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**Research Article**

# Evaluate the Reality of Investment Construction Projects in Iraq

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**Abstract:**

Since 2003, the building sector in Iraq has undergone a large amount of development, and the region's commercial linkages with the countries of other regions have undergone a substantial amount of advancement. Because Iraq was closed during this period, it needed a lot of investment for development projects. In addition, because major sections of Iraq are stable, foreign construction corporations have been focusing on the country. In spite of this, the Iraqi government has made it easier for foreign investment businesses to get involved in the region as part of a plan to acquire international knowledge and foreign technological ability. As a direct consequence of this, a competition environment for both domestic and foreign businesses has been established in the region. As a consequence of this, regional and national construction businesses have been motivated to make significant strides toward enhancing their overall performance within the sector. On the basis of acknowledging the most appropriate achievement measures for construction companies performing in the region and recommending an arrangement by using these measures, The primary objectives of this research are to evaluate and analyses the impediments that impede the implementation of investment construction projects in Iraq.These goals will be accomplished by constructing a framework that will be based on the performance measures. In order to shed light on the aforementioned impediments to investment in the construction industry, this article has been revised to include a variety of viewpoints pertaining to the commercial climate of the construction sector in Iraq. As a consequence of this, a management controlling system that must be utilized as a management oversight system for the purpose of managing and accessing the performance of Iraqi construction companies must be developed as a result of an assessment of the barriers to the implementation of investment construction projects in Iraq management.

## 1. Introduction

When the best development investment project is selected based on quantitative indicators, the project that ends up being selected might not be a suitable fit for further investment efforts that are currently being carried out or are in the process of being carried out. This could be the case even if the greatest development investment project is selected. In terms of the overarching framework of regional development, the synergy effect is pretty large and has quite an impact. The ideal scenario is one in which numerous projects can produce new value while also being able to benefit from one another in a reciprocal manner [1].

### 1.1 Importance of Strategic Management in the Development of Construction Investment

Constructing buildings in a way that minimizes their impact on the environment is one of the most pressing concerns of our time and an important step toward achieving long-term sustainability in the area of social evolution. In order to achieve sustainable development, there are challenges associated with the building of a criterion system for assessing the sustainability of construction, as well

as obstacles associated with the collection of information regarding criteria and mathematical computations [2].

Certain aspects of the Regional Development Strategy have been included into the broader development strategy and goal that the state has. In the meantime, the regional economic growth instruments of the western nations are directed toward the decentralization of significant industrial agglomerates as well as fostering the growth of economically depressed and economically weak regions [3].

A wide variety of issues pertaining to the investment construction process are addressed by a number of authors. However, almost no research has been done on the subject of the incorporation of construction investment projects within the development of regions, which is a significant issue. Even if the most profitable construction investment project is picked according to financial indications, the project that ends up being picked could not be an appropriate combination for other investment projects that are already being carried out or are in the process of being carried out [4].

The synergy impact is quite significant with regard to the overall substance of regional development. As a result, it is necessary to assess the multifaceted impact of the following requirements:

- Quantity of "Construction Investment Projects" (CIP),
- Current tendencies,
- Legal concerns,
- Constructional solution options, etc.

The primary objective of strategy is to direct forthcoming investments according to a way that they will contribute to the accomplishment of the established objectives in the most efficient and fruitful manner feasible [5]. In addition, must it be pointed out that collaborated attempts of state as well as local governments are important in order toward accomplishing these objectives, but it also needs to be pointed out that it is essential to note that the accomplishment of the indicated objectives is impacted not only by investment, but also by other managerial, legal, and additional measures carried out by the institutions of the framework of the state [6].

Nevertheless, the fundamental challenge that authorities encounter when attempting to execute strategic planning is procedural in nature, and the primary problems that arise are either the selection of methodology or the absence of it [7].

Investing in building, reconstruction, and continuing operation of infrastructure is the goal of CIP, which is a complicated of legal interactions, acts, and documents targeted at accomplishing this goal. The following are some of the domains in which they find application:

- Explanation of the logistical and financial viability of the proposed building or reconstruction.
- Cost estimation and assessment.
- Repayment times as well as projected levels of profitability.

### 1.2 Concept in Investment Construction Project

The manufacturing industries were the birthplace of what is now commonly recognized in the development profession as investment construction project (ICP) and is practiced in this field [8]. The accomplishments that the manufacturing sector obtained as a result of its acceptance of the rapid principle and the advantages that were gained were the primary drivers behind the eventual implementation of the lean concept in the construction industry [9].

This is considering the accomplishment of the indicated objectives is influenced in addition by investment however additionally by other managerial, legal, and other evaluates implemented by the declare. It is essential to note that in order to accomplish these objectives coordinated initiatives of the state are essential [10].

