinio et al., 2013, p.93)**

Author	Definition of sustainability	Focus on sustainability aspect
Brent, Labuschagne	"For the business enterprise, sustainable development means adopting business strategies and activities that meet the needs of the enterprise and its stakeholders today, while protecting, sustaining and enhancing the human and natural resources that will be needed in the future".	Project Life Cycle Management, which is a comprehensive sustainability evaluation framework therefore it is required to assess projects during the early life cycle phases in terms of sustainability, consequences of the future implemented in assets and products.
Gareis, Huemann, Martinuzzi	Brundtland et al. (1987): "Development that meets the needs of the present without compromising the ability of future generations to meet their own needs".	Sustainability implementation is defined by the following principles: economic, social, ecologic; short-, mid-, longterm orientation; local, regional, global orientation; value orientation
Silivus, Brink	Elkington (1999): "Sustainability is about the balance or harmony between economic sustainability, social sustainability and environmental sustainability".	Sustainability in projects and project management is about integrating economical, environmental and social aspects in the management and delivery of projects. In project management, it stretches the system boundaries of the project and of project management, considering the full life cycle from conception to disposal in the decisions.

Tools for assessing sustainability in projects

The GPM P5 Standard expands on the traditional triple bottom line theory to project management. It contains a checklist that was developed at the 2010 IPMA® Expert Seminar, "Survival and Sustainability as Challenges to Projects". The GPM P5 Standard is a management tool that "supports the alignment of Portfolios, Programs and Projects with an organizational strategy for Sustainability and focuses on the Impacts of Project Processes and Deliverables on the Environment, Society, the corporate bottom line and the local economy. The simplest way to explain P5 is that it is made up of bonds between the triple bottom line (fiscal, environmental, social) approach, project processes and the resulting products or services" (GPM Global, 2014, p.6). P5 provides a "measurable framework for portfolios, programs and projects that are, by definition, unique and considered for inclusion in reports" (GPM Global, 2014, p.10).

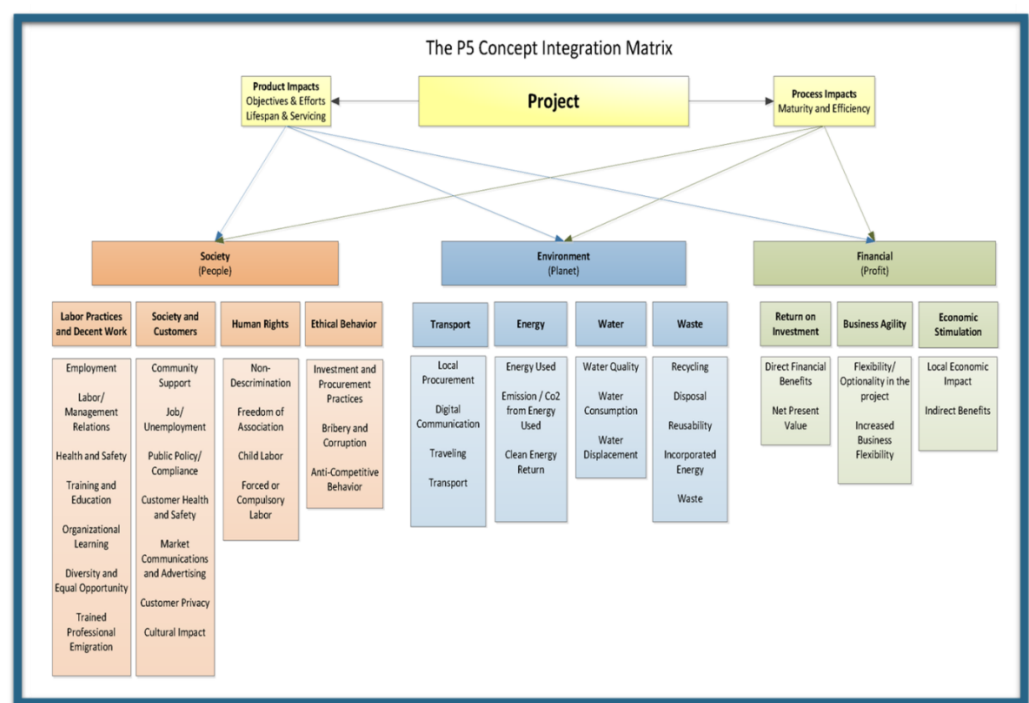


Figure 5. The GPM P5 Standard
(The GPM Global P5 Standard for Sustainability in Project Management, 2014, p.10)

