

# Investigating the Effects of Economic Crisis on Construction Projects in Iraq

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**Abstract.** Construction is a complex activity performed in an almost uncontrolled environment. Although, in theory, projects can be well planned in advance, there is a possibility that unexpected events and crises will disrupt these plans, which will affect the progress of projects. Construction companies can be easily affected by crises because the initial investment costs are very high in construction projects, which may lead to huge financial damages. One of the most prominent crises that Iraq faced was the financial crisis in 2014, which had a significant impact on various activities and the construction industry. This research aims to explore the most important causes of the economic crises in Iraq in general, investigate the impact of this crisis on the construction industry in Iraq particularly, explore the most important factors that contributed to the aggravation of the crisis in this area. Finally, explore the most important strategies adopted by higher authorities and construction companies during the economic recession that followed the crisis to mitigate its impact. One hundred fifty-one closed questionnaires were distributed for this purpose. The results showed that financial and administrative corruption is one of the most important causes of crises with (RII) 0.93. Also, 82% of the respondents answered that the projects had increased their duration significantly so that it was difficult to set a date for their completion due to the insolvency or inability of the Iraqi state to pay the financial dues to the contractors. This insolvency negatively impacted the construction industry during the crisis with RII (0.832).

**Keywords:** Economic crisis; economic recession; construction industry; crisis effects; cabinet resolution 374.

## Introduction

A crisis can be defined as an unexpected event facing the organization and representing a great threat to its high priority values, thus requiring a time-pressured response [1]. It also cannot be dealt with using normal routine procedures. A crisis can occur as a result of unexpected events and unexpected consequences as well. Moreover, it is described as a period of sudden change during which an entirely new system is formed [2]. Although crises share other features such as threat, suddenness, high uncertainty, urgency, stress and emotions, scarcity of information resources, and destructiveness, they also include opportunities if they are properly addressed [3,4].

The global economy faced a real financial crisis in 2009 called the global financial crisis that hit the financial and national markets through the so-called mortgage or bad loan crisis, and because of globalization, its impact quickly shifted to the economies of many countries. Nafday [5] indicated that the construction sector is one of the sectors most affected by this crisis and the recession that followed. Economic downturns affect the various stakeholders in construction projects, including employees, managers, partners, customers, suppliers, subcontractors, and society. Project financing is one of the essential elements in project management.

However, the difficulty in financing the project, the escalation of trade costs, the shrinking of the construction market, the narrow profit margins, and the fierce competition was among the most important challenges mentioned during the financial crisis [6]. In Greece, for example, the noticeable decrease in the demand for construction projects for the public and private sectors due to the crisis has increased competition, as the number of bidders per bid has doubled to two or three times, forced them to reduce their profit margins. Also, the deadly combination of successive non-profitable projects, incorrect management, and lack of liquidity is eventually the reason why many of its companies went bankrupt during the crisis years [7].

## The double crisis (economic and security) in Iraq

Iraq was exposed to two double crises, the first represented by the occupation of three of the largest Iraqi provinces by ISIS terrorist gangs in June 2014. The conflict with ISIS and the widespread insecurity have created major Humanitarian and Economic crises. The war against ISIS has caused the loss of more than 67,000 Iraqi civilians. It also resulted in massive displacement, psychological harm, and a rapid rise in the poverty rate, accompanied by internal displacement of up to 3 million people throughout Iraq [8].

The total damage was estimated by [9] at \$ 45.7 billion and needed reconstruction with a total value of 88.2 billion dollars. The Iraqi economy is one-sided, and this is due to the Iraqi economy’s dependence on oil revenues, which represent the main resource in financing the state’s general budget, which made the general budget responsive to external shocks characterized by fluctuations in oil prices. The data in the national development plan indicate that the oil sector is the dominant sector in generating GDP, as its percentage increased from 51.26% in 2010 to 55.1% in 2015. It also took first place in the forming federal budget revenues by 97% in 2013, but this percentage decreased to 85.9% in 2017 [10]. As a result, Iraq has suffered from a financial/economic crisis following the security crisis , represented in the collapse of oil prices in September 2014, where the price reached 36.1 dollars per barrel in 2016 after its price was 106 dollars per barrel in 2012 [11].