One of the main challenges for officials is to find methods how to effectively oversee these procedures while applying a regional development regulation, how to form an equitable and transparent framework for decision's planning, adoption, and monitoring of application.

It is feasible to make an estimate of the investment costs involved with the construction of major commercial or industrial facilities by basing one's calculations on the findings of one's preliminary study [11]. After that, the entire cost of the project will be calculated based on the construction investment project contract. Turnkey construction provides additional benefits to the customer, while also allowing the organization to delegate risks and responsibilities to an experienced construction manager [12].

- When attempting to secure funding for construction by investors that are not affiliated with the project.
- When applying for preliminary permits to conduct surveys, designs, or construction projects.
- When the structure's planning and study, as well as its building or renovation, and commissioning are complete, the facility will be ready for use.
- When the application for permissions and the registering of title documents for the location have been completed.

The development and implementation of a system that integrates cutting-edge technical developments

or creative products into the processes of investment and construction will make it feasible to overcome the obstacles that currently stand in the way of putting investment to use in the building sector. Because of recent advancements in technology, it is now possible to find solutions to the problems that arise [13].

Several separate stages of the processes involved in strategic and investment planning have been postulated, according to a variety of different ideas. Generally speaking, these three essential stages of strategic planning are seen as three separate processes:

- Evaluation of the investment construction strategy: including an examination of the external environment of the organization, an examination of its resources during the retrospective time frame, and a projection of their availability during the prospective time.
- Strategy-making of the investment construction: which includes defining the target direction of the institution strategy, selecting and evaluating various options to strategic options, and selecting the ultimate decisions regarding strategy [14].
- The process of putting a strategy of the investment construction into action, which includes delegating duties to those who will carry them out, allocating resources and preparing budgets, as well as accounting and management systems.

### 1.3 Evaluation of the Efficacy of Investment Construction Projects (ICP)

It can be accomplished to overcome the challenges of applying investment in the construction industry thanks to the formulation and positioning of a system that incorporates new product or technologies alternatives into the steps of investment and construction. This makes it feasible to overcome the challenges [15].

In order to successfully implement strategic projects, official of government are required to select an acceptable investment management, relevant strategic projects, and supply the resources that are required. Which the state must comprehend besides the importance of choosing of appropriate strategies, additionally it needs assume responsibility for the application of selected development strategy, which means investing the limited financial assets of the country into a collection of suitable advantageous projects and programs [16].

The authors suggest that, in order to facilitate the formulation of strategic development strategies at the municipality stage, construction investment projects should be segmented into the following categories:

- Municipalities
- Commercial/industrial zones
- Residential structures, and
- Infrastructure

As seen in figure (1), when evaluating the many groups involved in a project, you should apply different criteria each time. Current net profit should be used as the primary criterion for evaluating any potential investment initiatives. It is vital that one concentrate on the following variables in order to evaluate this benefit: the benefit that is anticipated, the costs that are required to apply the project (for development, production, and building, and exploitation), and the probability that the project will be employed as anticipated [17].

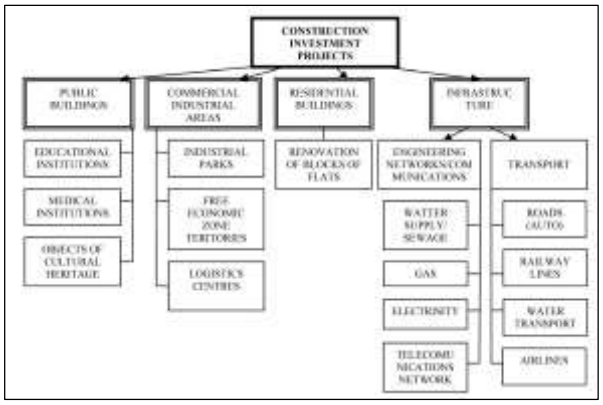


***Figure 1.*** *The Framework for Community Development Involving Construction Investment Projects [17]*

### 1.4 The Challenges that Facing Investment Construction Projects (ICP)

Investing in construction typically involves using borrowed financial resources, which can have a significant bearing on the overall effectiveness of the investment project being undertaken. As a result, it is essential to conduct an accurate analysis of the good and bad aspects associated with each potential source of funding for the development stage [18].

Nevertheless, there are a number of factors that make it challenging to provide an objective assessment of the net profit that was generated by building investment projects:

- It is not always easy to make an accurate assessment of the benefits that a project will provide to the society it is intended to serve. In some cases, the defining criteria of a benefit can be quite challenging to evaluate in practice.
- It can be challenging to evaluate and forecast the likelihood that a project will be successfully carried out because the outcome of decisions and circumstances can have a significant impact.
- It is not always easy to provide an accurate assessment of the entire costs associated with

investment projects and potential development. In this scenario, the costs need to be evaluated based on the genuine requirement for investment along with additional costs; but, they should also take into account the different projects that may be abandoned.

