

# Analysis of Successful Projects

Zahid Ali Akbar<sup>1</sup>  
[osaffhaider@gmail.com](mailto:osaffhaider@gmail.com)

Yawar Abbas<sup>2</sup>  
[yawar.gbpwd.skd@gmail.com](mailto:yawar.gbpwd.skd@gmail.com)

## Abstract

Many projects start with good ideas, huge investments and great efforts. However, most of them do not achieve much success. A major contribution to unsuccessful projects is the lack of understanding or defining project and product scope at the start of the project. Time, Cost, Scope and Quality are closely related, and change of one effect on the other. Simply completing the project by the given due date and within budget is not sufficient, because the project must also be of acceptable quality. In today's world with a distinct competitive in the business world, the quality is perhaps the most important element of competitive fighting. Problems can be constructed together with different dimensions to analyze the relations of these variables according to conditions given. The researchers have come up with an innovative model which can be applied for any project may it be civil, electrical or any other domain.

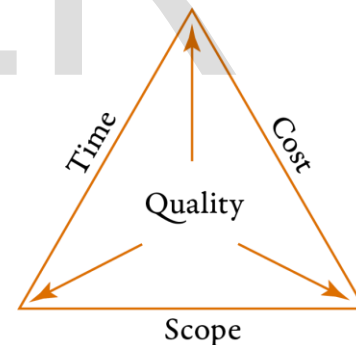
**Keyword:** Successful Projects, Project Management, Risk Management, Leadership Management.

## Introduction

A project is a temporary endeavor undertaken to create a unique product, service or result. One of the biggest problem of project managers is to harmonize project scope, cost, time and quality. It is difficult to achieve this because cost, time and quality are related in the way that change of one influence on the other two. Project managers typically try to balance the three when meeting project objectives, but they may make trade-offs among the three during project implementation in order to meet objectives and satisfy customers. There are many examples in practice that projects were delivered on time and within budget but failed to meet the expectations of end users.

Every project has an anticipated level of quality for the project deliverables. The details and specifications set out by the customer determine what the expected level of quality is. A project is a one-time task constrained by time, cost, and quality and its success depends on how well these constraints are balanced. Very often project managers try to maximize project quality within a given deadline and budget.

The iron triangle, also known as project management triangle or flexibility matrix, models the constraints project managers face while working on the projects they oversee. This model provides a dynamic way to approach priorities on a project and describes items of value in a project team.



**Figure-1: The Quality Triangle**

### - Quality

The quality of a project is reflected by the ambition level for the project's success. As a help in reaching the desired results three pillars; time; duration from the start of the project to the delivery of a complete result, cost; resources such as money, personnel, material etc. and scope; specifications for the finished result should be looked into as essential elements. It is important always to have a sorted and accepted agreement amongst the involved parties on which factor is

the most important, and where compromises can be made. This is because of the fact that increasing or decreasing the amount of focus on one of the pillars will lead to a compromise in the other two as well since the project management triangle always strives for balance.

#### - **Cost**

This is the financial constraint of a project, also referred to as the budget. Costs on a project can comprise of a variety of elements, including resources –both materials and people – as well as any external costs that influence a project. In some cases, costs are fixed and cannot flex; in others, costs are variable and can be adjusted to meet needs. For example, if a piece of the project is to be done using contract workers and the work takes longer than anticipated, the cost may increase.

To estimate the costs of a project, one needs to look into the business need, current boundaries for the project, requirements and justification carried out by the scope. Additionally, one has to define the activities required to implement the requested changes with the resources and time aspect included to estimate the costs of those activities. Information of this kind will constitute important input to a projects overall budget, which can be measured and displayed in different contexts through various cost diagrams

#### - **Scope**

This includes the tasks necessary to achieve the project's goals. Controlling scope is especially critical, as adjustments to scope almost guarantee an impact to cost and time. The scope of a project includes the deliverables of the project, all the work that has to be done in order to complete the project. The scope requirements are based on the stakeholders' needs, wants and expectations on the project result. The content of the scope varies depending on the complexity of the project; a critical project is more likely to have a formal and time intensive scope than a routine project. One way of documenting the scope is to make a project scope-managing plan, a plan describing the scope, how it will be documented, verified, managed and controlled.