The most important advantage of the P5 standard is that it is the first tool that provides a systematic framework for the analysis of organizational sustainability, but it creates difficulties when applied at the single project level. Meanwhile, business sustainability criteria can be interpreted to different projects, environmental and social sustainability criteria analyze governance policies, organizational approaches, standards, processes, and practices. These are very important factors but they appear at the organizational level and it is very difficult to interpret on a single project level.

The Project Sustainability Excellence Model (PSEM)

Based on the strengths, weaknesses, and limitations of the standard, the Project Sustainability Excellence Model (PSEM) was developed by the author as an instrument to assess strategic development projects focusing on sustainability, creativity and innovation. The frame of the model is the widely used Project Excellence Model (Westerveld, 2003) in which the modified and reinterpreted GPM Global P5 Standard is integrated. The modification of the GPM Global P5 Standard means that the indicators which can be applied to projects have been put into the model without any changes, the indicators formulated in a very general way have been concretized and have been made project-related. In addition, new indicators have been created in order to cover all the areas of strategic project-related sustainability, innovation, and creativity. The PSEM contains 9 evaluation criteria and in each criterion, questions are clustered into dimensions like sustainability, creativity, and innovation. In some cases, business, environmental and social perspectives of sustainability appear independently.

The Project Sustainability Excellence Model is divided into two main parts: meanwhile, the project management side analyzes how the project has been managed, the project result side assesses what the project achieved. The target for the Project Sustainability Excellence Model is to collect 1000 points. The model divides the assessment criteria into two sections of 500 points each: project management and project results. The PSEM model contains the following evaluation criteria.

PROJECT MANAGEMENT

PROJECT OBJECTIVES (140 points): To what extent is sustainability a feature for setting project objectives?

PROJECT LEADERSHIP (80 points): Is sustainability an important issue for the project leadership? How do managers support and promote sustainability during the project life cycle?

PEOPLE (70 points): How are project team members involved in the sustainability of the project, how is their potential seen and utilized?

RESOURCES (70 points): How are existing resources used effectively and efficiently from the point of view of sustainability as well as innovation and creativity?

PROCESSES (140 points): How do important processes support project sustainability?

PROJECT RESULTS

CUSTOMER RESULTS (180 points): What did the project achieve regarding customer expectations and satisfaction considering project sustainability?

PEOPLE RESULTS (80 points): What did the project achieve regarding the expectations and the satisfaction of employees involved concerning project sustainability?

RESULTS OF OTHER PARTIES INVOLVED (60 points): What did the project achieve regarding the expectations and the satisfaction of other stakeholders concerning project sustainability?

KEY PERFORMANCE AND PROJECT RESULTS (180 points): What did the project achieve regarding the intended project results concerning project sustainability?

Table 2 and table 3 give an overview about the indicators of the PSEM model.