### 1.5 Analysis and Description of Construction Projects for Investment

The scope, significance, functions, and features of construction executes, management objectives, financing sources, and investment processes to manage construction efforts (regulators, operations, and duties of construction investment, etc.) will determine the classification of development investment projects [19];

1. The following is a classification of development investment projects according to the features of the works being constructed:

- Projects involving investments in the construction of government and residential buildings, as well as other forms of economic infrastructure, are referred to as civil works.
- Investment projects involving the building of facilities for industry (for the purpose of extracting raw materials and manufacturing finished goods and energy).
- Project for the investment of funds including the building of technical infrastructure works (with the intention of supplying technical infrastructure capabilities).
- Projects including investments intended for the building of traffic works, also known as the development of works that allow people and vehicles to circulate and carry both people and products.
- Investment projects that focus on the building of rural and agricultural growth works (either directly or indirectly servicing agricultural, forestry, salt, and aquaculture output, as well as the construction and maintenance of dikes) are examples of such projects.
- Projects involving investments in the construction of projects related to national protection and security (conducted for the goals of national defense and protection).
- Investments in construction projects that serve several purposes, including urban areas, residential complexes, technical facilities of manufacturing parks or economic regions, etc.

2. The following is a classification of building investment projects determined by the sources of financing [20]:

- Initiatives that make use of public investment resources.
- Projects that make use of non-public investment State resources.
- Public-private partnership (PPP) initiatives
- Projects that are being funded by other sources.

3. Depending on the scales and significance of the projects, the following types of construction activity are included [21]:

- National significant projects.
- Projects assigned to Category A.
- Projects assigned to Category B.
- Projects assigned to Category C.

4. Different types of construction projects and their classifications:

- It is necessary to identify the categories of building projects that will serve the management of development investment activities. These classifications, which include special class, class I, class II, class III, and class IV, will be identified depending on the sizes, significance, and technical features of the projects [22].
- The requirements and technical rules for the construction industry provision for several categories of construction works that are meant to serve the construction design. The classifications of construction work that serve other management functions must be defined in line with the laws that apply [23].

## 2. Methodology of Research

### 2.1 Research Objectives and Aims

The research methodology provides an explanation of the many different approaches that are used to gather data in order to acquire a fuller understanding of the primary goals of this research to evaluate the obstacles that must be overcome before investment construction projects in Iraq can be carried out. This purpose of the study will be satisfied by carrying out the evaluation in order to complete the requirements of the study [24].

### 2.2 Documents Finding

The preliminary findings of the first step indicate that the study has shed light on the generalization to the number of (34) the obstacles that must be overcome before investment construction projects can be carried out in Iraq. These reasons have been broken down into its three component parts, which are represented as the "Political and Legal", "Technical and organizational", and "Financial and economic" obstacles in table (1).

***Table 1***. *Barriers to the Implementation of Investment Construction Projects*

| Barriers to the Implementation of Investment Construction | Re-Code |
|---|---|
| Political and legal | |
| The Lack of dedication to the terms of contracts within governments. | B1 |
| The lack of faith in the investment, as well as the low contract rates. | B2 |
| The lack to establish regular and ongoing collaboration between the government and private sectors. | B3 |
| The lack of legal backing from relevant entities originating in the private sector. | B4 |
| The lack of an assurance on the part of the government that investments will be returned at a satisfactory rate of return. | B5 |
| The lack to create the necessary legal and organizational infrastructures to facilitate partnerships with the private industry. | B6 |
| The lack of confidence that exists when it comes to the formation of public perceptions in municipalities. | B7 |
| The lack to develop a culture that is appropriate for the nation. | B8 |
| The potential threat to the political status quo as well as civil conflict. | B9 |
| The dedication to entering into extended contracts. | B10 |
| Execution of projects through the use of more conventional approaches | B11 |
| Technical and organizational | |
| The Lack of understanding and expertise among project contractors. | B12 |
| The lack prevalence of organizations that effectively reflect public perception. | B13 |
| The Lack of communication between the public and private sectors. | B14 |
| The lack to create updated legislation and regulations that are intended to entice private collaboration. | B15 |
| The lack of relevant organizations to develop organizational cultures that are suitable for their purposes. | B16 |
| The lack to provide problem-solving services for multiple aspects of investment by the necessary authorities. | B17 |
| The lack of training for authorities and governmental employees, which would strengthen their capacity for interaction and collaboration with the investment sector. | B18 |
| The lack of support and intervention from government entities in investment projects. | B19 |
| The corruption that exists within key organizations has led to a reduction in the level of partnership between the government and private sectors. | B20 |
| Obstacles posed by management and executives, in addition to the dangers posed by privatization. | B21 |
| The absence of enough information, promotion, and advertising for the private sector collaboration. | B22 |
| Protracted licensing procedures and an inappropriate environment for work. | B23 |
| The governmental organizations have problems with their administration and their ability to plan and control projects. | B24 |
| Management flaws and control issues emerged during the project revisions. | B25 |
| Financial and economic | |
| The Lack in municipalities suffer from a deficit of financial expertise. | B26 |
| The lack of autonomy in organizational situations at investment organizations. | B27 |
| The lack to create efficient regulations for the purpose of recruiting corporate collaboration. | B28 |
| The lack to provide an atmosphere that is conducive to guaranteeing investment. | B29 |
| The lack to focus on decreasing expenses and management within the investment contractor sector. | B30 |
| Decreased reliance on public funding and taxation, as well as the establishment of other, long-term revenue streams. | B31 |
| Obstacles and dangers associated with the economy of the country. | B32 |
| The absence of an important relationship between economic liberty and public–private collaboration. | B33 |
| The investment sector suffers from an inadequate supply of resources. | B34 |

