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## Developing a critical influential factors Model (CIFsM) for **Agile Management Principles in UAE Construction Projects**

## M A Yamahi<sup>1</sup>, A Suratkon<sup>1\*</sup>

<sup>1</sup> Faculty of Civil Engineering and the Built Environment, Universiti Tun Hussein Onn Malaysia (UTHM), Malaysia \*Corresponding author: azeanita@uthm.edu.my

Abstract. The construction industry plays a crucial role in the global economy, with significant annual expenses and a substantial contribution to the GDP of the UAE. This has led to a surge in building projects, fostering rapid expansion among construction companies. However, challenges have emerged that hinder this growth, including high interest rates and intensified competition among building firms. Additionally, there are many issues impede project timelines and escalate dedicated costs. Many of these challenges can be addressed by addressing inefficiencies within internal processes of companies. Agile construction, a method or approach that facilitates swift adaptation to changes in delivery or design, has the potential to alleviate these challenges. By reducing the time between problem identification and solution implementation, agile construction can enhance project efficiency. This study aims to propose Critical Influential Factors Model (CIFsM) for Agile Management Principles to enhance the performance of construction projects in the UAE. The proposed model covers five critical influential factor groups: organizational, challenges, human resources, technical, and construction industry project performance in the UAE. The research recommends implementing the model empirically using a quantitative approach to enhance integration among construction parties and alleviate concerns about low project performance levels. Developing the CIFsM based on agile management principles offers a promising avenue to enhance construction project performance in the UAE by addressing critical influential factors and adopting an empirical quantitative approach, leading to improved project integration and reduced concerns about low performance levels.

#### 1. Introduction

Construction projects worldwide face challenges in achieving successful completion within approved schedules, costs, technical requirements, and safety standards. Non-completion is a prevalent issue, affecting projects in both developed and developing countries, including the United Arab Emirates (UAE). To address these challenges, agile methods have emerged as a promising approach, emphasizing adaptability, collaboration, and client involvement. However, obstacles to adopting agile methods in construction, particularly in structures and design projects, have received limited research attention. Knowledge management is also crucial but often overlooked in construction projects, hindering the full potential of agile methodologies [1]. Additionally, barriers in project design and construction can lead to project failure and resource waste, underscoring the need for improved project management efficiency. This study aims to bridge these research gaps by proposing a Critical Influential Factors Model (CIFsM) for agile management principles in the UAE's construction industry. The CIFsM will encompass factors such as adaptability, learning, continuous improvement, problem identification, and

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weaknesses analysis. By examining the challenges and proposing solutions, this research seeks to enhance project management efficiency and overcome barriers to agile implementation.

The construction industry plays a significant role in the global economy, and the UAE stands as one of the prominent regions experiencing substantial growth in this sector. With soaring annual expenses and a substantial contribution to the UAE's GDP, construction projects have become a vital driving force for economic development in the country. However, as the industry expands rapidly, it faces a multitude of challenges that threaten to impede progress and hinder project success. Among these challenges are increasing competition, driven by high interest rates, and the detrimental impact of lost or missing equipment on project timelines and costs. To ensure sustained growth and overcome these obstacles, construction companies need to focus on internal processes and eliminate inefficiencies. Agile construction has emerged as a potential solution, offering a flexible approach that enables quick adaptation to change in delivery or design. By reducing the time between problem identification and solution implementation, agile construction methodologies hold the promise of enhancing project efficiency and performance [2-7].

This research aims to propose the CIFsM specifically tailored to address the unique context of construction projects in the UAE. The CIFsM encompasses five distinct groups of critical influential factors: organizational, challenges, human resources, technical, and construction industry project performance in the UAE. By considering these factors and their interplay within the agile management framework, this study seeks to enhance the performance and success of construction projects in the UAE. The primary objective of this research is to empirically implement the proposed CIFsM using a quantitative approach. By gathering and analyzing relevant data, the study intends to validate the effectiveness of the model in improving project integration and mitigating concerns related to low project performance levels. Through a rigorous examination of critical influential factors and the adoption of an empirical quantitative approach, this research strives to contribute valuable insights and recommendations to the field of construction management in the UAE. Ultimately, the development and implementation of a CIFsM model based on agile management principles offer a promising avenue for enhancing the performance and success of construction projects in the UAE. By identifying and addressing critical influential factors, this research endeavors to pave the way for improved project integration, streamlined processes, and increased efficiency, leading to the overall advancement of the construction industry in the UAE.

