Achieving excellence in projects

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Abstract

The vagueness of project success and failure resulted in great deal of theories about achieving the excellence in projects. The purpose of the study is to create a framework for achieving the excellence in projects, based on the Deming Prize. Secondary research include analysis, comparison and selection methods. The result is a model consisting of six criteria, which can be used in various kinds of projects on a global scale. Recommendation for project teams is to not focus only on how to finalize the project to a successful end but to try to bring the project to its excellence.

1. Introduction

Understanding the causes of project failure is critical. Project managers know well what to avoid when planning and implementing the project in order to make it successful. It is often difficult to distinguish success from a failure. Calleam Consulting Ltd. dedicated a whole web site to failed projects. In their Catalogue of Catastrophe are listed projects that clearly did not end up as great successes. According to Goatham (2013, February 21) “those examples represent the extreme of project failure and in practice, there is a sliding scale between total failure and absolute success.” The aim of modern management is to achieve excellence in every activity (Jankal, 2014; Jankalova, 2012; Jankalova, 2014). However how do we achieve excellence status of project? The main task is to compliance with the principles of quality in project management. They will then serve as a basis for implementing the business excellence model.

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Quality management according to Svozilova (2011), is a management approach with proposed objectives, providing the necessary structure and allocating the resources needed to create a product or service whose properties will be subject to the required quality standard. According to Kerzner (1998), quality management of projects is defined as “a set of planned and systematic actions applied so as to ensure that the project meets the required quality standards.” It is important to note that sustainability and responsibility go hand in hand with quality management (Vartiak, 2014). However, it is not easy to define the term quality in projects. The three best-known definitions of quality in the project are:

- Project Management Institute (2013): “Degree of compliance with the standards and requirements.”
- International Organization for Standardization (2005): “A summary of the features and characteristics of a product or service that are able to satisfy expressed or implied needs.”
- CMMI Institute: “Ability of the set of characters of object, service, their parts and processes to meet customer requirements.”

Project managers have contrasting views on what constitutes a good quality project. “The generally agreed parameters are that it delivers the desired outcomes on time and within budget.” According to Young (2011, November 8), the Plan-Do-Check-Act cycle [PDCA] is fundamental to achieving project quality. PDCA was established by an American engineer, statistician, professor, author, lecturer, management consultant and pioneer in quality W. Edwards Deming.

Transformed team identified Success Factors for Managing Project Quality [SFMPQ]. These factors are result of long term experience in coaching and recruitment services for individuals and organizations to build project management skills and capability. These factors are further as defined by Young (2011, November 8) as follows:

1. A good plan: A plan for how the project manager and his team will maintain quality standards throughout the project's cycle.
2. Appropriate Communication: Communication between project manager, team members and stakeholders is the key. “Project managers need excellent communication skills and a comprehensive scheme that encourages formal and informal discussion of expectations, innovation, progress and results.”
3. Manage Stakeholders: Stakeholders include everyone who has interest in the project. It is necessary to „identify who they are, analyze their concerns and what they need to know, and then prepare a strategy to provide the appropriate amount of information and opportunities for involvement.”
4. Good Measurement: In order to measure progress, both qualitatively and quantitatively, it is necessary to implement processes that measure them. “This ensures that problems can be identified early and successful tactics can be promulgated throughout the project.”
5. Constant Review: Good review mechanisms go along with good measurement. “Successful project managers diligently and regularly review progress against the schedule, budget and quality elements of the project.” Review needs to be regular, thus it allows problems to be identified early. Due to this, corrections can be done to keep the project on track. Regular review also helps team members to improve their skills.
6. Act early: The best recipe for disaster is leaving problems to be fixed up later. “Simple issues should be addressed immediately“ and “more complex issues should be added for action into the project plan and resources allocated to address them.”

In the words of Svozilova (2011), every organization is these days aiming to meet the highest degree of quality for all its activities and projects. Note, do not confuse the concepts of quality, excellence, luxury and prestige. Quality in the context of project management describes the qualitative level of the resulting object or service that is the sense of the existence of the project.