The surveys were administered to 173 individuals who are registered members of engineering professionals and are employed in the building construction sector. The participants were contacted via publishing the questionnaire and disseminating it through physical copies, social media accounts, and email addresses obtained from the registry of Iraqi engineering professionals.

This was done in order to collect their responses to the questionnaire. When it was requested of the participants that they fill out the surveys and send them back using the same mode of receipting, and when it was specified that the questionnaires (139) be returned after a certain amount of time (30 days), then those questionnaires were returned.

The questionnaire comprises a set of targeted questions intended to collect information that will facilitate the attainment of the research's goal and objectives. Particular questions are formulated with responses that exclusively align with categories predetermined by the researcher.

The questionnaire encompassed scales categorized as measurement levels, which serve to organise information regarding indicators into nominal and ordinal levels, as well as scales to assess the intensity, direction, quantity, or magnitude of a variable measured in quantitative data.

The nominal measurement scale is employed in section 1 of the questionnaire, where respondents must indicate their occupational specialist education background and years of experience.

By using the ordinary scale (Likert scales), Where they included a 5-point scale Likert, which requires respondents to indicate to what extent they agree or disagree about the obstacles to the realization of investment construction projects in Iraq.

The Likert scale is the most prevalent scaling method because to its simplicity, versatility, and dependability [25]. The response ratio for data collection is crucial in assessing the efficacy of the answered questionnaires for the purpose of the research, as it conveys this information.

The allocation of the questionnaire utilized for the survey methodology is presented in Table (2). A total of 173 questionnaires were distributed directly, either via printed forms or by submitting a Google format link through social networking sites and email. Subsequently, 139 completed questionnaires consisted returned, yielding an attendance rate of 80% among participants.

***Table 2.*** *Response Rate*

| Questionnaire | No. |
|---|---|
| Manually distributed questionnaires | 30 |
| Social media distributed questionnaires | 122 |
| Distributed questionnaires by email | 21 |
| Overall number of returned completed questionnaires | 173 |

## 2.3 Reliability

Multiple alternative methodologies exist for assessing the reliability of data obtained from questionnaire surveys. The acceptability level for evaluating the inner reliability of information collected from surveys using “Cronbach's Alpha” might range from 0.0 to 1.0. “Cronbach's Alpha” assesses the trustworthiness of the data obtained from the questionnaire. A result is deemed entirely untrustworthy with a score of 0, whereas a score of 1.0 indicates total reliability. The threshold for establishing an acceptable level of internal consistency, as shown by “Cronbach's Alpha”, is set at 0.7.

A reliability test is conducted to ascertain the consistency of the selected scale. Cronbach's alpha is the most commonly utilized reliability test, as illustrated by equation (1).

The purpose of the reliability test was to demonstrate the reliability of the scales that were used to establish what, according to the literature review, are the impediments that are preventing investment construction projects from being implemented in Iraq;

$$\rho_T = \frac{k^2 \cdot \overline{\sigma_{ij}}}{\sigma_x^2} \qquad (1)$$

Where;

$\rho_T$ = “Cronbach's Alpha”

$k$ = The amount of scale components

$\sigma_{ij}$ =The identify item i's variability

$\sigma_x^2$= The variation of observed overall ratings

Where the table (3) indicates that all values more than (0.70) value, its acceptable for Cronbach’s alpha value, meaning that the scales are reliable for this analysis.

***Table 3.*** *Values of “Cronbach's Alpha”*

The questionnaire was made available on the wide web, and an email version of the questionnaire was sent to the individuals who had been chosen for the survey. The period of time needed to collect all of the required information was around (30) day long. There were a total of (173) participants, and (139) of them completed out the questionnaire. At the outset, it was requested of the participants that they submit some background information, such as their job titles, years of experience, and highest levels of qualification. As shown in table 4, 5, 6, 7 and 8, where overview of the responders, all of them are affiliated with registered professional organizations.