### Cabinet resolution 374

The exceptional circumstances mentioned above prompted the responsible authorities to take several decisions to address this difficult financial and security crisis on construction projects. Among the most prominent of these decisions was Resolution 374, or the so-called (Deferred payment mechanism and treatment of ongoing investment projects). This decision issued on August 17, 2015, provides for granting a complete suspension period for all contracts starting after the 30th day from the date of receiving the approved advance report and whose amounts cannot be paid by the contracting authorities. Also, Confirmation of contractors’ dues for completed works and unused and partially used materials and consideration of their receipt, calculation of their value, and release of insurance. Furthermore, Ongoing projects are dealt with as a whole, shown in Figure 1.

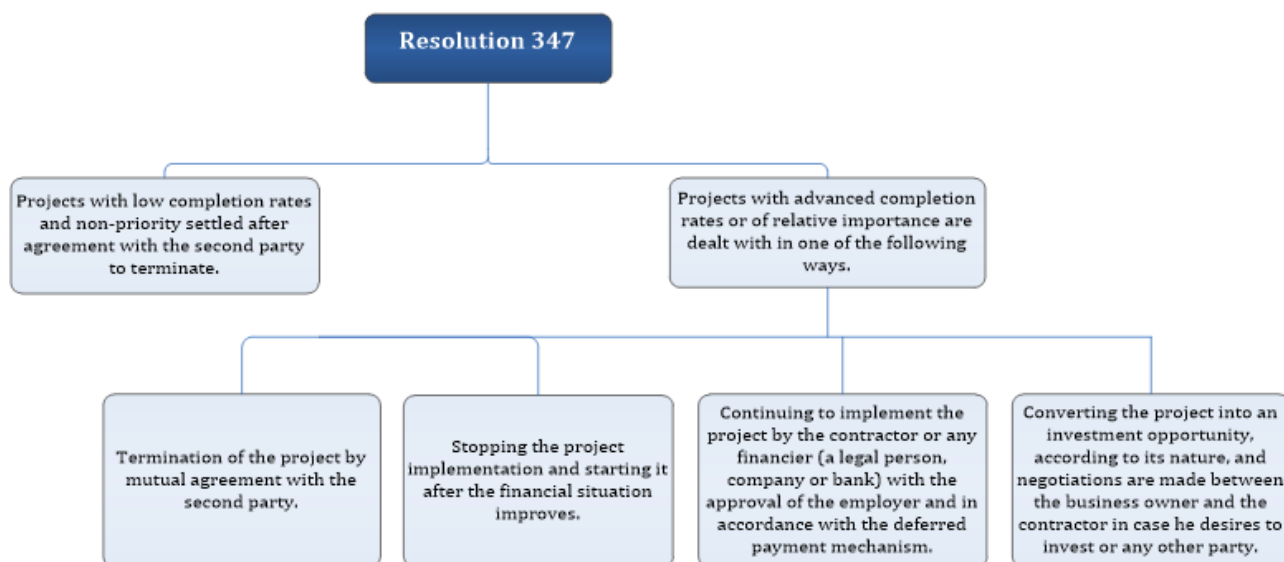


Figure 1. Clarification of resolution 347.

### Questionnaire

A closed questionnaire of four parts is designed and built based on literature review and expert interviews. The questionnaire was designed according to the five Likert scale and in proportion to each of its parts. Table 1 presents the objectives and structure of the questionnaire.

Table 1. Questionnaire structure.

Sec.	Objectives
Part 1	General information about respondents
Part 2	Determine the most important causes of the economic crises in Iraq
Part 3	The impact of economic crises on the construction industry in Iraq
3.1	Identify the impact of the economic crisis on the size and quantity of construction projects in Iraq for each of the years from 2011 to 2020
3.2	Determining the effects of the economic recession that followed the crisis for the period from 2015 to 2018 on the construction industry in Iraq
3.3	Determine the factors that had the largest negative impact or that contributed to the aggravation of the economic crisis (2014) on the construction industry in Iraq
Part 4	Response if the economic crisis affected the projects
4.1	Determine the actions taken by the concerned authorities (higher) in response to the economic crisis of 2014
4.2	Determine the actions taken by the construction companies to mitigate the impact of the economic recession of the construction industry and for the period (2015-2018)

**Sample Selection.** Determination of a suitable population that is relevant to this study is vital. Therefore, the survey relied on public sector engineers involved in building and construction activities, as shown in Table 2. 151 questionnaire forms were distributed by hand using separate questionnaire hard copies. One hundred sixteen distributed survey questionnaires were returned from the total distribution. On the other hand, 110 questionnaires are answered, where 6 of the returned questionnaires are considered disqualified due to wrong survey sample, blank, illegible, duplicated answers. The percentage of questionnaires returned and valid (94.82%) is considered Very Good for studies analysis purposes.

