Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Factors Affecting Fast-track Construction Industry in Egypt: Case Study of Administrative Buildings in New Administrative Capital

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ARTICLE INFO

Received: 30 Dec 2024

Revised: 12 Feb 2025

Accepted: 26 Feb 2025

ABSTRACT

Introduction: Egypt has witnessed a remarkable growth in the construction industry in the last decade. This aligns with the government's vision to fulfill the increasing need of housing, retail, administrative, educational, hospitality, and governmental projects. Fast-track construction methods promote this vision through a reduced timeline and a faster project delivery. However, many factors negatively impact the efficiency of the fast-track construction industry in Egypt. Various initiatives have investigated factors affecting fast-track construction industry worldwide. Each of the developed studies focused on some factors and neglected others. The fragmented outcome of these studies needs to be consolidated towards a comprehensive articulation of these factors. On the local level, the effect of these factors on the Egyptian construction industry is not thoroughly explored yet.

Objectives: This paper explores the developed literature tackling the factors affecting fast-track construction industry around the world. The aim of this literature review is to propose a comprehensive framework of these factors. The proposed framework attempts to consolidate the existing fragmented trials of analysis. It also organizes the different factors in form of seven main categories.

Methods: Five selected case studies of the Egyptian construction industry have been analyzed in terms of the proposed framework. Open-ended interviews have been designed and held with key stakeholders of the selected case studies. The aim of the interviews is to define the level of influence of each factor on fast-track construction on the local level.

Results: The results highlight the association of the major factors affecting time and cost overrun with economic, stakeholders-related (specially project manager), governmental and political, contractual and legal factors. The concluded factors urge the need for a wise consideration on the local context of Egypt to improve project delivery of fast-track construction.

Conclusions: The case studies analysis helped in defining the most influential factors that should be avoided for mitigating the associated risks and a better shaping of the Egyptian construction industry. In addition, it sets the base for developing a more comprehensive framework to manage cost overrun in fast track administrative buildings construction in Egypt in the second phase of the research.

Keywords: Fast-track; construction; Architecture; cost overrun; time overrun; New administrative capital; Egypt.

INTRODUCTION

The construction industry in Egypt has undergone significant transformation in recent years, particularly with the rise of fast-track construction methods to meet increasing demands for infrastructure and housing. The emergence of these methods reflects the government's commitment to addressing urbanization challenges and stimulating economic growth. Fast-track construction allows for simultaneous execution of design and construction phases, reducing project timelines. However, this approach also presents unique challenges, including cost overruns and

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Journal of Information Systems Engineering and Management
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e-ISSN: 2468-4376
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the need for effective management systems. This chapter delves into the background of fast-track construction in Egypt, examining the economic context, client demands, influencing factors, and prevalent management systems. Through a comprehensive analysis, this chapter aims to provide insights into the dynamics shaping the Egyptian construction landscape and highlight the management strategies that can mitigate the associated risks.

The construction industry in Egypt has experienced significant fluctuations due to economic challenges and evolving client demands. The recent economic downturn has had a profound impact on the construction sector, particularly in the wake of the COVID-19 pandemic, which disrupted global supply chains and caused financial instability. Despite these challenges, the Egyptian construction market has shown resilience, primarily driven by substantial public and private investments aimed at revitalizing infrastructure and meeting the growing demand for housing, commercial spaces, and essential services. According to reports, the construction sector accounted for approximately 14% of Egypt's GDP in 2022, highlighting its role as a critical driver of economic growth (Gleeds , 2025) (Pradeep, 2025). The government's vision for sustainable development, which includes extensive infrastructure projects and the establishment of new urban communities, reflects a strategic approach to economic recovery. The ambitious plans include the development of the New Administrative Capital and other mega-projects that aim to modernize urban landscapes and address urban congestion (Pradeep, 2025).

Client demand has also evolved significantly as stakeholders seek faster project delivery times and improved quality. The rise of fast-track construction methods has become increasingly relevant in response to these demands. Fast-tracking allows overlapping project phases, thereby reducing overall timelines. However, this approach necessitates meticulous planning and coordination to mitigate risks such as cost overruns and quality assurance (Gleeds , 2025).