***Table 4.*** *Employment Analysis*

| **Components** | **No. of Components** | **Value** |
|---|---|---|
| Barriers to the Implementation of Investment Construction | 35 | 0.906 |

| **Items** | **Qty. of Respondents** | **Percentage of Respondents** |
|---|---|---|
| Public Sector | 119 | 85.6 % |
| Private Sector | 20 | 14.4 % |

***Table 5.*** *Engineering Specializations*

| **Engineering Specializations** | **No.** |
|---|---|
| Civil Engineer | 88 |
| Architectural Engineer | 32 |
| Mechanical Engineer | 10 |
| Electrical Engineer | 7 |
| Other Specialization | 2 |
| The total number of completed questionnaires returned | 139 |

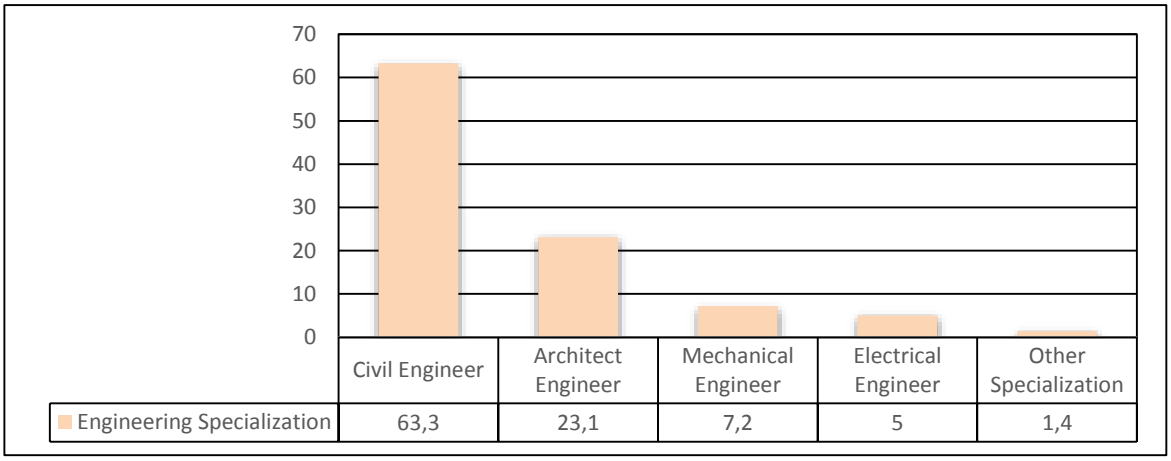


***Figure 2.*** *Engineering Specializations*

***Table 6.*** *Engineering Occupations*

| **Engineering Occupations** | **No.** |
|---|---|
| Top Management | 61 |
| Middle Management | 42 |
| Senior Management | 33 |
| Supervisor | 3 |
| The total number of completed questionnaires returned | 139 |

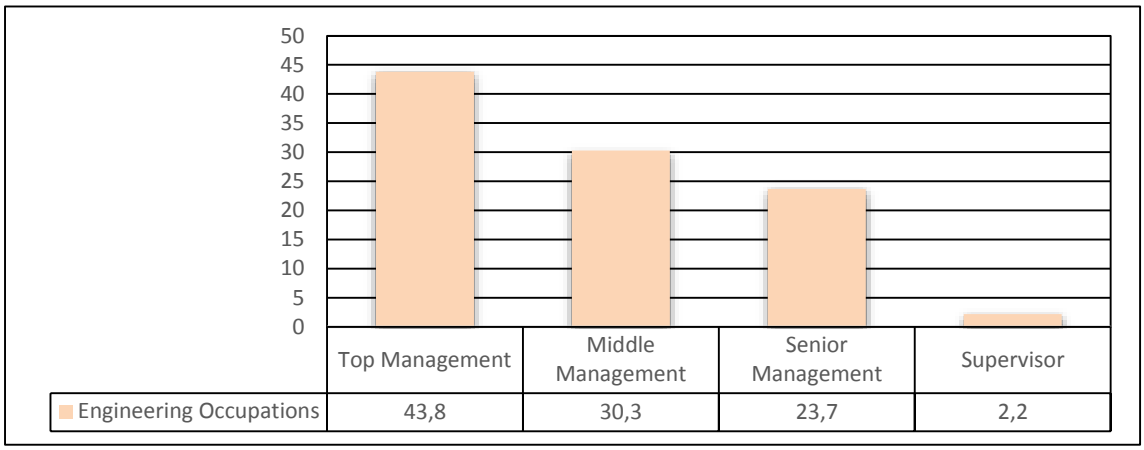


***Figure 3.*** *Engineering Occupations*

***Table 7:*** *Years of Experience*

| Years of Experience | Amount |
|---|---|
| > 5 | 93 |
| From 5 to 10 | 36 |
| < 11 | 10 |
| The total number of completed questionnaires returned | 139 |