According to Oxford wordpower dictionary (1999), quality represents a high standard or level. Excellence is the quality of being very good and adjective excellent means a high quality. Quality is therefore the basis for achieving excellence. As already mentioned, the Transformed team has identified six key factors that improve project quality and Deming’s PDCA cycle is fundamental to achieving project quality. The next stage is to achieve project excellence along the lines of the world's best known business excellence model – the Deming Prize [DP].
The Japanese DP defined by Japanese Scientists and Engineers – JUSE (2014a) is significant because it launched the practice of self-assessment, and developed the concepts of scoring and site visits in the award process. The quality movement in Japan started in 1946 when the JUSE was founded. In 1950, JUSE invited W. Edwards Deming to give seminars on statistical process control. Deming was seen as the father of the worldwide quality movement, and quality guru – in his honor, the DP was instituted and the DP Committee was formed in 1951. In the very same year the first prizes were given to four Japanese companies. “The Deming Prize was originally established to ensure that improved performance is achieved through the successful implementation of company-wide quality control activities.” The purpose of the award is: “To award prizes to those companies that are recognized as having successfully applied Company-wide Quality Control based on statistical control and are likely to keep it up in the future.” According to Porter and Tanner (2004), it is difficult to get information about the DP in the Western world because the most of the documentation about the award is written in Japanese. The most useful source of information about criteria of the DP comes from the publication The Application Guide for The Deming Prize For Companies and Organizations Overseas (2014b), which was used as the primary source for the table below.

Table 1. The Deming Prize criteria for evaluation.

<table>
<thead>
<tr>
<th>Evaluation Items</th>
<th>Points</th>
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<tbody>
<tr>
<td>1. Management policies and their deployment regarding quality management</td>
<td>20</td>
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<tr>
<td>a. Under clear management policies that reflect its management principles, industry, business, scope and business environment, the organization has established challenging, quality-oriented, customer-driven business objectives and strategies.</td>
<td>(10)</td>
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<tr>
<td>b. Management policies are deployed throughout the organization and implemented in a united way.</td>
<td>(10)</td>
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<tr>
<td>2. New product development and/or work process innovation</td>
<td>20</td>
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<tr>
<td>a. The organization actively develops new products (including services) or innovates work processes.</td>
<td>(10)</td>
</tr>
<tr>
<td>b. New products need to satisfy customers’ requirements. In the case of work process innovation, it must contribute greatly to the efficiency of business management.</td>
<td>(10)</td>
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<tr>
<td>3. Maintenance and improvement of product and operational qualities</td>
<td>20</td>
</tr>
<tr>
<td>a. Daily Work Management: Through standardization and education/training, the organization rarely has troubles in daily work and major operations in each department have been stabilized.</td>
<td>(10)</td>
</tr>
<tr>
<td>b. Continuous Improvement: The organization makes improvements on quality and other aspects of its business in a planned and continual manner. It has reduced claims and defect problems in the market or the succeeding processes. It has been maintaining claims and defect problems in the market or the succeeding processes at extremely low levels. The customer satisfaction rate has improved.</td>
<td>(10)</td>
</tr>
<tr>
<td>4. Establishment of systems for managing quality, quantity, delivery, costs, safety, environment, etc.: The organization has established the necessary systems among the ones listed above and utilizing them effectively.</td>
<td>10</td>
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<tr>
<td>5. Collection and analysis of quality information and utilization of information technology: The organization collects quality information from the market and within its organization in an organized manner and utilizes it effectively. Together with the use of statistical methods and information technology, such information is utilized effectively for developing new products and maintaining and improving operational qualities.</td>
<td>15</td>
</tr>
<tr>
<td>6. Human resources development: The organization educates and develops its human resources in a planned manner resulting in maintaining and improving product and operational qualities.</td>
<td>15</td>
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By words of JUSE (2014a), the DP has earned an internationally renowned reputation as a coveted quality award. Therefore, organizations around the world are all invited to apply for the DP as part of their pursuit for organizational constitution improvement.

Excellence may be achieved also once SFMPQ are fulfilled, e.g. the organization utilizes projects for achievement of goals or the organization itself is seen as a major project.