Despite positive growth forecasts, the industry faces challenges such as hyperinflation, which has affected material costs, making it difficult for contractors to maintain profitability while meeting client expectations. Reports indicate that the inflation rate for construction materials has surged by up to 500% in some cases, significantly impacting project budgets and timelines (Pradeep, 2025). Furthermore, regulatory complexities and financing constraints continue to pose hurdles for both local and foreign investors, although efforts to streamline processes through digital innovations and public-private partnerships are underway.

In summary, while the economic downturn has posed challenges for the Egyptian construction industry, it has also created opportunities for innovation and growth. The sector's ability to adapt to changing client demands and navigate economic fluctuations will be pivotal in shaping its future trajectory.

METHODS

Systematic literature review on influencing factors of cost and time overrun of fast-track construction projects has been developed to develop a comprehensive framework of these factors. Seventy-nine applicable factors have been consolidated at the end of the review. These factors were the main guide to design a structured open-ended interview with project managers of selected case studies to investigate the influence of these factors on the local context of Egypt. The interview has been divided into eight sections such that each section asks about one category of the factors categories in the proposed framework. The eight main sections are: economic factors, cultural and social factors, environmental factors, stakeholders-related factors, governmental and political factors, contractual and legal factors, technical factors, and technological factors. Each section asks the interviewee to select the factors that had a negative influence on the cost and duration of the project.

Five case studies have been selected based on the following criteria:

1. Execution Approach: Fast-track project
2. Typology: Administrative building
3. Location: New Administrative Capital, Egypt
4. Built-up Area: 3,000-30,000 m2
5. Number of floors: Ground+3 to Ground+12
6. Expected Completion Timeline: 10-12 months
7. Year of Completion: 2020-2025

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Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

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8. Type of Contract: Design-build (DB) contract

The interviews have been conducted and the results have been analyzed to define the major affecting factors on the local context. The factors have been divided into six categories based on their frequency to affect fast-track construction projects in Egypt. The six categories are: fully affecting factor, frequently affecting factor, possibly affecting factor, hardly affecting factor, slightly affecting factor, and rarely affecting factors. The research highlights the fully affecting, frequently affecting, and possibly affecting factors to be the major factors negatively impacting the success of fast-track construction industry on the local context of Egypt. On the other hand, hardly affecting, slightly affecting, and rarely affecting factors are considered minor causes of time and cost overrun of the Egyptian construction industry. [Figure 1] summarizes the applied research methodology of the study.

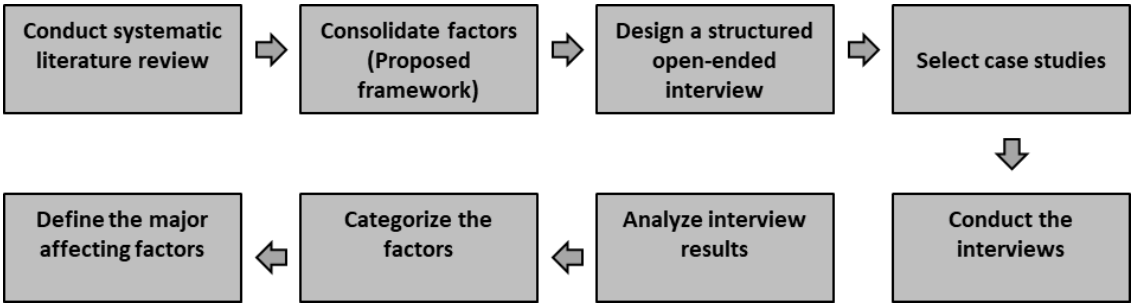

Figure 1: Research Methodology

RESULTS

Fast-track construction methods aim to expedite project delivery by overlapping project phases. However, various factors can adversely affect timelines and costs. This section explores the relevant literature addressing these factors in order to propose a comprehensive framework of factors affecting fast-track construction industry worldwide. The literature has been reviewed and factors have been arranged under eight main types which are: economic factors, cultural and social factors, environmental factors, stakeholders-related factors, governmental and political factors, contractual and legal factors, technical factors, and technological factors as follows:

Based on a systamtic literature review analysis, a comprehensive framework is proposed to define factors affecting fast-track construction industry. The proposed framework consolidates the outcomes of the analyzed literature t to develop a holistic framework which addresses all factors. [Table 1] represents the proposed framework.