***Figure 4.*** *Years of Experience*

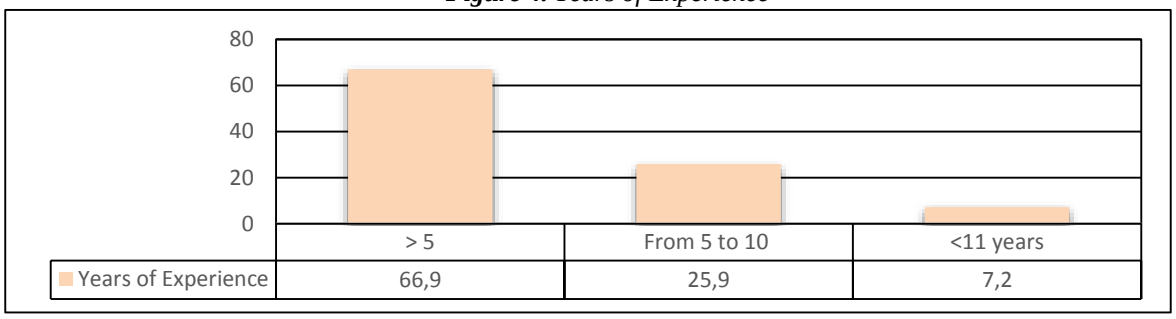


***Table 8.*** *Education Background*

| Education Background | No. |
|---|---|
| Bachelor's Degree | 89 |
| Master's Degree | 34 |
| Doctor’s Degree | 9 |
| Other | 7 |
| The total number of completed questionnaires returned | 139 |

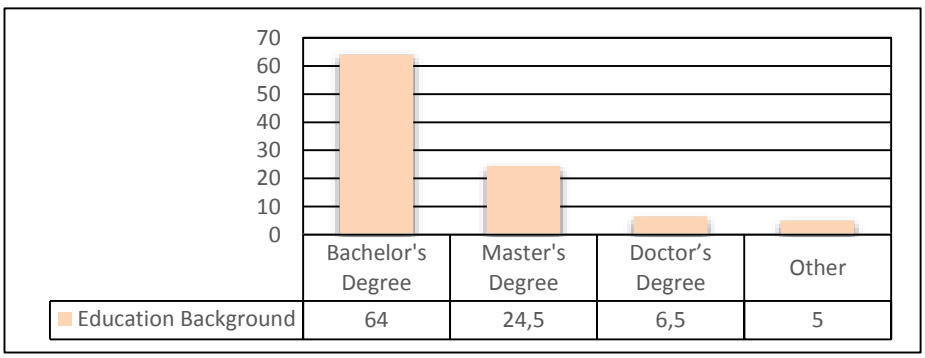


***Figure 4:*** *Education Background*

### 2.4 Analysis of the Results

On the basis of the replies obtained from the questionnaire research, we will conduct an investigation into the level of significance of the results that will be presented in the following sections. In overall, all of the performance and its sub-parameters were deemed to be relevant by the respondents, and this was the case across the board. It indicates that there is a need for a comprehensive system of achievement management for the construction organizations, where the questionnaire assessment was created to evaluate the amount of importance of the elements based on the amount of agreement of participants. This signifies that there is a requirement for a broad system of achievement management for the construction organizations

### 2.5 Barriers to the Implementation of Investment Construction Projects

These barriers to the completion of investment construction projects in Iraq have been categorized into three components, each of which represents a different barriers regarding to terms of the political and legal society, technical and organizational, and financial and economic.

#### 2.5.1 Political and Legal

Where table (9) describes the level of the barriers to the implementation of investment construction projects belong political and legal.

***Table 9:*** *Political and Legal Barriers*

| Code | Mean | Std. E. | Std. D. | Rank |
|---|---|---|---|---|
| B1 | 3.94 | 0.053 | 0.782 | **11th** |
| B2 | 4.42 | 0.063 | 0.762 | **2nd** |
| B3 | 4.22 | 0.058 | 1.011 | **7th** |
| B4 | 4.18 | 0.065 | 0.789 | **8th** |
| B5 | 4.28 | 0.049 | 0.901 | **4th** |
| B6 | 4.22 | 0.067 | 0.984 | **6th** |
| B7 | 4.11 | 0.044 | 0.769 | **9th** |
| B8 | 4.01 | 0.079 | 0.773 | **10th** |
| B9 | 4.24 | 0.076 | 0.763 | **5th** |
| B10 | 4.31 | 0.063 | 0.962 | **3rd** |
| B11 | 4.57 | 0.053 | 0.762 | **1st** |

#### 2.5.2 Technical and Organizational

Where table (10) describes the level of the barriers to the implementation of investment construction projects belong technical and organizational barriers.