Table 2. Project management indicators of the PSEM model

PROJECT OBJECTIVES ▾	PROJECT LEADERSHIP ▾	PEOPLE ▾	RESOURCES ▾	PROCESSES ▾
Economic sustainability	Economic sustainability	Economic sustainability	Economic sustainability	Economic sustainability
Return on investment	Reaching the financial goals	Able to reach the expected financial results.	Increase business sustainability of the project	Return on investment
Meeting the project triangle	Environmental sustainability	Environmental sustainability	Environmental sustainability	Meeting the project triangle
Business agility	Improvement of environmental protection	Work environmentally friendly	Increase environmental sustainability of the project	Business agility
Environmental sustainability	Social sustainability	Social sustainability	Social sustainability	Environmental sustainability
Transport	Contribution to the social development	Have social sensibility	Increase social sustainability of the project	Transport
Energy	Innovation	Able to identify social needs.		Energy
Waste	Fostering innovation	Innovation		Waste
Water	Creativity	Innovative staff		Water
Materials	Support creativity and creative solution	Creativity		Materials
Social sustainability		Creative staff		Social sustainability
Labor practices and decent work				Labor practices and decent work
Learning organization and knowledge management				Learning organization and knowledge management
Human rights				Human rights
Social development				Social development
Innovation				Innovation
Technical innovation				Technical innovation
Process innovation				Process innovation
Marketing innovation				Marketing innovation
Creativity				Creativity
Creativity tools and technics				Creativity tools and technics
Identification of business and financial problems				Identification of business and financial problems
Creative solutions for identified problems				Creative solutions for identified problems
Identification of opportunities and threats				Identification of opportunities and threats

Table 3. Project results indicators of the PSEM model

CUSTOMER RESULTS	PEOPLE RESULTS	RESULTS OF OTHER PARTIES INVOLVED	KEY PERFORMANCE
Economic sustainability	Economic sustainability	Economic sustainability	Economic sustainability
Project outcome at a suitable value-price relation	Project organized in an economically efficient	Project outcome at a suitable value-price relation	Return on investment
Environmental sustainability	Environmental sustainability	Environmental sustainability	Meeting the project triangle
Project outcome as environmentally friendly as	Project execution as environmentally friendly	Project outcome as environmentally friendly as	Busienss agility
Social sustainabilty	Social sustainabilty	Social sustainabilty	Environmental sustainability
Project outcome with a significant added value for the customers	Ensure an adequate working environment	Project outcome with a significant added value for the	Transport
Project outcome as innovative as possible for the customers		Project outcome as innovative as possible for the customers	Energy
Solution of existing problems of the customers		Solution of existing problems of the customers	Waste
Satisfaction of the needs of the customers		Satisfaction of the needs of the customers	Water
			Materials
			Social sustainability
			Labor practices and decent work
			Learning organization and knowledge management
			Human rights
			Social development
			Innovation
			Technical innovation
			Process innovation
			Marketing innovation
			Creativity
			Creativity tools and technics
			Identification of business and financial problems
			Creative solutions for identified problems
			Idetification of opportunities and threats

Empirical studies using the PSEM model for assessing sustainability, creativity, and innovation of strategic projects

The model enables to analyze strategic development projects taking into consideration sustainability as well as creativity and innovation potential of these projects. 4 organizations were selected and 15 strategic projects were analyzed and evaluated by using the PSEM Model. Table 4 contains the list of analyzed projects.

Table 4. List of analyzed projects

EU funded projects
Development of public places
New generation – new kindergarten: reconstruction and new program development
Tourism development of middle-sized Hungarian historic town
Development of social places
Rethinking cultural heritage: reconstruction and new functions of historic buildings
Projects of multinational production companies
Production machine development project
Product development project
Software development project for centralization of production planning
Competence center development project
Transport optimization project
Small-sized companies' projects
Store building project
Detached house building project
Townhouse building project
Building ground development project
Logistic center construction project

Project- and functional managers of the selected organizations were interviewed. The answers were measured on a 5 grade scale. Scores of the dimensions were calculated as follows:

$$CSD = MSD \frac{CMSD}{MOSD}$$

CSD=Calculated Score of the Dimension using the PSEM

MSD=Measured Score of the Dimension (Sum of the points given by the interview partners to the questions of the dimension within a given criterion).

MOSD=The Maximum Obtainable Score of the Dimension within a given criterion.

CMSD=Calculated Maximum Score of the Dimension (The maximum point of the given criterion divided by the number of the dimensions in the criterion. It assumes that dimensions within the criterion are taken into consideration with the same weight).