Table 1: The Proposed Framework of Factors Affecting fast-track Construction Industry

FACTORS AFFECTING FAST-TRACK CONSTRUCTION INDUSTRY	ECONOMIC FACTORS	CULTUR & SOCI	ENVIRONMENTAL FACTORS	STAKEHOLDERS-RELATED FACTORS					GOVERNMENTAL & POLITICALFACTORS	CONTRACTUAL & LEGAL FACTORS	TECH FACTORS	TECHNFACTORS
				OWNER	PROJECT MANAGER	ARCHITECT	CONTRACTORS	LABOR				
Cash Flow and Financial Difficulties [1] [2]												
Inadequate Design Budget [3]												
Unrealistic Design Development Periods [4]												
Inadequate Contingency Allowance [1] [5]												
Increment of Market Prices [1] [5] [6]												
Deficiencies in Cost Estimates [7]												
Inaccurate Cost and Time Estimates [8] [9] [10]												
Absence of Construction Cost Standards [11]												
High Inflation Rates [1] [12]												
High Labor Costs [12]												
High Interest Rates on Loans [1] [7]												
Market Conditions [10]												
Global Economic Effects [7]												
High Transportation Costs [13]												
Fraudulent Practices and Corruption [1]												
Increment of Equipment Maintenance Prices [5]												
Contractor's Work Overhead [12]												
Cost of Reworks [13]												
Services Relocation [9]												
Inadequate Review of Drawings & Documents [14]												
Cost of After-Hours Work [14]												
Cultural Conflicts [15] [7]												
Social Unrest [10]												
Environmental Regulations [16] [5]												
Natural Disasters [17]												
Weather Conditions [18]												
Ground Conditions of the Site [18]												
Owner's Lack of Experience [15] [19]												
Frequent Changes in Owners' Requirements [19] [13] [20]												
Changes in Material Specifications [21]												
Scope Changes [19]												
Inappropriate Choice of Site [22]												
Client's Over-Influence on Construction Process [23]												
Unrealistic Duration of Contract Period [4] [24]												
Inadequate Project Preparation and Planning [25] [14] [26]												
Poor Organizational Structure [9] [22] [27] [28] [29]												
Lack of Coordination Between Project Parties [20] [30]												
Unclear Responsibilities of Stakeholders [4]												
Lack of Trust Among Stakeholders [14]												
Delay in Decisions Making and Work Approval [28]												
Culture of Conflicts [9] [21]												
Unbalanced Distribution of Risk [8]												
Delays in Approval of Drawings [28]												
Lack of Cost Planning and Monitoring [3]												
Optimism Bias [9] [29]												
Failure to Adapt to Changing Conditions [10]												
Inefficient Use of Resources [6]												
Incomplete or Incorrect Design Brief [31] [32]												
Lack of Understanding of Cost & Value [33]												
Premature Tender Documents [13]												
Lack of Standard Requirements from Designers [13]												
Absence of Construction Specifications and Standards [9] [23]												
Poor Communication of Project Goals [14]												
Delays in Issuing Information to the Contractor [30]												
Lack of Contractor's Experience [13]												
Poor Site Management and Supervision Skills [22]												
Cash Flow Issues for Contractors [8]												
Inadequate Review of Drawing & Documents [24]												
Inadequate Material Procurement [5]												
Delay in Supply of Raw Materials and Equipment [18]												
Manipulation by Material Suppliers [22]												
Mistakes During Construction [5]												
Lack of Coordination Bet. Contractor & Subcontractors [14]												
Incompetent Subcontractors and Suppliers [21]												
Labor Shortages [34] [5] [13]												
Poor Relationship Betwen Management and Labor [29] [12]												
Political and Bureaucratic Challenges [29]												
Government Policies [10] [35]												
Delays in Decision Making by Government [6] [29]												
Political Instabilities [10]												
Inappropriate Contractual Procedures [9]												
Contractual Claims [36]												
Long Period of Project Maintenance [22]												
Unnecessary and Late Contract Award [29]												
Technical Incompetence [22]												
Poor Quality Control [10]												
Inadequate Technology Utilization [1] [36]												
Lack of Training on New Technologies [33]												
Inadequate Monitoring & Control [20]												

The open-ended interview has been held with the project managers of the five selected case studies to define the factors affected the design and execution timeline of these projects. The interview questions are structured based on the same eight main types of factors in the proposed framework. The results of the open-ended interviews for the five selected case studies are summarized in [Table 2].