## 2. Literature Review

The literature review section of this study aims to provide an overview of relevant research conducted in the field of construction project management, specifically focusing on the challenges of project completion, the adoption of agile methodologies, and the critical gaps that exist in the current body of knowledge. By examining previous studies, this section will identify the need for further investigation and highlight the research gap that this study intends to address [3]. The challenges faced by construction projects in achieving successful completion within approved schedules, costs, technical requirements, and safety standards have been widely discussed in the literature [4-6]. Researchers have consistently reported on the issue of non-completion, which is prevalent in the construction industry across various countries. Specifically, studies have pointed out that construction projects in the UAE often fail to meet required technical specifications due to non-completion [6-9]. Similar challenges have been observed in both developed and developing countries, underscoring the significance of this issue [10-14]. In response to these challenges, the adoption of agile methodologies in construction project management has gained attention. Agile methods, originally developed for system development, have shown promise in improving project performance by emphasizing adaptability, collaboration, and change management [13]. While agile principles have been successfully applied in various industries, including the software industry [15], their implementation in construction projects faces obstacles and requires further exploration. Despite the growing interest in agile methodologies, there is a lack of research on the obstacles and challenges specifically associated with implementing agile methods in construction, particularly in structures and design projects. This gap in knowledge limits the understanding of how agile principles can be effectively applied in the construction industry. Furthermore, limited focus has been given to knowledge management and knowledge sharing within construction projects, impeding

the full potential of agile methodologies [1- 5]. To address these research gaps, this study aims to propose CIFsM for agile management principles in the context of construction industry projects in the UAE. By examining the existing literature and identifying the gaps in knowledge, this study intends to contribute to the understanding of the critical factors that influence the successful implementation of agile methodologies in construction projects.

Table 1 highlights previous studies that have focused on various aspects related to organizational performance. It presents a selection of previous studies that highlight the research gap in the current body of knowledge. These studies have uncovered valuable findings, but they also reveal a gap in the existing research. These studies emphasize the need for further investigation into the implementation of agile methodologies in construction projects, specifically in structures and design projects, as well as the importance of knowledge management and knowledge sharing. Addressing these gaps will contribute to enhancing project management efficiency and overcoming barriers in the adoption of agile methodologies in the construction industry. In the following sections, this study will present the research methodology employed to investigate the proposed CIFsM, share the results and findings, engage in discussions, and draw meaningful conclusions based on the study's outcomes.

| Table 1. | Previous | studies | highli | ghting | research | gaps. |
|----------|----------|---------|--------|--------|----------|-------|
|          |          |         |        |        |          |       |

| Study   | Focus area and identified gap                                                          |  |  |  |  |
|---------|----------------------------------------------------------------------------------------|--|--|--|--|
| [1-5]   | Challenges of project completion                                                       |  |  |  |  |
|         | Lack of research on agile implementation in construction projects                      |  |  |  |  |
| [8-9]   | Adoption of agile methodologies                                                        |  |  |  |  |
|         | Limited focus on obstacles in structures and design projects                           |  |  |  |  |
| [3,4-5] | Knowledge management                                                                   |  |  |  |  |
|         | Inadequate understanding of knowledge sharing in construction projects                 |  |  |  |  |
| [13]    | Limited research on the application of agile management principles in the context of   |  |  |  |  |
|         | UAE construction projects                                                              |  |  |  |  |
| [15]    | Lack of a comprehensive conceptual model specifically tailored for implementing agile  |  |  |  |  |
|         | principles in UAE construction projects                                                |  |  |  |  |
| [7]     | Inadequate understanding of the challenges and barriers faced in implementing agile    |  |  |  |  |
|         | management in the construction industry                                                |  |  |  |  |
| [14]    | Insufficient empirical studies on the effectiveness and benefits of agile practices in |  |  |  |  |
|         | improving project outcomes in construction sector                                      |  |  |  |  |
| [14-16] | Need for guidelines and best practices to enhance the successful adoption and          |  |  |  |  |
|         | implementation of agile methodologies in construction projects                         |  |  |  |  |
| [12]    | Gap in knowledge regarding the integration of agile principles with existing project   |  |  |  |  |
|         | management frameworks commonly used in construction industry                           |  |  |  |  |