Table2 . Distributed, returned, valid, and invalid questionnaires forms.

Name of the surveyed body	D	R	R and V
Buildings Directorate	12	10	10
The Housing Directorate	15	11	10
Engineering Construction Office	5	5	5
Al-Mu'tasim State Company for Construction Contract	15	9	7
AL-Mansour Contracting Construction Company	15	11	11
AL_Rashid State Company for Construction Contracting	13	11	11
AL_Farouq State Construction Contracting Company	12	12	12
AL_Fao General Engineering Company	15	10	10
Saad State Company	11	11	10
Ashur state Construction Contracting Company	8	8	8
Hammurabi State Construction Contracts Company	12	3	3
The Ministry of Planning	10	9	9
The General Directorate of Sewage	8	6	4
Total	151	116	110
Valid percentage= (Total questionnaire returned and valid/Total questionnaire returned)*100			94.82%

### Mathematical and statistical methods used in the data analysis

The analysis was conducted by using both of Statistical Package for Social Sciences (SPSS) V26. The main purpose of using these programs is to measure descriptive statistics of the data gathered as Following:

**Validation and stability tests of questionnaire.** Before data analysis, a reliability test was performed to check the degree of internal consistency of the collected data from a questionnaire survey. Inner

consistency was measured through Cronbach’s coefficient alpha (C $\alpha$ ) by using Eq.1 [13]. The results showed that the range of Cronbach’s alpha coefficient of the current study is from 0.774 to 0.835, and for all items of the questionnaire is 0.880. These values indicate a good degree of reliability for the questionnaire.

$$\alpha = \frac{k}{k-1} \left( 1 - \frac{\sum_{i=1}^k \sigma^2 y_i}{\sigma^2 x} \right) \tag{1}$$

Where: K is the number of factors,  $\sigma^2 x$  is the variance of total scores for the respondents and  $\sigma^2 y_i$  is the variance of component i for the respondents.

**Arithmetic mean.** Equation 2 is used to calculate the arithmetic mean for answers [14].

$$AM = \frac{\sum(\text{Weight value for particular} * \text{number of frequencies})}{\text{Total number of the answers}} \tag{2}$$

**Relative importance index technique.** It is used to determine the relative importance of identifying and ranking the whole factors of the questionnaire. Where this indicator was adopted for the four parts of the questionnaire. Eq.3 is used in determining it [15].

$$RII = \sum \frac{W}{A N} = \frac{5n_5 + 4n_4 + 3n_3 + 2n_2 + 1n_1}{5 \times N} \tag{3}$$

Where W represents the weighting as assigned by each respondent on a scale of 1 to 5 while 1 implying the least and 5 the highest; A is the highest weight, and N is the total number of the sample.

## Results and Discussion

This part includes the Statistical analysis of the questionnaire form, which is divided into four sections.

**Part one analysis: general information about respondents.** This part shows the general information of the respondents in percentages, as shown in Table 3.

Table 3. General Information about respondents.

Academic Degree (%)						
Diploma	B.Sc	M.Sc	Ph.D			
2.70	85.50	8.20	3.60			
Engineering Specialization (%)						
Civil Eng.	Architecture	Mechanical	Electrical	Other		
66.33	5.49	16.38	9.09	2.70		
Years of Experience (%)						
6 to 10 years	11 to 15 years	16 to 20 years	> 20			
5.49	15.48	27.27	51.75			
Current Job Position (%)						
Assistant Eng.	Eng.	Senior Eng.	Assistant Chief Eng.	Chief Eng.	Senior Chief Eng.	Other
0.90	3.60	7.30	29.10	20.90	36.40	1.80