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Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

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Table 2: Summary of the Open-ended Interviews Results of the selected Case Studies

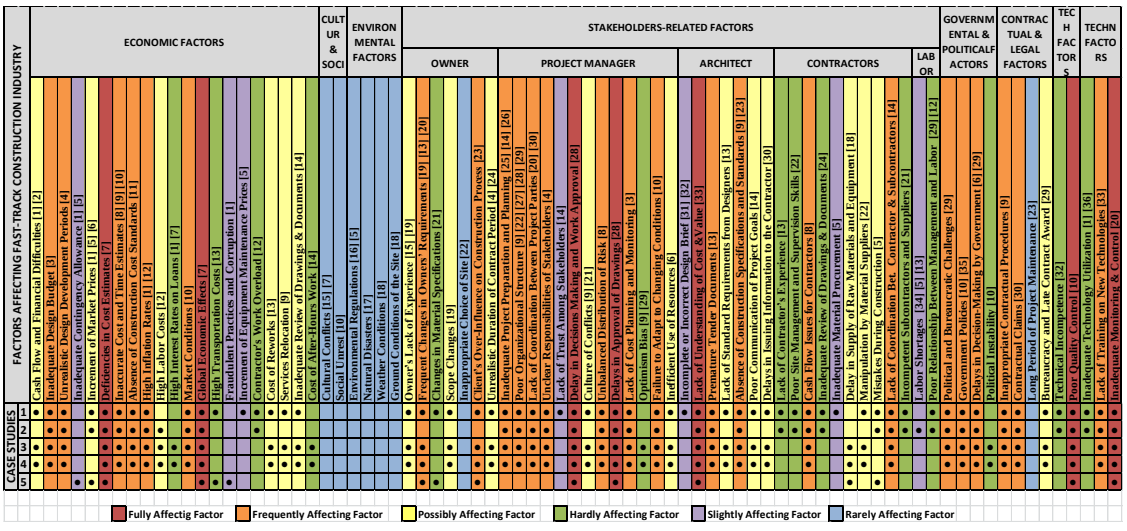
FACTORS AFFECTING FAST-TRACK CONSTRUCTION INDUSTRY	CASE STUDIES 1	2	3	4	5
ECONOMIC FACTORS					
Cash Flow and Financial Difficulties [1] [2]	●		●	●	
Inadequate Design Budget [3]		●	●	●	
Unrealistic Design Development Periods [4]		●	●	●	
Inadequate Contingency Allowance [1] [5]					●
Increment of Market Prices [1] [5] [6]		●			●
Deficiencies in Cost Estimates [7]		●	●	●	●
Inaccurate Cost and Time Estimates [8] [9] [10]		●	●	●	●
Absence of Construction Cost Standards [11]		●	●	●	
High Inflation Rates [1] [12]		●		●	
High Labor Costs [12]			●	●	
High Interest Rates on Loans [1] [7]			●	●	
Market Conditions [10]			●	●	
Global Economic Effects [7]			●	●	●
High Transportation Costs [13]					●
Fraudulent Practices and Corruption [1]					
Increment of Equipment Maintenance Prices [5]				●	
Contractor's Work Overload [12]				●	
Cost of Reworks [13]			●	●	
Services Relocation [9]			●	●	
Inadequate Review of Drawings & Documents [14]			●	●	
Cost of After-Hours Work [14]					
CULTUR & SOCI					
Cultural Conflicts [15] [7]					
Social Unrest [10]					
ENVIRONMENTAL FACTORS					
Environmental Regulations [16] [5]					
Natural Disasters [17]					
Weather Conditions [18]					
Ground Conditions of the Site [18]					
STAKEHOLDERS-RELATED FACTORS					
OWNER					
Owner's Lack of Experience [15] [19]			●	●	
Frequent Changes in Owners' Requirements [19] [13] [20]			●	●	●
Changes in Material Specifications [21]					●
Scope Changes [19]			●		
Inappropriate Choice of Site [22]					●
Client's Over-Influence on Construction Process [23]			●	●	●
Unrealistic Duration of Contract Period [4] [24]			●	●	●
PROJECT MANAGER					
Inadequate Project Preparation and Planning [25] [14] [26]			●	●	●
Poor Organizational Structure [9] [22] [27] [28] [29]			●	●	●
Lack of Coordination Between Project Parties [20] [30]			●	●	●