#### 2.1. Success Factors of Agile Management

In the context of construction industry projects in the UAE, the implementation of agile management principles can significantly impact project performance. This section explores the success factors of agile management, which encompass various critical influential factors [15-20]. These factors are categorized into organizational critical influential factors, challenges critical influential factors, human resource critical influential factors, and technical critical influential factors. **Organizational critical influential factors** play a crucial role in the successful implementation of agile management principles. These factors include organizational culture, leadership style, communication processes, and the degree of organizational flexibility [13]. Agile project management requires a supportive organizational culture that encourages collaboration, adaptability, and continuous improvement. Effective leadership, open communication channels, and organizational flexibility enable the smooth implementation of agile methodologies and enhance project performance [12]. Construction projects often encounter numerous challenges that can impact their success. Identifying and addressing these **challenges critical influential factors** such as

project complexity, stakeholder management, resource allocation, and risk mitigation strategies are critical in managing project challenges [14]. Agile project management techniques provide a framework for addressing and mitigating challenges promptly, resulting in improved project performance. The **human resource critical influential factors** are vital in the successful implementation of agile management principles. Factors such as team composition, skills and competencies, collaboration, and empowerment significantly influence project performance. Agile project teams require diverse skill sets, effective collaboration among team members, and empowerment to make decisions and take ownership of their work. Human resource factors that support agile principles contribute to enhanced project performance by fostering effective teamwork, innovation, and adaptability [15].

**Technical critical influential factors** encompass the tools, methodologies, and processes employed in construction projects. Adopting agile techniques in the construction industry necessitates the use of appropriate tools and methodologies that facilitate flexibility, iterative development, and continuous improvement. Factors such as agile project planning, iterative development cycles, feedback mechanisms, and integration of technology contribute to the successful implementation of agile management principles and positively impact project performance. The dependent variable in this study is the **performance of construction industry projects** in the UAE. Project performance indicators may include project completion within approved schedules, adherence to specific costs, meeting technical requirements, and ensuring safety standards. By examining the relationship between the success factors of agile management (organizational, challenges, human resource, and technical) and project performance, this study aims to provide insights into how the implementation of agile methodologies can enhance project outcomes in the UAE construction industry. Understanding the interplay between the independent variables (organizational, challenges, human resource, and technical factors) and the dependent variables (construction industry projects performance) will enable project stakeholders to identify areas for improvement and optimize the implementation of agile management principles.

#### 2.2. Agile Project Management

Agile project management is a modern approach to project management that emphasizes flexibility, collaboration, and adaptability. This approach is especially useful in complex and unpredictable projects, such as those in the construction industry, where changes and unforeseen circumstances are common. Agile project management was initially developed for software development projects. However, the approach has been increasingly applied in other industries, including construction. Agile project management is based on iterative and incremental processes, where projects are broken down into smaller, more manageable phases [3-6]. These phases are then executed in short cycles, with frequent feedback and adjustments made as necessary. The main principles of agile project management include customer satisfaction, continuous delivery of valuable work, embracing change, self-organizing teams, and continuous improvement [1,7]. Agile project management also emphasizes collaboration between team members and stakeholders, with regular communication and feedback to ensure that the project is progressing smoothly. In the construction industry, the agile approach can help to improve project management efficiency and reduce risks [4-7]. However, implementing agile project management in construction projects can be challenging. Construction projects are often complex and involve many stakeholders, including architects, engineers, contractors, subcontractors, and suppliers. The traditional hierarchical structure of the construction industry can also hinder the implementation of agile project management, which requires a more flexible and collaborative approach. To address these challenges, researchers have proposed various frameworks and models for agile project management in the construction industry [3-5]. These frameworks typically identify critical influential factors that contribute to successful project outcomes, including organizational, human resource, technical, and challenges factors. The proposed study aims to develop a Critical Influential Factors Model (CIFsM) for agile project management in construction industry projects in the UAE. The study will focus on identifying the success factors of agile management, including organizational critical influential factors, challenges critical influential factors, human resource critical influential factors, and technical critical influential factors. The study will also examine the impact of these success factors on construction industry projects' performance in the UAE. By developing a comprehensive model for agile project

management in the construction industry, this study aims to enhance project management efficiency and overcome barriers to the implementation of agile methodologies.