**Part two analysis: causes of the economic crises in Iraq.** This section is constructed in order to explore and investigate (but are not limited to) the most important causes of the economic crises in Iraq. Table 4 illustrates the main economic crisis causes' ranking according to its important relative index (RII). The analysis of the results showed that “financial and administrative corruption” had come at the top of the main cause as respondents have agreed on it with RII (0.93). It is not surprising that the respondents generally classify corruption as the main cause of the economic crises in Iraq, where the phenomenon of corruption has deepened and moved from a behavioral phenomenon linked to certain groups to an integrated and interconnected institutional structure that seeks to serve interests that hinder the development process in the country and turning corruption into a source of exhaustion

and waste of public money. According to the governance index of transparency international, Iraq has become among the top ten most corrupt in the world in 2015. Whereas, Iraq ranked (161, 166, 169, 168, 162, 160) for each of the years (2015, 2016, 2017, 2018, 2019, and 2020), respectively. This means that Iraq is still at the bottom of the list according to the Corruption Perceptions Index.

Table 4 . The most important causes of the economic crises in Iraq.

No	Causes of the economic crises in Iraq	RII	Rank
1.	The great waste of money due to rampant (financial and administrative corruption)	0.93	1
2.	The fluctuations in the price of crude oil	0.9	2
3.	Mismanagement of decision-makers or those in charge of the financial process (mismanagement of financial resources)	0.89	3
4.	The weak contribution of non-oil economic sectors such as (agriculture, industry, and tourism) to the gross domestic product and public revenues	0.878	4
5.	Unstable security situation (insecure environment) / terrorism	0.868	5
6.	Political instability (poor governance and policy implications)	0.85	6
7.	A financial budget in which the operational side excels the investment side	0.82	7
8.	Unbalanced spending and borrowing	0.816	8
9.	Inflation or job slack in government institutions	0.784	9
10.	Weak availability of a suitable investment climate (worsening investment climate)	0.764	10
11.	Social challenges such as (deterioration of the educational level, poverty, pollution and an increase in diseases)	0.73	11
12.	Weak tax administration and its system	0.67	12
13.	The fluctuation in the exchange rates of the Iraqi dinar against foreign currencies	0.5	13
14.	Inflation rate fluctuation	0.42	14
15.	Fluctuation in interest rates	0.39	15

### Part three analysis: the impact of economic crises on the construction industry in Iraq

**The impact of the economic crisis on the size and quantity of construction projects.** It is noticed from Figure 2 that the majority of respondents answered that for the period between 2011 to 2013, there was a negligible or small effect of the economic crisis on construction projects, with a total percentage of more than 70%. This is due to the stability of the economic situation in the country as a result of the high oil prices, which reached 102.3\$ per barrel in 2013. In addition to the stability of the security situation. Where the project managers interviewed indicated that the peak of work in these years was the result of the start of the implementation of a large number of projects and in most Iraqi governorates, and this is supported by the data of building and construction indicators published by [12], as the number of public sector projects in (2011) amounted to 8,518 projects. However, this number has decreased dramatically, reaching 537, 409, and 399 for the years 2016, 2017, and 2018, respectively. This is due to the dual crises (security and economic) that the country was exposed to. The respondents answered that the impact of these two crises on the size and quantity of construction projects was huge and started to rise until it reached its peak in 2015, 2016, and 2017, where the percentages reached 79.09%, 77.27%, and 68.18%, respectively. This huge impact decreased in 2018 to get 52.73% due to the resumption of projects implementation and the start of paying contractors' financial dues by the state. However, it rose again because of stopping the implementation of projects again as a result of the protests crises and the Corona pandemic crisis in 2019 and 2020.