Unclear Responsibilities of Stakeholders [4]			●	●	●
Lack of Trust Among Stakeholders [14]					●
Delay in Decisions Making and Work Approval [28]			●	●	●
Culture of Conflicts [9] [21]			●	●	
Unbalanced Distribution of Risk [8]			●	●	
Delays in Approval of Drawings [28]			●	●	●
Lack of Cost Planning and Monitoring [3]			●	●	
Optimism Bias [9] [29]			●	●	
Inefficient Use of Resources [6]			●	●	
ARCHITECT					
Failure to Adapt to Changing Conditions [10]			●	●	
Incomplete or Incorrect Design Brief [31] [32]			●		
Lack of Understanding of Cost &Value [33]			●	●	●
Premature Tender Documents [13]			●	●	●
Lack of Standard Requirements from Designers [13]			●	●	●
Absence of Construction Specifications and Standards [9] [23]			●	●	●
Poor Communication of Project Goals [14]			●	●	●
Delays in Issuing Information to the Contractor [30]			●	●	
CONTRACTORS					
Lack of Contractor's Experience [13]			●	●	
Poor Site Management and Supervision Skills [22]			●	●	
Cash Flow Issues for Contractors [8]			●	●	
Inadequate Review of Drawings & Documents [24]			●	●	
Inadequate Material Procurement [5]			●	●	
Delay in Supply of Raw Materials and Equipment [18]			●	●	
Manipulation by Material Suppliers [22]			●	●	
Mistakes During Construction [5]			●		●
Lack of Coordination Bet. Contractor & Subcontractors [14]			●	●	
Incompetent Subcontractors and Suppliers [21]			●	●	
LABOR					
Labor Shortages [34] [5] [13]			●	●	
GOVERNMENTAL & POLITICALFACTORS					
Poor Relationship Between Management and Labor [29] [12]			●	●	
Political and Bureaucratic Challenges [29]			●	●	
Government Policies [10] [35]			●	●	
Delays in Decision-Making by Government [6] [29]			●	●	
Political Instability [10]			●	●	
CONTRACTUAL & LEGAL FACTORS					
Inappropriate Contractual Procedures [9]			●	●	
Contractual Claims [30]			●	●	
Long Period of Project Maintenance [23]					
Bureaucracy and Late Contract Award [29]					●
TECH FACTORS					
Technical Incompetence [32]			●	●	
Poor Quality Control [10]			●	●	●
TECHNFACTORS					
Inadequate Technology Utilization [1] [36]			●	●	
Lack of Training on New Technologies [33]			●	●	
Inadequate Monitoring & Control [20]			●	●	