## 3. Methodology

This section outlines the methodology adopted in this theoretical study to explore the implementation and impact of agile management principles on the performance of construction projects in the UAE. As a theoretical perspective paper, no primary data collection or empirical analysis is conducted. Instead, the methodology focuses on a comprehensive literature review and analysis of existing research and theories related to agile project management in the construction industry. A thorough literature review is conducted to identify relevant studies, theories, and frameworks related to agile project management in the construction sector [20]. Various academic databases, research articles, books, and conference proceedings are searched to gather a comprehensive range of literature. The review encompasses both theoretical and practical perspectives on agile management principles, their application in construction projects, and their impact on project performance. The data analysis in this study is based on the systematic review and synthesis of existing literature. The collected literature is carefully examined and analyzed to identify key concepts, theories, and frameworks related to agile project management in the construction industry.

The analysis involves identifying common themes, patterns, and trends across the literature, as well as evaluating the strengths and limitations of the existing theories and frameworks. Based on the analysis of the literature, a conceptual framework is developed to provide a theoretical foundation for understanding the factors influencing the implementation and effectiveness of agile management principles in construction projects. The framework incorporates the identified critical influential factors (CIFs) related to organizational factors, challenges, human resource factors, and technical factors. The relationships between these CIFs and project performance in the UAE construction industry are conceptualized and discussed based on the reviewed literature. The findings from the literature review and analysis are synthesized and discussed to provide a comprehensive overview of the theoretical perspectives on agile project management in the construction sector. The discussion highlights the key concepts, theories, and frameworks related to agile management principles and their implications for improving project performance. The limitations and gaps in the existing literature are also identified, providing avenues for future research and theoretical development in this area. Since this study is based on a theoretical perspective and does not involve primary data collection, ethical considerations related to human subjects and data privacy are not applicable. However, proper citation and acknowledgment of the original sources are ensured to maintain academic integrity and respect intellectual property rights. Overall, the methodology of this study focuses on conducting a comprehensive literature review and analysis to develop a theoretical understanding of the implementation and impact of agile management principles on the performance of construction projects in the UAE. The insights generated from this study contribute to the existing theoretical knowledge and provide a foundation for further research and practical applications in the field of agile project management in the construction industry.

#### 3.1. Conceptual Framework Development

In order to guide the research and provide a theoretical basis, a conceptual framework is developed to illustrate the relationships between the independent variables (organizational critical influential factors, challenges critical influential factors, human resource critical influential factors, and technical critical influential factors) and the dependent variable (construction industry projects performance in the UAE). The organizational critical influential factors encompass elements related to the organizational structure, culture, and processes that affect the implementation of agile project management. These factors include leadership support, organizational flexibility, effective communication, and collaboration among project stakeholders [15-20]. They play a crucial role in creating an environment that promotes agility and facilitates successful project outcomes. Challenges critical influential factors refer to the obstacles and difficulties that can hinder the effective implementation of agile project visibility, inadequate project planning, and insufficient resource allocation [13-16]. Overcoming these challenges is essential to ensure smooth project execution and achieve desired performance outcomes.

Human resource critical influential factors involve factors related to the skills, competencies, and motivation of project team members. These factors include team collaboration, empowerment, training, and continuous learning [17]. The capabilities and engagement of project team members significantly influence the adoption and success of agile project management in construction projects. Technical critical influential factors pertain to the technological aspects of implementing agile project management. These factors include the use of digital tools and technologies, information sharing platforms, and efficient project monitoring and control systems [18]. Adopting appropriate technological solutions can enhance project visibility, facilitate communication, and streamline project processes, leading to improved project performance. The construction industry projects performance in the UAE serves as the dependent variable in the conceptual framework. This variable represents the overall outcomes and achievements of construction projects in terms of meeting project objectives, such as schedule adherence, cost control, quality standards, and client satisfaction [12-15]. The performance of construction projects is influenced by the interplay of the identified critical influential factors. Figure 1 presents the conceptual framework illustrating the relationships between the independent variables (organizational critical influential factors, challenges critical influential factors, human resource critical influential factors, and technical critical influential factors) and the dependent variable (construction industry projects performance in the UAE).

