

# Discussions on Project Management and Its Success: A Comprehensive Theoretical Review

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**Abstract:** A project is commonly understood as a temporary endeavor to develop an original product or service over a specific period. Lately, a vast majority of people have recognized the importance of project management, which helps stakeholders execute project tasks effectively. This paper aims to discuss about project failure based on a case study of Titanic and also analyze the importance of triple constraint as well as leadership style. Qualitative methodologies are used to explore the definition of modern project management and critical elements contributing to project success. The referenced sources are various, including but not limited to peer-reviewed articles, professional online videos, and university lecture notes. This research paper finds that a successful linear project should focus on significant management knowledge areas under the triple constraint. In complex project management, effective leadership style also plays an indispensable role as strict management ability. This paper can be adopted as a typical case study for students who have just begun venturing into project management knowledge areas. Further research is recommended for collecting first-hand research data to support the current investigations, such as formal questionnaire surveys.

**Keywords:** Project management; Project success; Triple constraint; Leadership; Complex project management

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## 1. Introduction

Project management is a broad term that encompasses using knowledge, information, applications, technological capabilities, and procedures to accomplish project goals, while adhering to all relevant project requirements. In most cases, each project has a life cycle consisting of various stages spanning from the conception stage to the final stage. The project life cycle includes ten knowledge domains: integrated, scope, schedule, cost, quality, resource, communication, risk, procurement, and stakeholder management. Additionally, a successful project requires the supervision of a dependable manager capable of supervising and guiding the project<sup>[1]</sup>. This research delves into fundamental project management ideas and analyzes real-world examples to demonstrate their applicability. The first section delves deeply into an unsuccessful endeavor. The following two sections will then discuss the importance of the project management triangle and the distinctions between leadership and management.

## 2. Discussions on project failure

By definition, a successful project ought to be completed within budget, time, and safety constraints while

delivering a high-quality end product. However, meeting essential project goals may provide concrete or intangible advantages to stakeholders <sup>[1]</sup>. It is a fact that most initiatives will ultimately fail to be implemented. According to a recognized study on organizations across many sectors, just 2.5 percent fulfilled all project tasks <sup>[2]</sup>. The Titanic tragedy, a landmark point in the twentieth-century history, is often regarded as a critical project failure in the history of human civilization. White Star Line conceived the Titanic trip, one of the most audacious and costly endeavors in history. However, this legendary ship lost its way on its first voyage when she crashed into an iceberg. In the early 1900s, White Star's rivals began producing technologically better and aesthetically pleasing ships, putting the White Star corporation in a bind. White Star's chairman chose an Olympics-scale project to build new liner fleets over four years to enhance competitiveness and avoid further market loss. He designed three large luxury ships, including the Titanic Cruise, with more space, opulent decor, and cutting-edge technology. However, the maiden trip became a sea trial because of the Titanic's protracted construction delay. Due to the many difficulties inherent in this endeavor, the Titanic's first official navigation ended in disaster. In May 1911, this luxury ship collided with an iceberg and sank, killing around 1,500 people <sup>[3]</sup>.

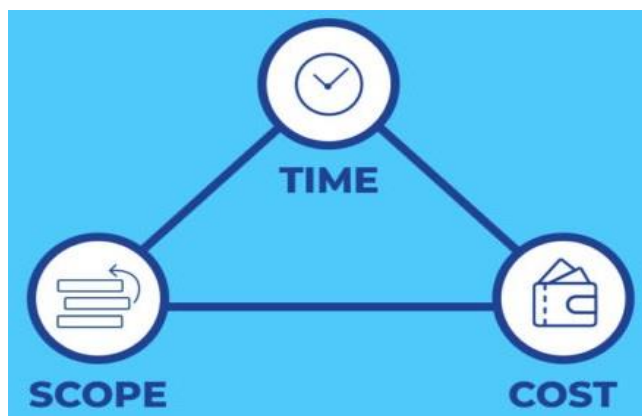
This endeavor should be regarded as a failure based on particular facts. Lewis asserts that a failed project often fails to meet the financial, time, quality, and safety criteria, as well as the project's declared goals <sup>[4]</sup>. The Titanic's outcome fell short of the project's objectives and specifications. In terms of schedule management, a significant issue was that the Titanic's delivery was significantly delayed due to staffs being shifted from Titanic's construction to repairing a damaged Olympics ship. On this assumption, the natural sea trials were reduced from two months to a half-day, demonstrating that the ship's operational problems and possible threats cannot be identified and avoided during the actual cruise. There was a problem with excessive expenditure in terms of cost management. Due to the delay in delivering the Titanic, the project's budget was jeopardized, and subsequent phases suffered financially. The estimate at completion (EAC) for the Titanic was £3.51 million, whereas the budget at completion (BAC) was only £3 million, indicating that this project was probably overbudget. Another major failure occurred as a consequence of poor risk management. The Titanic sank due to the designers and executors preceding the bulk of safety feedback systems in favor of hastening the trip. Nearly 3,300 passengers were on board, and only twenty lifeboats were designed to evacuate more than 1,200. Numerous sailors on board lacked crisis management expertise since Titanic only had 83 suitably certified mariners out of a total of 908 crew members <sup>[3]</sup>. Furthermore, the construction of this ship was of poor quality. Specifically, White Star may have prevented the accident if it had used sufficient high-quality wrought iron rivets and extended non-functional regions to meet safety regulations.