#### - **Time**

This is the project's scheduled completion. Managing time is closely related to managing tasks, as the overall timeline is broken down by

individual tasks and their anticipated timing. To manage this, project managers should identify tasks that must be done in sequential order and which are interdependent. The time aspect includes the schedule for the work that will be done to complete the content of the scope. In order to develop the time schedule, the process of defining the activities is a must. The activity definition is a process for identifying and documenting the planned work. The planned work is then broken down into smaller components, so called schedule activities, making it easier to estimate, schedule, execute, monitor and control the project work.

#### **Literature Review**

A project scope deals with the required work to create the project deliverables. The scope of the project is specific to the work required to complete the project objectives. The project scope is measured against the project plan. Without an agreed upon and documented vision, there is little hope of achieving success. It is essential for each project to clearly define and document its scope so that the project can move forward in a coordinated manner and requirements can be written. Miia Martinsuo & Paivi Lehtonen [1] carried out an empirical study on a questionnaire survey throughout major projects in Finland. Through linear regression of their results, they deduced that single project management is associated with portfolio management efficiency indirectly in form of goal setting (including scope of project). The reaching of scope goals could be considered the most important item for portfolio management efficiency since scope as the product is the practical way to implement strategy.

Once derived, the statement of need should not change over time. If the need is changing, we do not know what is really needed and we cannot build a product to meet a moving target. Don't let the real need be forgotten. It is the focus of our investment. The Chaos Report [2] based their results on surveys & several interviews to provide qualitative context. Some of their investigated case studies were of California (DMV) project 1993 & American Airline project CONFIRM in 1994. It was observed that incomplete requirements, changing requirements, and unclear objectives were amongst the chief reasons behind project failures. Whereas, projects of almost same magnitude HYATT Hotels, Reservation systems project 1994 & Barco Itamarati Brazilian Bank met successes due to well documented specific objectives & proper scope management.

Stakeholders should be accounted for and considered prior to writing requirements. Customers and users are some of the most important of the product's stakeholders. Knowing the needs of customers and users is critical to the success of the project. It is vitally important to project's success that key stakeholders are identified during the development of the project scope and are involved in the project scope definition. Robert W. Poole, Jr. & Peter Samuel [3] carried out through analysis of Boston's Big Dig Mega project along with other transportation projects. They observed that the major source of cost increases in mega-projects is project creep, adding unanticipated elements and unforeseen complexity.

Projects are driven by many outside influences, e.g. regulations, standards, laws, and other considerations. A major driver for many organizations is the set of existing equipment, software, or processes. Other drivers include security and safety concerns. Early attention to drivers is important to any project. Each driver needs to be identified, assigned for tracking, and included in the analysis of what the project is and is not.

The scope statement provides justification for the project existence, lists the high-level deliverables, and quantifies the project objectives. Chung-Suk Choi and G. Edward Gibson Jr [4] mentioned about the Construction Industry Institute (CII) funding several research projects focused on pre-project planning of fifty-three capital facility projects into different intensities of pre-project planning effort and compared total potential cost and schedule performance. Because of the significant savings associated with improved project predictability, the study concluded that a complete scope definition prior to project execution is imperative to project success.

Kaufmann, Daniel & Kraay, Aart & Mastruzzi, Massimo [5] used the earned value method in quantifying scope change magnitude for cost adjustments. Based on surveys, Chan and Kumaraswamy [6] mentioned impractical design, labor shortages, poor performance, unforeseen conditions, and poor communication. Shenhar [7] classified technological uncertainty into four levels, correlating them with overall project duration. Levy and Globerson [8] implemented concepts from queuing theory for reducing the impact of waiting periods of critical work

packages on the delivery times of projects executed in parallel. Scope and objectives are the guiding principles that direct the efforts of the project team. They determine a project's success or failure Ward [9]. Without a well-defined scope, the objectives of information system development can be vague and people may start to lose sight of what they are trying to develop Clarke [10]. Breaking large projects down into sub-projects or work packages is regarded as one of the most important tasks in new or development projects. The recent researches have realized that most of the project do not achieve much success because of lack of a clear definition for project and product scope as well as improper control of them. Scope, as a measurable concept, has been considered as either a criterion or factor. In fact, a project scope with clearly defined goals and objectives has been verified as a dimension for project success by some researchers. Collins & Baccharini [11] considered a rigorous scope to be a factor which is necessary for meeting the owner's needs and thus achieving success. Shenhar, A.J & Dvir. [12] claimed that, projects exhibit considerable variation, and their specific management styles seem different. Ward [13] said that the scope of a project must be understood by all the participants, or stakeholders, who have to make decisions throughout the project.