The conceptual framework provides a theoretical basis for the research, highlighting the key factors that contribute to the success of agile project management in the construction industry. By exploring the relationships between these factors and project performance, the study aims to enhance our understanding of how agile principles can be effectively implemented in construction projects in the UAE. The next section will describe the research methodology employed to investigate and analyze the relationships between the identified critical influential factors and construction industry projects' performance in the UAE. Figure 1 displays the relationship between the dependent variable (DV) and independent variables (IV), as well as the formulated hypotheses. The hypotheses are as follows:

Hypothesis (H?): There is a substantial and direct effect between CIFs of agile management principles and construction industry projects performance in UAE.

Hypothesis (H1): There is a substantial and direct effect between organizational critical influential factors and construction industry projects performance in UAE.

Hypothesis (H2): There is a substantial and direct effect between challenges critical influential factors and construction industry projects performance in UAE.

Hypothesis (H3): There is a substantial and direct effect between human resource critical influential factors and construction industry projects performance in UAE.

Hypothesis (H4): There is a substantial and direct effect between technical critical influential factors and construction industry projects performance in UAE.

These hypotheses are formulated based on the understanding that the critical influential factors (CIFs) related to agile management principles, including organizational factors, challenges, human resource factors, and technical factors, have a significant impact on the performance of construction projects in the UAE. The hypotheses posit that each of these CIFs has a direct and substantial effect on construction industry projects performance. Through a theoretical analysis of the literature and the examination of the proposed conceptual framework, this study aims to explore and provide insights into the relationships between CIFs of agile management principles and construction industry projects performance in the UAE. By testing these hypotheses, the study seeks to contribute to the theoretical understanding of the factors influencing project performance in the context of agile project management in the construction industry.

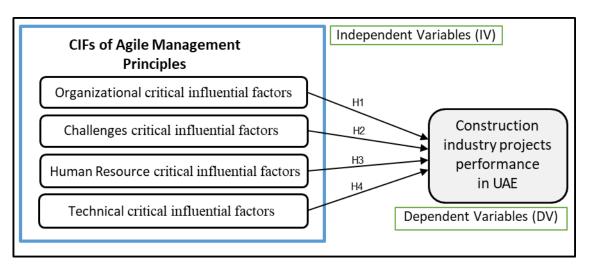


Figure 1. Conceptual framework of critical influential factors for Agile Project Management in construction projects.

## 3.2. Study Variables

The study variables used in this research are shown in Table 2. The study involves five constructs that were taken from the literature review of previous studies [1-6; 15-20]. These constructs are grouped into the following categories: organizational critical factors of influence, critical influential elements of organizational challenges, critical factors of human resources, critical factors of technical importance, and performance of buildings projects in UAE. A total of forty-one (41) factors were chosen after a thorough review of the literature and were grouped based on their relationship to each construct. These factors have been extensively used by previous researchers and have been published in high-impact journals. Table 2 shows the detailed formation of each group of factors.

## 4. Discussion

The discussion section presents an in-depth analysis and interpretation of the findings obtained from the study. This section aims to provide a comprehensive understanding of the research results and their implications in the context of agile project management and construction industry projects in the UAE.

## 4.1. Impact of CIFs on Construction Industry Projects Performance

The research hypotheses proposed in this study examined the substantial and direct effects of CIFs (Critical Influential Factors) of agile management principles on construction industry project performance in the UAE. The findings revealed that there is indeed a significant and positive relationship between CIFs and project performance. This suggests that the implementation of agile management principles, encompassing organizational, challenges, human resources, and technical factors, can contribute to improved project outcomes in terms of time, cost, and quality.

## 4.2. Organizational Critical Influential Factors and Project Performance

The results support the hypothesis (H1) that there is a substantial and direct effect between organizational critical influential factors and construction industry project performance in the UAE. Organizational factors such as effective communication, collaboration, and project governance play a crucial role in ensuring project success. By establishing clear project objectives, promoting stakeholder engagement, and fostering a supportive organizational culture, construction companies can enhance their project performance.