Using the Project Sustainability Excellence Model, the sustainability, innovation and creativity profile of the organization was created. This profile can be prepared for each of the 9 criteria and within a given criterion for each dimension as well.

The results show that there is a big difference between the role of sustainability of strategic projects. Because of the limited extent of this paper, we concentrate here on the first dimension of the PSEM model, that is the goal setting of strategic projects. Figure 6, 7 and 8

show the sustainability, innovation and creativity characteristics of project goals of the analyzed strategic projects.

Projects of multinational production companies

Production projects are considerable profit-oriented, therefore the main focus is on the economic aspect of project sustainability and creative solutions are needed for the effective operation of production lines. Environmental sustainability is an integral part of the companies' strategic goals and typically appears in the CSR policies and initiatives. When looking at the project management level it is less pronounced than at company level. The same observation can be made for social sustainability of multinational companies' projects.

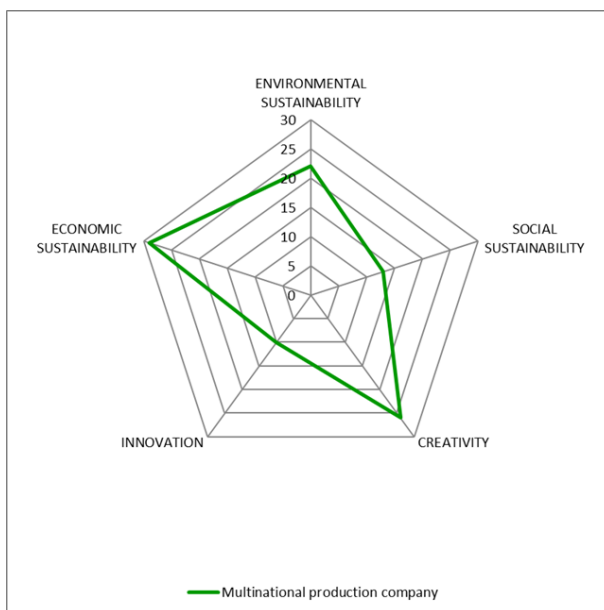


Figure 6. Characteristics of project goals of multinational companies

Construction projects of small-sized companies

Construction projects are similar values to multinational companies regarding the economic perspective of sustainability. The creativity appears when designing buildings in order to meet customers' expectations. These kind of projects are significantly less innovation-oriented than for example research and development projects. The reason for a relatively high score for social sustainability comes from the strong customer – building contractor cooperation needed for project success and for high-level customer satisfaction.

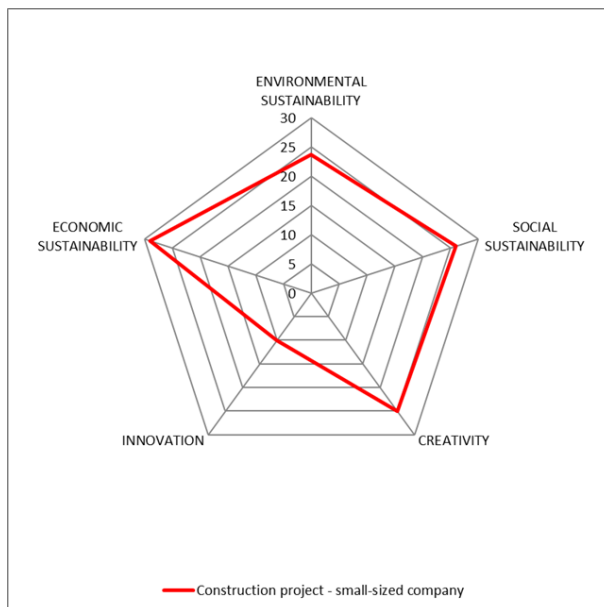


Figure 7. Characteristics of construction projects' goals

EU funded projects

EU funded projects have their special characteristics because the mission of these projects is to provide added value to local residents and this results in a high value of social sustainability. The Economic aspect of sustainability is of high priority for EU funded projects and appears in the goal setting as to realize these projects on time, on budget and meeting the quality requirements. Environmental sustainability is highlighted when planning and executing projects in connection with environmental issues such as projects targeting energy saving, recultivation of devastated areas, water protection and so on. The interpretation of creativity is mainly related to the invention of the added value of the project characterized by the limited budget which creates a win-win solution for both society and the project owner.