The purpose of the study is to create a framework for achieving the excellence in projects, which is based on the Deming Prize. Framework for achieving excellence in projects is based on the interconnections between SFMPQ and criteria of the world’s best known business excellence model – DP. First off, the definition of quality as well as
the concept of quality in the project is presented. Deming’s PDCA cycle is specified as well, this cycle serves as the basis for SFMPQ. Introduction further highlights the difference between the concept of quality and excellence and covers also the characteristics of the Japanese DP and its criteria for an evaluation. Research background summarizes the existing theories of project excellence by National Aeronautics and Space Administration, German Association for Project Management and E. Westerveld. Methodology describes the methods used in procedure of creating this paper. Results show the connection between SFMPQ and criteria of the DP once their common and supplementary features are found. The last section – conclusion and recommendations, evaluates the findings from the analysis and provides recommendations for the future.

2. Research background

According to Hoffman and Kohut (2012), in 1988, the National Aeronautics and Space Administration [NASA] begun with an establishment the Program and Project Management Initiative [PPMI]. It consisted of a series of training courses in the fundamentals of project management knowledge. "This was the direct precursor to today's NASA Academy of Program / Project & Engineering Leadership." PPMI was NASA's response to its series of failures when NASA decided to look for new ways to address communications, organizational learning, and technical excellence. Ten years later, NASA outgrew its own PPMI model through the successful achievement of its goals summarized by Forsgren et al. (2014):

- Provide a common frame of reference for NASA’s program/project and engineering workforce.
- Provide and enhance critical job skills.
- Support engineering, program, and project teams in the field.
- Promote organizational learning across the agency.
- Supplement formal education programs.

The issue of achieving excellence in projects was also covered by Roland Ottmann from the German Association for Project Management [GAPM]. According to Bauert, Grunbecken, Kopp and Mohr (2008), in 1997 GAPM presented the Project Excellence Model [PEM] based on the EFQM Excellence Model (Fig. 1.). PEM is a rating system for projects. It was first used internationally in 1998 at the International Project Management Association.

![Fig. 1. Overview of the Project Excellence Model.](image-url)
PEM defined by Szalajko, Dzwonnik, Klein and Raue (2014) is a structure used to obtain a profound picture of any project and its execution quality. “The PEM supports an organization to benchmark its projects in order focus on strengths and further potentials during project execution.” Critical knowledge of the PEM is gained from Total Quality Management [TQM]. PEM varies in its application and is being continuously developed, moreover it is widely recognized for its pragmatic approach since it refers to universal project enablers and typical groups of stakeholders. “This makes it independent from any particular project management methodology, which implies that it could be adopted by any organization, regardless of the maturity level.”

Westerveld (2003) described in his paper the Project Excellence Model that is adapted from the EFQM Excellence Model and can also link project success criteria with critical success factors (Fig. 2.). This model consists of six result areas covering project success criteria and six organizational areas covering critical success factors.

![Fig. 2. The Project Excellence Model by Westerveld.](image)

Westerveld (2003) also stated that “the model can be used for setting up managing and evaluating a project. After the project start-up, the Project Excellence Model can be used to monitor the results and the project organization.” The model could provide good insights for improving the functionality of the project organization by linking the result areas of the project to the organizational areas. Based on the Westerveld's analysis, the functionality of the project can be improved by model he proposed. This model can be also utilized for analysis and transfer of learning experiences to the future projects.
3. Methodology

The principal aim is establishment of a framework for achieving excellence in projects. The achievement of this aim is realized by linking the world’s best known business excellence model (the Deming Prize) with principles of quality management in projects. At the beginning it was necessary to understand the interpretation of project success and quality in the context of project management. From various perspectives on the concept of quality in projects, this study tends to SFMPQ by the Transformed team. Secondary research included analysis, comparison and selection methods. Based on these methods, connections between SFMPQ and criteria of the DP were found. In this way a unique model for achieving excellence in projects was formed.

4. Results

In order to create a framework for achieving the excellence in projects it is necessary to find connections between SFMPQ and criteria of the DP. Connections can be found through the analysis of the definitions of SFMPQ and criteria of the DP mentioned in the first part of this study. Positive aspect for the analysis is that both frameworks consist of 6 items. In addition to that, six related pairs can be created. Linkages between the definitions of SFMPQ and criteria of the DP are listed in the Table 2.