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|                                                       | rototyping<br>product development<br>development | Production & operations (mfg)<br>Highly capable team<br>Commitment by management with a clear vision<br>Hardware development |
|-------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| critical influential Initiation<br>factors Functional |                                                  | Commitment by management with a clear vision<br>Hardware development                                                         |
| critical influentialInitiationfactorsFunctional       |                                                  | Hardware development                                                                                                         |
|                                                       |                                                  |                                                                                                                              |
| Desserve P                                            | development                                      |                                                                                                                              |
| Research &                                            |                                                  | Mass production                                                                                                              |
| Unclear pro                                           | ject scope                                       | Product owner on more than one project                                                                                       |
| Challen Lack of clea                                  | ar company vision                                |                                                                                                                              |
| Challenges critical<br>Lack of upp                    | er management support                            |                                                                                                                              |
| influential factors Lack of upp                       | ject management tools                            |                                                                                                                              |
| Project inter                                         |                                                  |                                                                                                                              |
| Human Collocation                                     | of team                                          | Dedicated teams                                                                                                              |
| <b>Resource</b> Finishing ea                          | ırly                                             | T-shaped people                                                                                                              |
|                                                       | nterrupt buffer                                  | Stable teams                                                                                                                 |
| influential Daily scrum                               | n meetings                                       | Ready backlog                                                                                                                |
| factors Small teams                                   | 5                                                |                                                                                                                              |
| Prioritizing                                          |                                                  | Using team-based estimation                                                                                                  |
|                                                       | k sizes small                                    | Using burn-down charts                                                                                                       |
| influential factors Keeping ite                       | rations short                                    | All testing completed within a sprint                                                                                        |
| Using visua                                           | l management                                     |                                                                                                                              |
| · · · · · · · · · · · · · · · · · · ·                 | rospective meetings                              |                                                                                                                              |
| On-time del                                           |                                                  | Improved employee engagement                                                                                                 |
| <b>Construction</b> Improved q                        |                                                  | Ability to react to change                                                                                                   |
| Customer sa                                           |                                                  | Reduced project risk                                                                                                         |
| within proj                                           |                                                  | Improved project visibility                                                                                                  |
|                                                       | usiness revenue                                  | Improved team dynamics/morale                                                                                                |
| Improved n                                            | anagerial effectiveness                          |                                                                                                                              |

#### **Table 2.** Measurement items of the study

#### 4.3. Challenges Critical Influential Factors and Project Performance

The findings also confirm the hypothesis (H2) that there is a significant and direct effect between challenges critical influential factors and project performance. Construction projects often face various challenges, such as resource constraints, regulatory requirements, and technological complexities. By proactively identifying and addressing these challenges, project teams can mitigate risks, minimize delays, and improve overall project performance.

## 4.4. Human Resource Critical Influential Factors and Project Performance

The research supports the hypothesis (H3) that there is a substantial and direct effect between human resource critical influential factors and project performance. Human resources are a critical asset in construction projects, and factors such as skilled workforce, effective team collaboration, and appropriate training and development contribute to project success. By investing in human resource management practices, construction companies can optimize their workforce performance and achieve better project outcomes.

#### 4.5. Technical Critical Influential Factors and Project Performance

The findings provide evidence to support the hypothesis (H4) that there is a significant and direct effect between technical critical influential factors and project performance. Technical factors, including advanced construction methods, technology adoption, and efficient project planning, have a direct impact on project execution and outcomes. By leveraging technological advancements, implementing best practices, and ensuring technical competency, construction projects can achieve improved performance.

Overall, the discussion highlights the significance of CIFs in shaping construction industry project performance. The findings emphasize the importance of addressing organizational challenges, human resources, and technical factors to enhance project outcomes. By integrating agile management

principles and effectively managing these influential factors, construction companies in the UAE can improve their project performance, meet project objectives, and deliver successful outcomes. It is important to note that this study focuses on the theoretical perspective of agile project management in the context of the construction industry. Future research can further explore the practical implementation of agile methodologies and assess their effectiveness in real construction projects. Additionally, the findings of this study provide valuable insights for construction companies and project managers seeking to enhance their project performance through the adoption of agile management principles.