***Table 10.*** *Technical and Organizational Barriers*

| Code | Mean | Std. E. | Std. D. | Rank |
|---|---|---|---|---|
| B12 | 4.47 | 0.087 | 0.902 | **2nd** |
| B13 | 4.04 | 0.078 | 0.895 | **14th** |
| B14 | 4.55 | 0.059 | 1.005 | **1st** |
| B15 | 4.36 | 0.057 | 0.0774 | **5th** |
| B16 | 4.09 | 0.053 | 0.762 | **12th** |
| B17 | 4.24 | 0.058 | 0.903 | **10th** |
| B18 | 4.45 | 0.078 | 0.781 | **3rd** |
| B19 | 4.31 | 0.047 | 0.0734 | **7th** |
| B20 | 4.37 | 0.079 | 0.789 | **4th** |
| B21 | 4.32 | 0.043 | 0.709 | **6th** |
| B22 | 4.08 | 0.053 | 0.678 | **13th** |
| B23 | 4.23 | 0.068 | 0.981 | **11th** |
| B24 | 4.27 | 0.073 | 0.789 | **9th** |
| B25 | 4.27 | 0.056 | 0.694 | **8th** |

#### 2.5.3 Financial and Economic

Where table (11) describes the level of the barriers to the implementation of investment construction projects belong financial and economic barriers.

***Table 11.*** *Financial and Economic Barriers*

| Code | Mean | Std. E. | Std. D. | Rank |
|---|---|---|---|---|
| B26 | 4.32 | 0.047 | 0.547 | **1st** |
| B27 | 4.19 | 0.051 | 1.008 | **2nd** |
| B28 | 3.92 | 0.054 | 0.782 | **4th** |
| B29 | 3.96 | 0.076 | 0.981 | **3rd** |
| B30 | 3.72 | 0.078 | 0.876 | **6th** |
| B31 | 3.63 | 0.046 | 0.046 | **9th** |
| B32 | 3.70 | 0.071 | 0.071 | **7th** |
| B33 | 3.65 | 0.047 | 0.694 | **8th** |
| B34 | 3.78 | 0.047 | 0.694 | **5th** |

### 2.6 Validation of Barriers to Implementation of Investment Construction Projects

In order to assess whether or not registered members of the Iraqi Engineers Association (IEA) and those working in fields related to building construction are aware of the necessary to the implementation of investment construction projects, a questionnaire was developed and distributed. A total of 139 individuals filled out the survey questionnaire that was provided to them.

According to the findings, engineers are now engaged in the construction of buildings, and these engineers are able to evaluate how substantial the contribution of various barriers is to the realization of investment construction projects. In spite of the fact that engineers' levels of expertise can vary widely, it appears that they are kept updated on the qualities of investment construction projects.

This section offers a report on the conclusions that arose from the data acquired from construction specialists through the use of a questionnaire. The data was collected from these individuals. The information was obtained from such specialized individuals. Throughout the entirety of the process of data collecting, a number of various documentation sources, such as a questionnaire, a factual review, archival materials, and direct assessments, were applied in order to increase the research project's internal validity. This was accomplished by utilizing a number of distinct documentation sources.

It turned out that the people who responded to the questionnaire, all of whom were specialists in the field of construction, did not have a sufficient degree of comprehension of the purpose of the obstacles that stand in the way of the realization of investment construction projects.

## 3. Discussion

The Iraqi investment construction sector is still in its early stages; despite its small size at the moment, growth in this sector is projected in the not too distant future. In the modern world, there is an increasing number of building owners that are looking for environmentally conscious construction procedures for newly built structures. In order to accomplish investment construction development, the results of the thesis were aimed at determining the potential correlations between the respondent's perspectives and actual scenario investment construction efforts. This was done in order to accomplish investment construction development.

## 4. Conclusion

It is possible to implement changes in an approach that is visible, predictable, and prompt so that investors may have an understanding of the new risk offering. The conclusion of this thesis demonstrates that, from the perspective of those who participated in the questionnaire, the construction industry avoids Iraqi investment construction sector for three main causes:

- The construction contracting and tendering procedure prioritizes saving money and reducing the amount of time it takes over maximizing the performance of the structure.
- The provision of financial incentives by governments is not sufficient to propel investment construction industry.
- The design and construction of buildings are not held to a higher standard because regulations do not require this.