However, these characteristics of project sustainability illustrated in the previous section are defined based on the analyzed 15 projects, these projects were selected as representatives of typical EU funded and construction projects as well as development projects of multinational companies these results can be generalized to some extent.

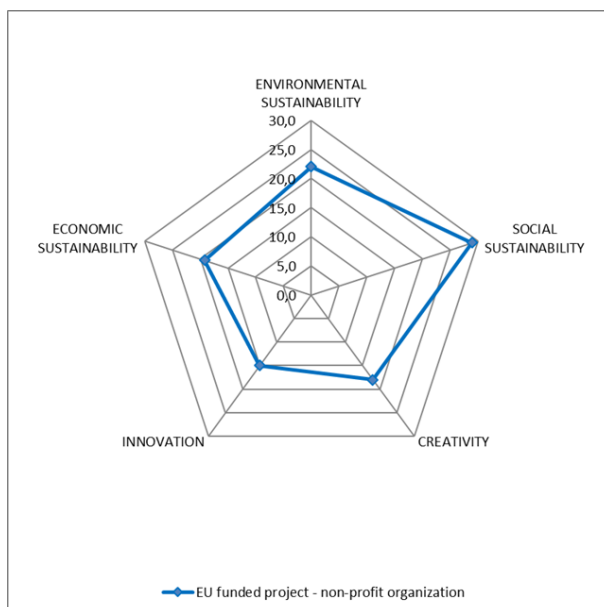


Figure 8. Characteristics of project goals of EU funded projects

Calculating the total score of SPEM ($\Sigma\text{CSD} = \Sigma\text{Calculated Score of the 9 Dimension using the PSEM}$) we can state that EU funded projects have higher scores than projects of multinational companies and small-sized construction companies. EU funded project is supported by the idea generation through planning to the execution and reporting by consulting companies with lots of experience, knowledge and reference works. The decision about strategic projects in case of selected multinational companies is made by the headquarter and the coordination is also very centralized which results in less loyalty to project sustainability at the affiliated firms. Small-sized construction companies are mainly family-owned companies where all strategic decisions are about how to increase economic project sustainability.

Practical applications, limitations, and further research development

The Project Sustainability Excellence Model enables companies as well as consultants to evaluate projects with regards to sustainability, innovation, and creativity. Using the model, strengths, and weaknesses of the analyzed project can be identified and based on these results action plans can be developed in order to improve the project management system of the organization.

This paper aimed to introduce the Project Sustainability Excellence Model. Practical applications of the model were presented through case studies that analyzed strategic projects. After completing this research, the new challenge is to carry out a quantitative empirical research utilizing the standardized questionnaire of the Project Sustainability Excellence Model. Building up an international database, quantitative analyses will be applied in order to validate the usefulness and the standardization of the instrument.

The usage of PSEM is not limited to strategic projects. By analogy with the Project Excellence Award and the related competition, a Project Sustainability Excellence Award

could be established. For this, the application and assessment process and other requirements such as categorization and fees should be developed and assessors should be trained in order to provide uniform conditions for applicants.