Agarwal & Rathod [14] state that both the customer (who requests software) and software development teams agree that delivering the required product is the most important goal. If this goal is not met, the project is a failure. Within Kerzner's [15] criteria for judging project success, includes considerations of time, budget, specification, customer satisfaction, and maintaining status quo within the organization. He emphasized that scope changes need to be curtailed or, failing that, controlled, for they have the potential to destroy not only the morale on a project, but the entire project.

The Project Management Institute [16] defines product scope as the features and functions that are to be included in a product or service. It defines project scope as the work that must be done to deliver a product with the specified features and functions. Tom Kenderick [17] based his analysis on (PERIL) database, which serves as the basis for the analysis of high-tech project risk. The two broad categories of scope risk in PERIL related to changes and defects. By far the most damage was due to poorly managed scope change.

Of the most damaging 127 risks in the (PERIL) database, 64 just over half were scope risks.

### Research Design

We have seen that the existing quality triangle only takes care of time, scope and costs. However, there are additional factors which need to be taken into account. Following are the factors which need to be incorporated into the futuristic models and the innovative model this researcher intends to come up with. All these attributes are essential for the success of any project in any functional domain.

- Strategic Role of Leadership, Management and Planning.
- Project Requirements.
- Deliverables Management
- Operational Processes
- Training and Skills Enhancement and Certifications.
- Employee Incentives and Rewards.
- Risk Management.
- Open Communication Channels.
- Intellectual Capital.

Strategic Leadership is the ability to influence others to voluntarily make decisions that enhance the prospects for the organization's long-term success while maintaining short-term financial stability. Planning is the process of thinking about and organizing the activities required to achieve a desired goal. ... Planning is also a management process, concerned with defining goals for a company's future direction and determining the missions and resources to achieve those targets.

Project requirements are conditions or tasks that must be completed to ensure the success or completion of the project. They provide a clear picture of the work that needs to be done. They're meant to align the project's resources with the objectives of the organization.

The term deliverables are a project management term that's traditionally used to describe the quantifiable goods or services that must be provided upon the completion of a project. Deliverables can be tangible or intangible in nature. Operational process is an organized set of activities or tasks that produces a specific service or product. Operational processes constitute the core business.

Training is an organized activity conducted to improve the performance of an employee and to bring about a considerable change in the skills, knowledge, attitude, behavior for performing a particular kind of a job. Through effective skill enhancement, one can become more capable, competent, and confident and enhance one's performance, and are better able to reach one's goals.

rewards are the actual products you use to highlight performance. An incentive is promising that reward ahead of time in exchange for achievement. Recognition is the acknowledgement of effort or performance, and can include a reward if you choose.

Risk management is the process of identifying, assessing and controlling threats to an organization's capital and earnings. These threats, or risks, could stem from a wide variety of sources, including financial uncertainty, legal liabilities, strategic management errors, accidents and natural disasters.

Open communication allows your employees to be more engaged and understand that what they do matters in the success of the business. Effective communication will lead everyone to be on the same page; moving in the same direction toward the same goal. Effective communication seems simple, but it does take effort.

