



# FACTORS AFFECTING THE SUCCESS OF THE CONSTRUCTION PROJECT IMPLEMENTATION: A LITERATURE REVIEW

## CÁC NHÂN TỐ TÁC ĐỘNG ĐẾN SỰ THÀNH CÔNG CỦA GIAI ĐOẠN THỰC HIỆN DỰ ÁN XÂY DỰNG: TIẾP CẬN TỪ TỔNG QUAN LÝ THUYẾT

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**Tóm tắt:** Trong bối cảnh đô thị hóa, ngành xây dựng đóng vai trò then chốt nhưng thường đối mặt với tình trạng chậm tiến độ và vượt chi phí. Bài báo tập trung hệ thống hóa các yếu tố ảnh hưởng đến sự thành công của dự án trong giai đoạn thực hiện—nơi tiêu tốn nhiều nguồn lực nhất. Thông qua tổng quan tài liệu, các yếu tố được phân thành hai nhóm: bên trong và bên ngoài dự án. Kết quả chỉ ra năng lực quản lý, năng lực nhà thầu, sự phối hợp giữa các bên và hệ thống kiểm soát tiến độ - chi phí là những yếu tố quyết định. Đây là cơ sở lý thuyết quan trọng giúp nhà quản lý tối ưu hóa chiến lược và nâng cao hiệu quả thực thi dự án.

**Abstract:** In the context of urbanization, the construction industry plays a crucial role, but often faces delays and cost overruns. This paper focuses on systematizing the factors affecting project success during the implementation - the most resource-intensive stage. Through a literature review, these factors are categorized into two groups: internal and external to the project. The results indicate that management capacity, contractor capacity, inter-party coordination,

and the schedule-cost control system are decisive factors. This provides an important theoretical basis for managers to optimize strategies and improve project execution efficiency.

**Từ khóa:** Dự án xây dựng, giai đoạn thực hiện dự án, hiệu quả dự án, quản lý dự án, yếu tố thành công then chốt.

**Keywords:** Construction management, construction project, critical success factors, project implementation, project performance.

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### I. INTRODUCTION

#### 1.1 The role of the construction industry in the economy

The construction industry is considered one of the most important economic sectors in any country because it provides the infrastructure required for socio-economic activities. Construction projects such as roads, bridges, ports, airports, housing, schools, and hospitals play an essential role in supporting the production and daily living activities of society. Additionally,

the construction industry has close links with many other economic sectors, such as construction materials, mechanics, transportation and technical services. Investment in infrastructure construction often creates a significant spillover effect on the economy. A convenient transportation system helps reduce logistics costs, promotes trade and increases connectivity between regions. Technical and social infrastructure projects also contribute to improving the quality of life and facilitating the urbanization process. However, construction projects are often large-scale, have long implementation periods, and involve many different stakeholders. Participants in a construction project can include the owner, design consultants, contractors, material suppliers, state management agencies, and the local community. The diversity of goals and interests among these parties can create many challenges during the implementation phase.

#### 1.2 The current state of construction project management

In practice, many construction projects

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encounter issues such as delays, cost overruns, or failure to achieve the quality specified in the original plan. This situation has been recorded in many studies on construction project management worldwide. Flyvbjerg [2] argues that large-scale infrastructure projects tend to exceed budgets and prolong implementation times compared to original plans. Similarly, Chan et al. [1] noted that many construction projects fail to meet cost and progress targets due to limitations in project management and coordination among stakeholders.

### 1.3 Research Objectives

This study is conducted to achieve the following objectives:

- Synthesize previous studies related to the success factors of construction projects.
- Identify factors affecting the success of the construction project implementation phase.
- Classify these factors into main groups to build a theoretical framework for future research.



## II. RESEARCH METHODOLOGY

### 2.1 Literature Review Method

This study utilizes the literature review method to systematically analyze previous research related to the factors affecting construction project success. The literature review method is widely used in academic research to summarize existing knowledge and identify research gaps in a specific field. By investigating previous studies, this method allows researchers to identify main research trends, commonly used theoretical frameworks, and critical factors affecting the research subject.

### 2.2 Document Collection and Selection

Documents were collected from various academic sources, including scientific databases such as Google Scholar,

Scopus, and Web of Science. Additionally, specialized books on project management and construction management were used to supplement theoretical information. Documents were selected based on the following criteria:

- (1) Directly relevant to construction project management.
- (2) Mentions project success factors.
- (3) Published in reputable scientific journals or by prestigious publishers.

The keywords used during the search process included: "construction project success", "critical success factors", "project implementation", "construction management", and "project performance".