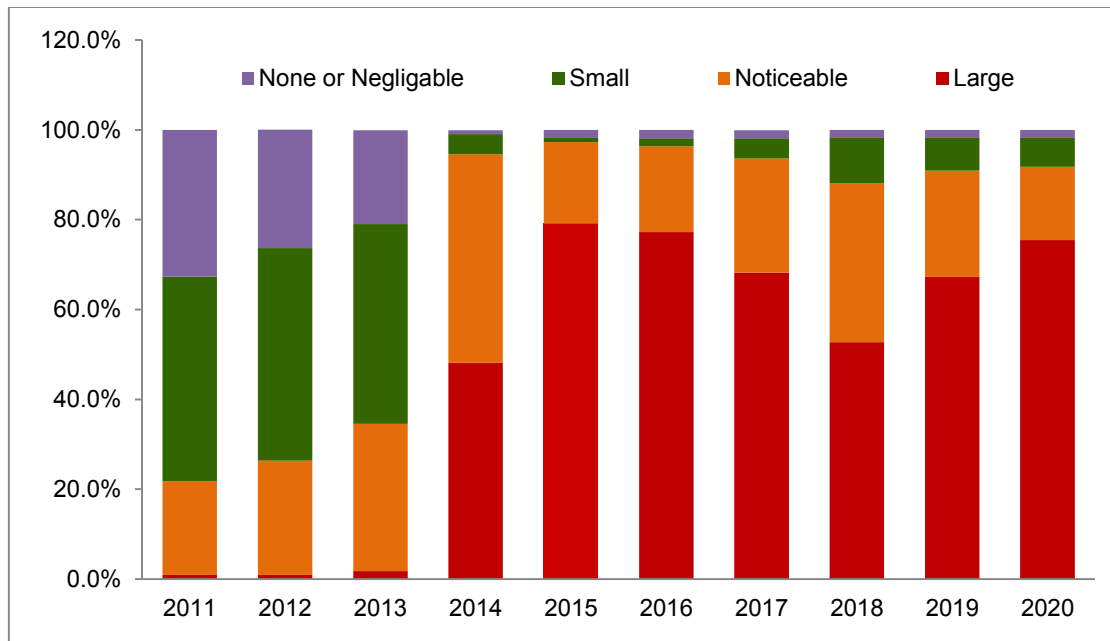


Figure 2. The impact of the economic crisis on Iraqi projects is based on the scale of the impact (based on the respondents' answer).

**Effects of 2014 economic crisis on the construction industry in Iraq.** This question listed the effects of the economic crisis (2014) and the ensuing economic recession between 2015 to 2018 on the construction industry in Iraq, Using the effects identified through personal interviews with experts. The results of the data analysis showed that 11 of the 27 factors had a (high) level of effect according to its relative importance index, as shown in Table 5. At the same time, the factor for the criterion of projects duration is occupied first place with an index of RII of (0.886) among all factors. This is due to the decisions related to granting a complete halt to the companies executing the projects for reasons related to the security situation and the lack of financial allocations to resume their implementation.

**Factors that contributed to the aggravation of the economic crisis.** Table 6 shows the results of this question, where the respondents believe that the factor that had the greatest negative impact on this industry was (Insolvency or inability of the Iraqi state to pay the contractors' financial dues) with RII (0.832). It was mainly driven or could be linked to the 4th factor (Reducing investment spending from the state's total public expenditures) with RII (0.762), whether in the housing, infrastructure, construction, and services sector.



Table 5. The Effects of the 2014 economic crisis on the construction industry in Iraq.