It may be helpful to design regulations in such a way that they place time limits not only on those who are governed but also on those who regulate. It is necessary to have a large amount of involvement from the private sector in order to provide assets related to infrastructure that demand a lot of capital. The entire oversight framework is a critical component that plays a role in defining the magnitude, speed, and expense of involvement from

the private industry. A desirable regulatory framework satisfies the following requirements, when viewed from the prospective of a possible investor in infrastructure resources:

- Certainty, notably when the framework determines tariffs or payment streams (e.g. availability-based partnerships private and public sectors; renewable energy support policies; tariffs for regulated utilities).
- Scalability, which helps to prevent local or regional segmentation and enables international investors to have the perception that there is enough size in the industry.

### 4.1 Functional Interoperability

Companies believe that given the technology and organizations that they already possess, there will be a deficiency in their systems' ability to communicate and use knowledge cohesively. Additionally, they believe that this ability to communicate and use knowledge will be limited.

It is quite evident that legacy procedures will need to be updated in order to make it possible to conduct business in a timelier manner, with better transparency, and with seamless cooperation and communication. fears always arise in response to change, and those fears need to be alleviated. It is also a fact that construction companies have a difficult time competing with other industries, such as the information technology industry, for the attention and loyalty of qualified technology workers.

These problems can be solved by forming a partnership with professionals to develop a well-planned deployment of the technology, distinct training methods, and expert advise on how to enhance process, along with handholding and assistance.

### 4.2 No Alteration in the Attitude of Stakeholders

There will constantly be a barrier to development in the form of institutional attitudes against adapting to new technologies. This is especially true in more conventional industries such as construction. This includes a reluctance to adopt new technology as a result of previous unfavorable experiences, traditionalism, an inability to comprehend the potential of the instrument, and an unwillingness to devote to sufficient implementation learning. In addition to this, workers are reluctant to "waste" the time they're being taught and to make changes to their schedule, which leads to a lower-than-optimal implementation of BIM on the job site.

To get through this obstacle, all of the relevant stakeholders need to have an understanding of how this technology has the ability to produce advancements in both their performance and the effect that their teams can provide.

The most effective way to move forward is to demonstrate in detail to the end-users immediately how the implementation of this technology would simplify and streamline their processes, and to involve them in the process even as they observe the change taking place. It is necessary to communicate clearly in order to answer all of their questions and propose effective answers to areas that are tough.

### 4.3 Difficulties in Legal Procedure

Concerns have been raised due to a shortage of awareness regarding the potential legal repercussions that may result from the utilization of new technology.

The truth of the matter is that the federal government is highly pro-actively supporting the implementation of investment. According to the findings of the tests, this technology has the potential to reduce costs for prospective and existing housing construction projects across the nation. The amount of time that needs to be spent on these projects can also be reduced with the help of this technology. The application of technology in a variety of construction projects carried out by the government, including the building of national highways, the development of airports and metro systems, and the refurbishment of trains, among other projects. The most iconic initiatives are now prioritizing effectiveness and efficiency. It is reasonable to anticipate that the technology will be around for the foreseeable future.

### 4.4 Implementation Expense

The additional expenses that will be incurred as a result of integrating new technologies are seen by many contractors as an unnecessary burden. This is as a result of the presumption that the costs of procurement, deployment, and training will be quite expensive. In order for businesses to overcome this mindset, they can learn how to harness technology to improve operational efficiency, hence lowering costs over time and increasing profits. Although there will be an initial financial outlay required to implement the technology, the cost reductions that result will quickly compensate for that.

It is essential to instill a sense of optimism regarding the long-term objective in order to effect behavioral shifts. Throughout the course of its history, software has been utilized to automate tasks, manage projects, and anticipate any problems well in

advance of their occurrence. All of this contributes to the creation of a construction that is of the highest possible standard in the shortest amount of time. If a company does not implement these technologies, it may slip behind its adversaries, which in the overall run could be extremely detrimental to the company.

### 4.5 Challenges Concerning Usage Innovation

People are concerned about attacks involving ransomware and details breaches that could contain information such as project blueprints, employee data, bid information, pricing of resources, financial transactions, and more. Create a plan that addresses the safety of software used for project management, internet collaboration instruments, mobile devices, banking apps, and more in order to reduce the risk of this happening. Improved this by training staff on the different cybersecurity actions they can take to secure data on their own.

Additionally, additional tactics such as running restricted pilots can assist in the process of driving familiarity. The incorporation of the innovation into the educational program at the university level will assist in overcoming a good number of these obstacles. This would assist in influencing behavior modifications and in the creation of recommendations at the national level. Developing a product library geared specifically toward Iraqi innovations is another helpful solution.

According to recent research, one method for persuading businesses to adopt a new technology would be to gather representatives from the government, various industries, and educational institutions around. Specialists from the industry are able to lead training courses. The government may do more to foster creative thinking inside proposals and reports. These actions will help ensure that this technology has the greatest possible impact and will contribute to the simplification of a great deal of the construction-related activities in Iraq.

## Author Statements:

- **Ethical approval:** The conducted research is not related to either human or animal use.
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