The results have been analyzed and the factors have been divided into six categories based on their frequency to affect fast-track construction projects in Egypt. [Table 3] shows the six categories of factors based on their frequency to affect the analyzed projects, while [Table 4] presents applying these categories on the summary of the open-ended interview.

Table 3: The Six Categories of the Affecting Factors Based on the Number of Affected Projects

Categories	No. of Affected Projects	Color Code
Fully Affecting Factor	5 of 5	
Frequently Affecting Factor	4 of 5	
Possibly Affecting Factor	3 of 5	
Hardly Affecting Factor	2 of 5	
Slightly Affecting Factor	1 of 5	
Rarely Affecting Factors	0 of 5	

Table 4: Categorizing the Affecting Factors into Six Categories



The study considers the fully affecting, frequently affecting, and possibly affecting factors to be the major factors negatively impacting the success of fast-track construction industry on the local context of Egypt. On the other

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Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

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hand, hardly affecting, slightly affecting, and rarely affecting factors are considered minor causes of time and cost overrun of the Egyptian construction industry.

DISCUSSION

The analysis shows that deficiencies in cost estimates, global economic effects, delay in decisions making and work approval, lack of understanding of cost and value, poor quality control, and inadequate monitoring and control are the main factors causing construction projects delay and cost overrun in Egypt. Two of these factors address the economic side of the projects, two are related to the project stakeholders, and two are influenced by the technological and technical capacity of the project team. The study also shows that many other economic factors are frequently affecting fast-track construction industry which are: inadequate design budget, unrealistic design development periods, inaccurate cost and time estimates, absence of construction cost standards, high inflation rates, and market conditions. This is in addition to other factors related to the project's stakeholders. Most of them are related to the capacity of the project manager to manage the project delivery phases efficiently which are: inadequate project preparation and planning, poor organizational structure, lack of coordination between project parties, unclear responsibilities of stakeholders, unbalanced distribution of risk, lack of cost planning and monitoring, failure to adapt to changing conditions. Others are related to the owner which are: frequent changes in owners' requirements and client's over-influence on construction process. While two other factors are related to the architect which are: premature tender documents and absence of construction specifications and standards. In addition to contractor and subcontractors-related factors which are: cash flow issues for contractors, lack of coordination bet. Some other governmental and political, contractual and legal, and technological factors are also frequently the reasons behind time and cost overrun of fast-track construction industry in Egypt. These factors include: political and bureaucratic challenges, government policies, delays in decision-making by government, inappropriate contractual procedures, contractual claims, and lack of training on new technologies. Other factors are categorized as possibly affecting factors based on the previous analysis. From an economic perspective, cash flow and financial difficulties, increment of market prices, high labor costs, cost of reworks, services relocation, inadequate review of drawings & documents are the factors that can possibly cause cost overrun. The project's stakeholders are responsible for some other factors which are: owner's lack of experience, scope changes, unrealistic duration of contract period, culture of conflicts, inefficient use of resources, lack of standard requirements from designers, poor communication of project goals, delays in issuing information to the contractor, delay in supply of raw materials and equipment, manipulation by material suppliers, and mistakes during construction. Bureaucracy and late contract award is a possible cause of time and cost overrun too.

CONCLUSIONS

Despite the worldwide significant mitigating measures of the economic challenges, the recurrence of construction projects time and cost overrun remains a huge concern to its policy makers. The Egyptian construction industry is no exception, with many of its projects experiencing significant delays, particularly in the wake of the COVID-19 pandemic, which disrupted global supply chains and caused financial instability. This study investigates the causes of time and cost overrun of fast-track construction projects in Egypt. The primary objective was to highlight the major factors affecting these projects on the local Egyptian context.

To achieve this objective, a systematic literature review has been developed in order to propose a comprehensive holistic framework of 79 factors affecting fast-track construction industry worldwide. Five selected case studies of fast-track administrative buildings in New Administrative Capital, Egypt have been analyzed in terms of the proposed framework. The main aim of the case studies' analysis is to investigate the effect of factors of the proposed framework on the local context of Egypt. An open-ended interview has been held with the project managers of the selected case studies to define the factors affected the fast-track approach in these projects.

The results show that the major factors affecting time and cost overrun are associated with economic, stakeholders-related (specially project manager), governmental and political, contractual and legal factors. These factors should be wisely considered on the local context of Egypt for an optimum project delivery of fast-track construction. The implications of these findings urge the need for policy makers and local economic institutions to integrate construction risk management into economic planning and development strategies. In addition, the study

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contributes to the existing literature by highlighting the causes of time and cost overrun in Egypt, prompting stakeholders to consider these factors in the long-term policy-making.

The research acknowledges limitations such as uncertainties of long-term economic challenges projects. Additionally, the analysis has been applied to a number of local selected case studies with specific criteria; however, it may not fully describe the local disparities. The study sets the base for developing a more comprehensive framework to manage cost overrun in fast track administrative buildings construction in Egypt in the second phase of the research. Other future research directions could include detailed analysis of each factor of the proposed framework in an attempt to understand its causes and avoid its escalations. In conclusion, the challenges of the Egyptian construction industry demand immediate local attention. Proactive strategic development based on thorough research and planning is vital to mitigate the associated risks and pave a better future for the Egyptian construction industry.