Effects Description	RII	Rank
<b>Materials and equipment</b>		
Recession or stagnation in the local market for building materials due to the decrease in demand for them	0.706	25
Decrease in prices of building materials in general due to the decrease in demand	0.626	27
Difficulty obtaining some local building materials due to the stopping of factories producing them in the governorates under the control of terrorist gangs, which forced the contractor to obtain them from other governorates or to use alternatives at higher prices	0.738	19
Loss or theft of some of the materials placed at work sites located in safe areas	0.69	26
The loss or theft of most of the machinery, equipment and materials placed on the work site, especially in the occupied areas	0.822	8
<b>Depreciations</b>		
The occurrence of depreciations in some items of the work carried out	0.822	9
Some building materials have become obsolete (depressions), which means that many of them cannot be used due to weather conditions or left for a long time	0.828	5
The technological obsolescence of some materials or equipment used in the projects, which caused the inability to use many of them due to the increase in the downtime	0.722	22
<b>Projects duration</b>		
Significant increase in project implementation periods due to the difficulty of determining a time for their completion, except with the availability of financial liquidity and thus delay in the completion and receipt of projects by the employer	0.886	1
<b>Projects cost</b>		
An increase in the costs of transporting some building materials due to the need to obtain them from other regions or governorates as a result of the terrorist groups controlling the factories producing them and located in the occupied governorates	0.766	16
Increasing the cost of projects at high and varying rates as a result of depreciations in the implemented works	0.782	14
An increase in the cost of projects when the implementation of the projects is resumed again as a result of a change in the prices of building materials in the local market.	0.75	17
Increasing the indirect costs of projects, such as wages of security guards (to ensure the preservation of the implemented works and the materials offered and protecting projects from abuse).	0.748	18
<b>Administrative aspects of construction companies</b>		
Lack of staff and competencies working in government construction companies due to the new laws or government decisions.	0.712	24
Weakness in the efficiency of the staff working in government construction companies due to failure to keep pace with development due to stopping the company's implementation of projects For quite some time.	0.728	21
Governmental construction companies face difficulty finding new job opportunities due to the heavy reliance on government support to provide them with job opportunities in implementing government projects.	0.832	3
Damage or depreciation of government construction companies' machinery and equipment due to leaving them for a long time and lack of financial liquidity to repair them.	0.786	13
Difficulties in developing government construction companies due to the lack of available financial liquidity.	0.808	10
High competition between the government company and private sector companies to obtain new job.	0.824	7
Competent contractors lose their confidence in the future market prospect.	0.806	11
Frequent disputes between contracting parties as a result of late payment of financial dues.	0.826	6
<b>Financial aspects of construction companies</b>		
The government construction companies face financial hardship, which is closer to bankruptcy.	0.796	12
A high rate of bankruptcy for construction companies operating in the private sector, in addition to the exacerbation of financial debts, which contributed to the exacerbation of social problems and psychological crises.	0.73	20
The crisis led to a decrease or narrowing in the profit margins of construction companies.	0.77	15
<b>Society in general</b>		
High unemployment rates	0.83	4
Migration of workers or competencies working in the construction sector, especially foreign ones.	0.722	23
Failure to complete strategic projects, i.e. infrastructure, in addition to increasing damage to existing infrastructure such as (sewage networks, roads, bridges, etc.) due to the stopping of expansion works or rehabilitation and maintenance projects for them, which led to an increase in the gap in the provision of planned services to citizens.	0.84	2

Table 6. Factors of negative impact on the construction projects during the economic crisis.

No	Factors Description	RII	Rank	Effect level
1.	Insolvency or inability of the Iraqi state to pay the contractors' financial dues	0.832	1	H
2.	Stopping the implementation of most construction projects in general by the government	0.81	2	H
3.	Poor management or incorrect previous planning of construction companies	0.8	3	H-M
4.	Reducing investment spending from the state's total public expenditures	0.762	4	H-M
5.	The slow issuance of decisions regarding the treatment of ongoing investment projects by the concerned authorities, such as (resolution 347 issued on 17/08/2015).	0.748	5	H-M
6.	The slow or deliberately slow down the implementation of the resolution by some of the beneficiaries (the employer) due to routine procedures	0.734	6	H-M
7.	The instructions issued by the concerned authorities regarding clarification of the of resolution items (347) are slow due to routine work procedures	0.732	7	HM
8.	Tightening in bank lending	0.664	8	HM
9.	Decline in building and construction activity in the private sector.	0.648	9	HM

**Part four analysis: response if the economic crisis affected the projects**

**Actions to mitigate the effects of the economic crisis on projects.** From Figure 3, the survey results revealed that one of the most essential actions that the project managers of higher authorities have focused on is “Reducing or canceling new projects” and with a relative importance index of (0.79). While the rest of the procedures followed were of relative importance, amounting to (0.68), (0.618), (0.586), and (0.57) for the second, third, fourth, and fifth procedures, respectively.