### **3. Reflections on the triple constraint in project management**

By and large, project management is heavily influenced by the scope of the project, money, and the schedule. Theoretically, project scope may be described as the boundaries of work meant to create the desired product, sustain a company, or provide a satisfactory conclusion according to the stated criteria <sup>[1]</sup>. Proper scope management guarantees that the project includes all necessary goals and activities. The scope of the project defines and administers the project's boundaries. Meanwhile, the plan defines and documents the project's scope, including specific goals, functions, features, activities, milestones, outcomes, and final spending <sup>[5]</sup>. According to experts, a project budget is an estimate of the total capital required to process and complete the project <sup>[1]</sup>. From the perspective of the project manager, a project budget is an implementation that serves as the foundation for establishing the final cost. A thorough budget for a successful project should precisely estimate all anticipated costs prior to completion. According to experts, a project schedule

establishes a detailed plan for how and when the project will deliver the products, services, and results specified in the scope of work as well as serves as a tool for communicating, managing stakeholder expectations, and reporting on performance <sup>[1]</sup>. In other words, a well-designed project plan can apportion practical activities and organizational resources efficiently over a specified period. The schedule should include required tasks, labor hours, allocated resources, and project milestones in a real-world project, such as the start and end dates.

Meanwhile, it is vital to remember the triple constraint while managing projects, sometimes known as the project management triangle. In most cases, the project management triangle offers a framework for the interrelated constraints encountered throughout the project management, such as cost, scope, and time constraints. To be more precise, the cost, scope, and time relate to the project’s financial constraints, the work necessary to accomplish the project’s goals, and the project’s completion schedule, respectively <sup>[5]</sup>. According to Dr. Leonie Hallo, the cost, scope, and time restrictions in the triple constraint refer to the amount of money allocated for the project, the quantity of work required to achieve the project’s outcome, and the overall time allotted to complete the project. These three restrictions are inextricably linked, significantly affecting the project’s quality and final implementation. If the managers cut the budget of a project, the project’s duration or scope will grow to compensate. On the other side, if stakeholders are under extreme time constraints, the cost or scope of the project will grow. Moreover, when a project’s scope expands, time and expense often increase to assure the project’s excellence. Meanwhile, the triple constraint may include a necessity for internal quality control. For instance, if a product is manufactured quickly yet with high quality, the cost of the product will increase. However, when managers make snap judgments in a hurry on a shoestring budget, the resulting products are often low quality. As illustrated in **Figure 1** <sup>[5]</sup>, products with higher quality and lower cost will certainly need longer production time to meet these standards. The best circumstance (albeit challenging to attain) is when the product is manufactured at a fair cost while maintaining a high level of quality and speed <sup>[5]</sup>.



**Figure 1.** Linear project management and its triple constraint

#### 4. Leadership and complex project management

Numerous seasoned project managers are eager to use their management and leadership skills in handling complex projects, enabling them to finish effectively and quickly. While leadership and management are used interchangeably when guiding and executing a project, they are not synonymous. There are problems since these two notions are synonymous but not synonymous. Management is often employed in theory to steer an individual from one recognized region to another area showing predictable behaviors. By contrast, leadership often uses dialogue or argument to persuade and encourage others to adopt a specific position.