REFRENCES

[1] Abdul-Aziz, A., et al. (2019). Labor shortages in the construction industry: An overview. *International Journal of Construction Management*.
[2] Abdul-Rahman, H., et al. (2017). Impacts of design changes on construction project performance: Insights from literature review. *Journal of Quantity Surveying & Construction Business*, Vol 7. 31-54.
[3] Akkas, E. S., et al. . (2020). Natural disaster management in construction. *Journal of Construction Engineering and Management*.
[4] Al-Hussein, M., et al. . (2020). Impact of construction standards on project outcomes. *Engineering, Construction and Architectural Management*.
[5] Ali, S., et al. . (2017). Evaluating contract document accuracy in construction. *Construction Management and Economics*.
[6] Aouad, G., et al. . (2019). Contractual claims and construction project delays. *Journal of Construction Engineering and Management*.
[7] Baha, A., et al. . (2019). The impact of environmental regulations on construction. *Journal of Cleaner Production*.
[8] Cheng, A., et al. . (2020). Material specifications and their impact on project timelines. *Construction Management and Economics*.
[9] Chileshe, N., et al. . (2016). The importance of clear project briefs. *International Journal of Project Management*.
[10] Chini, A., et al. (2019). Planning and budgeting for fast-track construction. *Journal of Construction Management*.
[11] El-Sayegh, S. (2016). Public agency estimates in construction projects. *Construction Economics and Building*.
[12] Fadly, S., & Zubair, R. . (2019). Social unrest and its impacts on construction projects. *Journal of Construction Management*.
[13] Fawzy, M., et al. . (2022). The role of planning in construction project success. *International Journal of Construction Management*.
[14] *Gleeds* . (2025). Retrieved February 10, 2025, from Egypt Construction Market Report 3Q 2023: https://www.gleeds.com/en/insights-and-reports/market-reports/egypt-construction-market-report-3q-2023/
[15] Goh, Y., & Lim, W. (2017). The role of project management in construction. *International Journal of Project Management*.
[16] Hussin, A., et al. (2016). Economic influences on construction material costs. *Construction Management and Economics*.
[17] Hwang, B., Ng, W. (2013). Risk management in construction projects. *International Journal of Project Management*.
[18] Hwang, B., & Ng, W. . (2013). Project management in construction: A review. *International Journal of Project Management*.
[19] Ibrahim, R., et al. . (2021). Impact of client changes on construction timelines. *Journal of Building Performance*.
[20] Ismail, A. S., et al. (2020). Training needs for construction technology. *International Journal of Construction Management*.

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Journal of Information Systems Engineering and Management
2025, 10(48s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

[21] Khan, A., et al. (2021). Contingency planning in construction projects. *Journal of Financial Management of Property and Construction*.
[22] Mahmoud, K. A., et al. . (2021). The effects of inflation on construction projects. *Construction Economics and Building*.
[23] Mahmoud, K., et al. . (2021). Inflation impacts on construction costs. *Construction Economics and Building*.
[24] Maqsood, T., et al. . (2018). Challenges faced by contractors in fast-track projects. *International Journal of Construction Management*.
[25] Memon, A. H. (2017). Factors affecting communication in construction projects. *Journal of Construction Engineering and Management*.
[26] Mokhtar, S., et al. . (2019). Site management practices in construction. *Journal of Construction Management*.
[27] Moussa, A., et al. . (2020). Challenges in material procurement. *International Journal of Construction Management*.
[28] Moussa, A., et al. (2020). Material price volatility and construction projects. *Construction Management and Economics*.
[29] Nasir, A., et al. . (2018). The role of organizational structure in project management. *Journal of Project Management*.
[30] Ofori, G., et al. (2016). Trust and collaboration in construction projects. *International Journal of Project Management*.
[31] Ogunlana, S. O., et al. (2018). Financial challenges in construction.
[32] Pradeep, A. (2025). *Construction Week Middle East*. Retrieved February 08, 2025, from Egypt's construction resurgence: https://www.constructionweekonline.com/analysis/egypts-construction-resurgence
[33] Ramadan, M., et al. . (2018). Impact of late planning on construction projects. *International Journal of Project Management*.
[34] Ramazani, J., Jergeas, G. (2015). Construction project maintenance: A strategic approach. *International Journal of Construction Management*.
[35] Sadiq, M., et al. (2019). The impact of government policies on construction. *International Journal of Project Management*.
[36] Wong, K., et al. . (2021). The role of technology in enhancing construction efficiency. *Journal of Construction Engineering and Management*.
[37] Yasamis, F., et al. (2017). Change management in construction projects. *International Journal of Project Management*.
[38] Zou, P., et al. (2015). Construction project management: A systematic approach. *Construction Management and Economics*.

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