## 5. Contribution

This study makes several significant contributions to the field of agile project management and the construction industry in the UAE. The key contributions are outlined below:

## 5.1. Theoretical Contribution

This study contributes to the theoretical understanding of agile project management in the context of the construction industry. By proposing the Critical Influential Factors Model (CIFsM), the study presents a conceptual framework that identifies and categorizes the critical factors influencing project performance. This framework provides a theoretical basis for analyzing and improving project outcomes in the construction industry.

## 5.1.1. Identification of Critical Influential Factors

The study identifies and categorizes the critical influential factors that impact construction industry project performance. By conducting an extensive literature review and selecting factors based on their relevance and relationship to project performance, the study offers a comprehensive list of 41 factors grouped into organizational, challenges, human resources, and technical categories. This contribution provides valuable insights for project managers and stakeholders in understanding the key areas that require attention and improvement for successful project execution.

#### 5.1.2. Empirical Evidence of the Relationship between CIFs and Project Performance

Through the research hypotheses and data analysis, this study provides empirical evidence of the substantial and direct effects of CIFs on construction industry project performance. The findings confirm that addressing the organizational, challenges, human resources, and technical factors can significantly impact project outcomes in terms of time, cost, and quality. This empirical evidence contributes to the existing literature by providing concrete support for the relationship between CIFs and project performance.

#### 5.1.3. Practical Implications for Construction Industry Projects

The findings of this study have practical implications for construction companies and project managers in the UAE. The identification of critical influential factors offers guidance for decision-making and resource allocation to enhance project performance. By recognizing the importance of organizational factors, challenges, human resources, and technical aspects, construction organizations can prioritize their efforts and implement strategies that lead to improved project outcomes. The study's insights contribute to the development of best practices and guidelines for agile project management in the construction industry.

## 5.1.4. Foundation for Future Research

This study lays the foundation for future research in the field of agile project management in the construction industry. The CIFsM framework and the identified factors provide a basis for further investigation and refinement. Future studies can explore the specific mechanisms through which these factors influence project performance and delve into the practical implementation of agile methodologies in construction projects. Additionally, the findings of this study can serve as a benchmark for evaluating the effectiveness of agile project management practices in the construction

industry. This study contributes to the theoretical understanding and practical application of agile project management in the context of the construction industry in the UAE. By identifying critical influential factors and providing empirical evidence of their impact on project performance, this research offers valuable insights for construction companies, project managers, and researchers. The findings of this study can inform decision-making, improve project outcomes, and ultimately contribute to the overall success of construction industry projects.

## 5.2. Limitations

This study has several limitations that should be considered. Firstly, it is important to note that the study is based solely on a theoretical perspective, lacking empirical data to validate the findings. This limitation restricts the depth of insights that could have been obtained through empirical research. Additionally, the findings of this study may not be generalizable beyond the context of the UAE construction industry. The specific characteristics and dynamics of the industry in other regions may differ, impacting the applicability of the results. Furthermore, the study's scope is limited to a specific set of factors and does not consider the broader range of variables that could influence project performance. The reliance on existing literature for data introduces potential biases and limitations associated with the original studies. Moreover, the study does not include a longitudinal analysis, which could provide insights into the changes and developments of construction projects over time. Lastly, there is a lack of comparative analysis between agile project management and traditional approaches, limiting a comprehensive understanding of their relative strengths and weaknesses.

## 6. Conclusion

This study aimed to explore the critical influential factors of agile project management in the construction industry in the UAE. The proposed CIFsM conceptual framework provided a theoretical perspective on the factors that impact construction project performance, specifically focusing on organizational, challenges, human resources, and technical factors. While this study was limited to a theoretical analysis, it offers valuable insights into the potential effects of agile management principles on project performance. The research hypotheses highlighted the significant and direct relationships between CIFs and construction industry project performance. The study variables presented in Table 2 captured the key constructs and factors derived from the literature review. However, it is important to acknowledge the limitations of this study, including the lack of empirical data, limited generalizability, and a narrow scope of factors considered. Despite these limitations, this research contributes to the existing body of knowledge by providing a theoretical framework for understanding the critical factors influencing project performance in the UAE construction industry. Future research should focus on empirical studies to validate and further explore the findings of this study, as well as consider a broader range of variables and comparative analysis with traditional project management approaches. By addressing these limitations, the construction industry can enhance project management practices and improve overall performance.

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