To be precise, management and leadership are opposing. In project management, one of the contrasts is between role and function. While managers often do, leaders do not need physical strength inside organizations or companies. Management is often accomplished by explicitly allocating resources to direct individuals to complete tasks which commensurate with their positional authority. In other words, managers have subordinates and control-oriented tasks. On the other hand, leaders seek to influence and benefit stakeholders via collaborative efforts and intangible factors, such as personalities and qualities. In that way, most leaders earn the confidence of their followers and push them to take action. Furthermore, the objectives of leadership and management are distinct. A manager's objective is to supervise the system and structure, while their primary responsibility is to administer and assure the project's correct functioning. On the other hand, the primary role of project directors is to innovate and foster an environment conducive to project development. They will place a premium on stakeholder contact, fostering a more hospitable business culture conducive to effective group brainstorming <sup>[6]</sup>. Another contrast is the attitude toward the project's current stage due to conflicting opinions. Managers tend to focus only on the administration of the project's delivery and in assuring the project's continuous operation in short term. Consequently, they may support programs that seek to maintain the status quo. However, leaders are more likely to worry about project issues since they are more concerned with the initiative's long-term development. Managers often do the right thing, and leaders may as well. The fundamental reason for this occurrence is that managers often focus on addressing emerging project management issues. By contrast, leaders prioritize the goal of a project, which may aid in keeping efforts on track <sup>[7]</sup>.

Numerous managers throughout history have managed projects without using their leadership authority. However, in recent years, a growing number of organizations have recognized the critical importance of leadership in completing challenging projects <sup>[8]</sup>. Indeed, globalization has resulted in many complex projects with exact requirements and varied organizational structures. At the same time, it is appropriate to depend solely on the management plan for small-scale activities. It is essential to combine management and leadership talents when managing large-scale and complex projects. Kym Williams, a well-known advisory company founder, believes that leaders can effectively manage interpersonal relationships within a team and encourage active participation to complete project tasks. Multicultural projects include complex organizational structures and diverse cultures, which may invariably result in misunderstandings and costly disagreements throughout the execution of the project. By establishing an acceptable business culture, executives may anticipate and avoid possible hassles in this circumstance. Successful leaders gain insight into their follower's connections and then use their influence to change workplace culture positively. It is worth mentioning that different leadership styles are better suited for different endeavors. Among the basic types of leaderships, democratic leadership is often used by managers. In terms of democratic leadership, managers will consult team members prior to making major decisions. This leadership style must be used to mature project teams with tacit knowledge of how the project will be executed, assuming that the duration of the project is brief. Another type of leadership is *laissez-faire*, which encourages team members to make their own choices rather than being led or given instructions <sup>[9]</sup>. This leadership style is ideal for project teams collaborating with extraordinary individuals with exceptional knowledge and skills <sup>[10]</sup>. Other than that, authoritative leadership is often used for high-risk, unstructured endeavors. It is a unique leadership style, in which leaders make most of the decisions independently of stakeholders. It is an unpopular strategy among workers. It is, nevertheless, a realistic technique for resolving substantial organizational challenges, such as a severe breakdown in project structure caused by an unskilled and disorganized project team <sup>[10]</sup>. As a result, management and leadership styles differ under the scale and composition.

## 5. Conclusion

A successful project is widely considered as a project that meets the goals while adhering to all necessary time, cost, quality, safety, and other intangible criteria. In comparison, if a project fails to meet the specifications, it is considered a failure. A project can easily crumble if its stakeholders fail to recognize and balance its three constraints: scope, cost, and schedule. Specifically, these three constraints, which interact and are inextricably linked, are critical factors in deciding the success or failure of a project. To be more exact, expanding the scope of a project results in a rise in cost or schedule, whereas contracting the scope results in a lower cost or quality. Additionally, it is critical to understand the differences between management and leadership in practical settings. Management is required for all endeavors, particularly those with a restricted scope since positional authority can guarantee that projects are controlled and on schedule. On the other hand, combining management with leadership is more appropriate for large, multicultural firms as project leaders can drive their team members to generate projects via their intangible impact, including their influential personalities and complementing personality traits. If organizations are successful in adopting and implementing these guidelines, the number of successful initiatives will grow.

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## Disclosure statement

The authors declare no conflict of interest.

## Author contributions

Zhenquan Zhou composed this paper in cooperation with Xinyi Wang.

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