### 2.3 Data Analysis Method

After collection, the studies were analyzed and synthesized according to the following steps:

1. Identify project success factors mentioned in each study.
2. Compare and contrast factors across different studies.
3. Classify factors into groups based on common characteristics.
4. Synthesize factors with a high level of influence.

This analytical process helps systematically identify the factors affecting the success of the construction project implementation phase.

## III. RESEARCH RESULTS AND DISCUSSION

### 3.1. LITERATURE OVERVIEW OF PROJECT SUCCESS

#### 3.1.1. Concept of Project Success

The concept of Critical Success Factors (CSFs) was introduced by Rockart [7] in management to identify key areas of activity that determine an organization's operational efficiency. Subsequently, this concept was widely applied in project management research. Pinto and Slevin [6] argue that critical success factors are those that have a decisive influence on the project's ability to achieve its goals. If these factors are managed effectively, the probability of project success is significantly improved.

#### 3.1.2. Critical Factors affecting the success of a project

In early project management studies, success was often evaluated based on three basic criteria: schedule, cost, and quality. These three criteria are frequently referred to as the "triple constraint" or the "project management triangle". According to Kerzner [3], a project is considered successful when it is completed on time, stays within the approved budget, and fully meets the technical requirements. However, many recent studies suggest that project success evaluation needs to be broader, including stakeholder satisfaction and the long-term value the project brings to the society.

### 3.2. FACTORS AFFECTING THE PROJECT IMPLEMENTATION PHASE

The factors affecting the success of the implementation phase can be divided into two main groups: external factors and internal factors.

#### 3.2.1. External Factor Group

##### *Legal Environment*

This includes legal regulations, technical standards, and administrative procedures related to construction. A clear and transparent legal system facilitates smoother project implementation. Conversely, frequent policy changes or complex procedures can cause significant difficulties. For example, delays in construction permits or changes in technical standards can negatively impact progress.

##### *Economic Conditions*

Macroeconomic factors such as inflation, interest rates, and fluctuations in construction material prices directly affect implementation costs. Rising material prices can cause costs to exceed the initial budget. Furthermore, financial market volatility can affect the ability to mobilize capital, which is particularly critical for large-scale projects.

##### *Labor Market*

A high-skilled workforce is a vital factor for success. A shortage of skilled labor can reduce productivity and prolong the schedule. Market fluctuations also impact labor costs and the contractors' ability to organize construction.

##### *Social and Environmental Factors*

Environmental issues and local

community opposition can affect progress. Large projects may face opposition due to concerns about environmental impact or disruptions to local life. Therefore, assessing environmental impacts and ensuring community consensus are essential requirements.



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### 3.2.2. Internal Factor Group

#### *Project Management Capacity*

The project manager's ability is central to coordinating the project. They must be capable of planning, organizing resources, controlling progress, and resolving issues. Müller and Turner [5] argue that leadership, management experience, and communication skills directly influence efficiency.

#### *Contractor Capacity*

The technical level, experience, and organizational ability of the contractor are critical to the quality and progress of the project. A competent contractor can create a reasonable construction plan, manage resources effectively, and handle issues promptly. Toor and Ogunlana [9] identify this as a decisive factor for large-scale projects.

#### *Coordination Among Stakeholders*

Construction projects involve many parties, such as owners, design consultants, and contractors. Effective coordination minimizes conflict and improves efficiency. Chan et al. [1] state that effective communication and cooperation are among the most important factors for success.

#### *Schedule and Cost Control System*

Using tools like Gantt charts or the Critical Path Method (CPM) allows managers to track progress and adjust plans as needed. An effective control system minimizes the risks of delays and cost overruns.

#### *Risk Management*

Managing risks - whether from material price fluctuations, weather, design changes, or legal issues - is crucial. Zou et al. [10] argue that proactive risk identification and management help minimize negative impacts on schedule and cost.

#### *Technology Application*

Technologies like Building Information Modeling (BIM) are becoming increasingly popular. BIM improves information sharing and minimizes errors during design and construction. Other digital tools, such as online management systems and scheduling software, also enhance efficiency.

### 3.3. DISCUSSION

Success in the project implementation phase results from the interaction between multiple factors. Project management capacity is considered the most important element. Additionally, coordination and timely information sharing between parties help resolve arising issues quickly. The application of digital technology is becoming a vital trend for improving accuracy and supporting decision-making. In a competitive environment, managers must focus on environmental analysis and building appropriate strategies.

### IV. CONCLUSION

This study has systematized success factors into two main groups: external and internal. Management capacity, contractor capacity, coordination, and control systems were identified as the key factors. These results provide a theoretical foundation for future empirical research and support project managers in enhancing implementation efficiency.

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