References

- Blaskovics, B. (2016). The impact of project manager on project success - The case of ICT sector. *Society and Economy in Central and Eastern Europe*, 38(2), 261-281.
- Bodea, C.N., Elmas, C., Tănăsescu, A., & Dascălu, M. (2010). An Ontological-Based Model for Competences in Sustainable Development Projects: A Case Study for Project's. *Amfiteatru Economic*, 12(27), 177-189.
- Cole, R.J. (2005). Building environmental assessment methods: redefining intentions and roles. *Building Research and Information*, 33(5), 455-467.
- Cserháti, G., & Szabó, L. (2014). The relationship between success criteria and success factors in organisational event projects. *International Journal of Project Management*, 32(4), 613-624.
- Deakin, M., et al. (2002). The assessment of sustainable urban development. *Building Research and Information*, 30(2), 95-108.
- Deutsch, N., Berényi L., & Pintér, É. (2016). Level of consensus on the content of social responsibility. *International Journal of Economics and Management Systems*. 1(1), 252-258.
- Elkington, J. (1997). *Cannibals with forks: the triple bottom line of 21st century business*. Oxford: Capstone Publishing.
- Fernández-Sánchez, G., & Rodríguez-López, F. (2010). A methodology to identify sustainability indicators in construction project management - Application to infrastructure projects in Spain. *Ecological Indicators*, 10(6), 1193-1201.
- Gareis, R., Huemann, M., & Martinuzzi, A. (2011). What can project management learn from considering sustainability principles? *Project Perspectives*, 33(2), 60-65.
- GPM Global (2014). *The GPM Global P5 Standard for Sustainability in Project Management*. Retrieved from <http://www.greenprojectmanagement.org/>
- Hunger, J.D., & Wheelen, T.L. (2011). *Essentials of Strategic Management*. New Jersey: Prentice Hall.
- Kaplan, R.S., & Norton, D.P. (2007). Using the Balanced Scorecard as a Strategic Management System. *Harvard Business Review*, July-August, 1-14.
- Lacy, P., Cooper, T., Hayward, R., & Neuberger, L. (2010). *A New Era of Sustainability. UN Global Compact-Accenture CEO Study 2010*. Retrieved from https://www.unglobalcompact.org/docs/news_events/8.1/UNGC_Accenture_CEO_Study_2010.pdf
- Lacy, P., & Hayward, R. (2013). *The UN Global Compact - Accenture CEO Study on Sustainability 2013. Architects of a Better World*. Retrieved from https://www.unglobalcompact.org/docs/news_events/8.1/UNGC_Accenture_CEO_Study_2013.pdf.
- Luthans, F., & Doh, J.P. (2012). *International Management*. New York: McGraw-Hill.
- Martens, M.L., Brones, F., & Carvalho, M.M. (2013). Lacunas e tendências na literatura de sustentabilidade no gerenciamento de projetos: uma revisão sistemática mesclando bibliometria e análise de conteúdo. *Revista de Gestão e Projetos*, 4(1), 165-195.
- Mulder, J., & Brent, A.C. (2006). Selection of Sustainable Rural Agriculture Projects in South Africa: Case Studies in the LandCareProgramme. *Journal of Sustainable Agriculture*, 28(2), 55-84.

- Paniagua Tufinio, S., et al. (2013). Sustainability in Project Management: Where are we? *Annals of Faculty Engineering Hunedoara – International Journal of Engineering*, 2013(1), 91-100.
- Silvius, G., & Schipper, R. (2014). Sustainability in Project Management Competencies: Analyzing the Competence Gap of Project Managers. *Journal of Human Resource and Sustainability Studies*. 2(2), 40-58.
- Silvius, G., et al. (2012). *Sustainability in Project Management*. Aldershot: Gower Publishing.
- Singh, R.K., Murty, H.R., Gupta, S.K., & Dikshi, A.K. (2012). An overview of sustainability assessment methodologies. *Ecological Indicators*, 15(1), 281-299.
- Thomson, C.S., El-Haram, M.A., & Emmanuel, R. (2011). Mapping sustainability assessment with the project life cycle. *Engineering Sustainability*, 164(2), 143-157.
- Turlea, C., Roman, T.D., & Constantinescu, D.G. (2010). The project management and the need for sustainable development. *Metalurgia International*, 15(3), 121-125.
- Vifell, A.C., & Soneryd, L. (2012). Organizing Matters: How “the Social Dimension” Gets Lost in Sustainability Projects. *Sustainable Development*, 20(1), 18-27.
- Westerveld, E. (2003). The Project Excellence Model: linking success criteria and critical success factors. *International Journal of Project Management*, 21(6), 411-418.