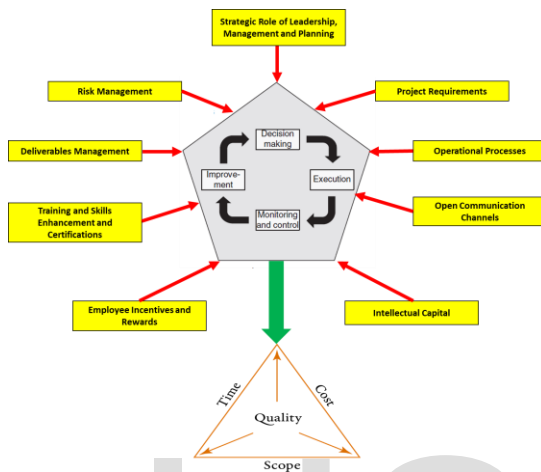
Intellectual capital is the result of mental processes that form a set of intangible objects that can be used in economic activity and bring income to its owner, covering the competencies of its people. Intellectual capital is the collection of intangible and knowledge-based assets a company (or individual) possesses. Components of intellectual capital include human capital, relationship capital and structural capital.

Based on the above, a new innovative model will be proposed.

### Research Model

Based on the above, an innovative model is designed which comprises of strategic role of leadership, management and planning, project requirements, deliverables management, operational processes, training and skills enhancement and certifications, employee incentives and rewards, risk management, open communication channels and the intellectual capital.

These factors or essential elements then helps in the right decision making leading to execution, monitoring and control resulting in continuous improvement. This resultantly forms the fuel to achieve cost reduction based on the scope and time management thus ensuring quality. The conceived model is shown below:



**Figure-2: Conceived Project Execution Model**

### Conclusion

The researchers have come up with an innovative model which can be applied for any project may it be civil, electrical or any other domain. This generic model can be implemented for any project. The additional variables added to the quality triangle strengthens the outcome of the project by eliminating the risks.

### Future Research

Future research should look at implementing this project framework in an organization on small and large scale projects. To take it further, digitization and artificial intelligence tools and implementation can further enhance the project reliability in terms of executional success.

### References

[1] Miia Martinsuo & Paivi Lehtonen, 2007, Role of single-project management in achieving portfolio management efficiency, International Journal of Project Management, pg 56–65.

[2] Tom Clancy, CHAOS, THE STANDISH GROUP REPORT, © The Standish Group 1995.

[3] Robert W. Poole, Jr. and Peter Samuel, 2011, Transportation Mega-Projects and Risk Reason Foundation Policy Brief 97.

[4] Chung-Suk Cho1 and G. Edward Gibson Jr., Building Project Scope Definition Using Project Definition Rating Index Members, ASCE.

[5] Kaufmann, Daniel & Kraay, Aart & Mastruzzi, Massimo, 2007. The worldwide governance indicators project: answering the critics, Policy Research Working Paper Series 4149, The World Bank.

[6] Chan Daniel & Kumaraswamy Mohan M., 2002, Compressing construction durations: lessons learned from Hong Kong building projects, International Journal of Project Management.

[7] Shenhar, A.J. 1993, From Low to high-tech project management, R&D Management, Vol. 23 No. 3, pp. 199–214.

[8] Levy, N. & Globerson, S. 1997 Improving multiproject management by using a queuing theory approach. Project Management Journal, 28(4), 40-46. vol.20, PP. 23-25.

[9] Ward, J. A. 1995, Project pitfalls, Information System Management, Vol. 12, No. 1, pp. 74-76.

[10] Clarke, A. 1999, A Practical use of key success factors to improve the effectiveness of project management, International Journal of Project Management, Vol. 17, pp. 139-145.

[11] Collins, A. & Baccarini, D. 2004, Project Success - A Survey, Journal of Construction Research, Vol. 5, No. 2, pp. 211-231.

[12] Shenhar, A.J., & Dvir, D. 1996, Toward a typological theory of project management, Research Policy, Vol. 25, pp. 607–632.

[13] Ward, J. A. 1995, Project pitfalls, Information System Management, Vol. 12, No. 1, pp. 74-76.

[14] Agarwal, N. & Rathod, U. 2006, Defining success for software projects: An exploratory revelation, International Journal of Project Management, Vol. 24, pp. 358–370.

[15] Kerzner, H. 2006, Project Management Best Practices: Achieving Global Excellence, New York.

[16] Project Management Institute. 2000, A Guide to the Project Management Body of Knowledge, PMBOK Guide 2000 edition, Project Management Institute, Pennsylvania.

[17] Tom Kendrick, Overcoming Project Risk: Lessons from the PERIL Database, Program Manager, Hewlett-Packard Company.

IJSER