<table>
<thead>
<tr>
<th>SFMPQ</th>
<th>linkage</th>
<th>DP</th>
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<tbody>
<tr>
<td>1. A good plan</td>
<td>to create a good plan it is necessary to innovate the work process</td>
<td>2. New product development and/or work process innovation</td>
</tr>
<tr>
<td>2. Appropriate Communication</td>
<td>clear management policies only exist in a parallel with an appropriate communication</td>
<td>1. Management policies and their deployment regarding quality management</td>
</tr>
<tr>
<td>3. Manage Stakeholders</td>
<td>it is not possible to manage Stakeholders without knowing them, providing them with information and giving them opportunity of development</td>
<td>6. Human resources development</td>
</tr>
<tr>
<td>4. Good Measurement</td>
<td>in order to measure progress, it is necessary to implement system that measures the quantity and quality of the processes</td>
<td>4. Establishment of systems for managing quality, quantity, delivery, costs, safety, environment, etc.</td>
</tr>
<tr>
<td>5. Constant Review</td>
<td>regular reviews of the progress against the schedule are based on the collection and analysis of important information</td>
<td>5. Collection and analysis of quality information and utilization of information technology</td>
</tr>
<tr>
<td>6. Act early</td>
<td>to act early means fixing the problems in the daily work, i.e. maintenance and improvement at the operational level</td>
<td>3. Maintenance and improvement of product and operational qualities</td>
</tr>
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As a main finding may be considered that analyzed frameworks have common features and are complementary to each other. The result of the analysis displays six steps that lead to the achievement of excellence in various kinds of projects on a global scale:

1. A good plan and work process innovation: A plan describing how the project manager and his team will maintain quality standards throughout the project’s cycle and innovate work processes to meet the project’s quality requirements.
2. Management policies and communication: The project has established quality-oriented strategies – following the clear management policies. Management policies are deployed throughout the project team and communicated between project manager, team members and stakeholders.
3. Management and development of the Stakeholders: Stakeholders include everyone who has an interest in the project. Their identification, management, education and development is essential, further it is necessary to provide them with the appropriate amount of information and opportunities.
4. Establishment of system for managing and measuring quality and quantity: Fundamental is to establish the system for managing the project and measuring its progress, both qualitatively and quantitatively.

5. Creation of an effective review mechanism: Effective review mechanism goes along with system for managing and measuring quality and quantity. Project managers regularly review progress of the project with aim to identify potential problems in advance. Information further used in reviews are collected via statistical methods and information technologies from the markets and from processes within the project’s cycle.

6. Maintenance, process improvement and proper actions: Following the review, it is necessary to identify the processes in the project cycle that require improvement, appropriate action should be taken based on current needs. Simple issues should be resolved immediately and more complex issues should be added into the project plan using suitable resources allocated to resolve them. These actions will help reduce claims and defect problems in the future, so the project can end up as a success.

To see the logical links between SFMPQ and criteria of the DP, relationships between the components of presented model are depicted in Fig. 3.

![Fig. 3. Relationships within six steps that lead to the achievement of excellence in project.](image)

Along the lines of relationships inside the DP model, three of presented criteria (orange color) represent the Core Quality System [CQS]. The other three criteria exist on the outside of the CQS and affect the CQS. CQS affects them as well.

5. Conclusion and Recommendations

Any project might become eventually not only good, but even excellent. As mentioned, there are frameworks that can assure that, however these frameworks are more focused on projects in the European conditions. There is a need
for formation of framework that expands over the borders of Europe. Quality, however, has the same meaning throughout the world, therefore excellence in projects can most certainly be achieved through the principles of quality. Analysis, which has connected principles of the DP and SFMPQ has given the opportunity of formation of a new model. This model contains of six criteria – steps that provide guidance for achieving excellence in various kinds of projects on a global scale.

Recommendation for project teams is to not focus only on how to finalize the project to a successful end but to try to bring the project to its excellence. In order to achieve that, every project team needs to define the term quality in its project. Further, it is important to communicate information about desired quality and to monitor and measure its fulfillment. At last, managing of the quality through any of the related frameworks might lead the project to its excellence. PEM by GAPM is the most commonly used model for achieving excellence in projects. It certainly could serve as a great guide. But to extend the project team’s horizons, the model which was developed in this paper is also interesting. This model is interesting because of its attributes, since it is a combination of Success Factors for Managing Project Quality and the world's best known business excellence model – the Deming Prize.

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References