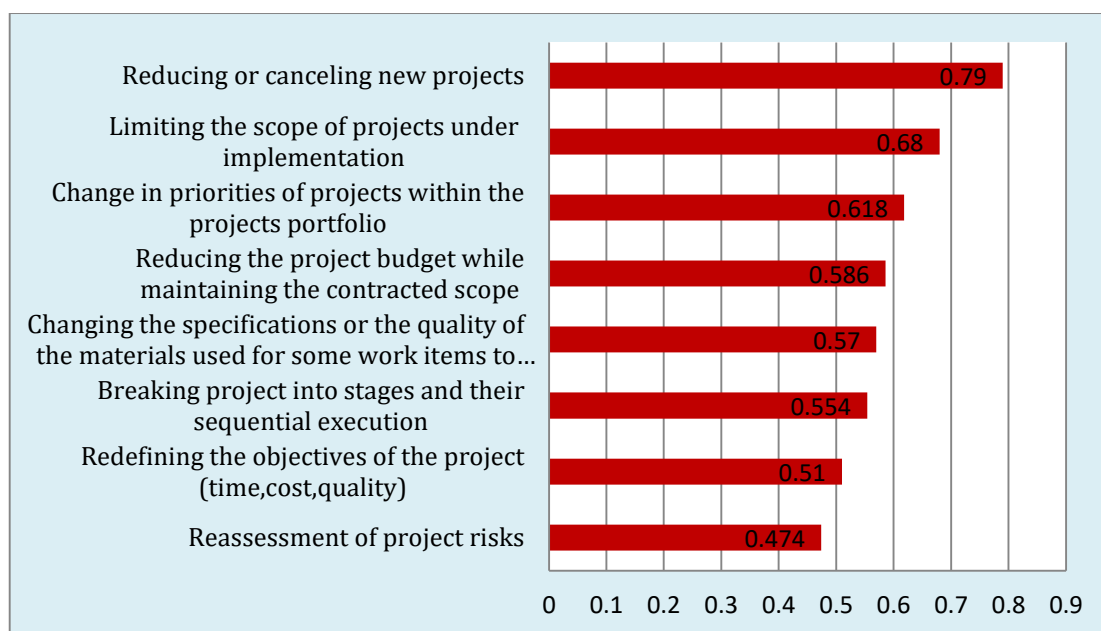


Figure 3. Response of Economic Crisis (The researcher, based on the respondents' answer).

**Actions taken by Iraqi construction companies for the period from 2015 to 2018.** 33 procedures are organized into eight categories, as shown in Table 7. Among all the actions, the first five actions that were emphasized were, Stopping or freezing the construction companies for (continuing) projects and starting them after the improvement of the financial situation; Freeze hiring of employees; Governmental construction companies' dependence on government support through grants provided by the state; concentrate of construction companies on their core business; Layoffs of temporary or redundant employees. While the relative importance index of these five factors was 0.788, 0.776, 0.75, 0.73, and 0.714.

Table 7. Construction companies take action during the economic recession.



No	Actions Description	RII	Rank
<b>Actions related to Resolution (347)</b>			
1.	The construction companies' termination of (ongoing) projects satisfactorily with the owner	0.67	2
2.	Stopping or freezing the construction companies for (continuing) projects and starting them after the improvement of the financial situation	0.788	1
<b>Actions related to project quality</b>			
3.	Reducing the quality requirements for construction projects	0.436	2
4.	Executing high-quality projects to enhance the company's reputation and win new projects	0.59	1
<b>Actions related to human resources</b>			
5.	Freeze hiring of employees	0.776	1
6.	Layoffs of temporary or redundant employees	0.714	2
7.	Upgrading/retraining staff skills	0.516	3
8.	Increase the working hours of the remaining employees	0.47	4
9.	Appointing more experienced employees / technical staff (engineers) from abroad.	0.33	5
<b>Actions related to cost control</b>			
10.	Freezing salaries/bonuses / overtime for employees	0.628	3
11.	Implementing stricter site management to reduce material wastage	0.588	4
12.	Implementing stricter financial management on company cash flow	0.66	2
13.	Implementing stricter procurement procedures	0.67	1
<b>Actions related to finance</b>			
14.	Governmental construction companies' dependence on government support through grants provided by the state.	0.75	1
15.	The construction companies operating in the private sector are forced to sell surplus assets to reduce or repay debts and secure cash.	0.64	2
16.	The dependence of construction companies on their surplus funds or those accruing to them from investment projects or through investment in the company's assets.	0.612	3
17.	Renegotiate loan arrangements	0.554	4
<b>Actions related to contracting</b>			
18.	Concentrate of construction companies on their core business (expertise)	0.73	2
19.	Construction companies implement smaller projects	0.62	5
20.	Bidding for more projects that are within the firm's resources and capabilities	0.672	3
21.	Construction companies had forced to set a tiny/zero profit margin when bidding for some projects to win bids	0.738	1
22.	Forming Joint ventures with other contractors	0.662	4
23.	Acquiring projects from stalled or bankrupt companies	0.504	6
24.	Shifting to other construction fields with growth potential.	0.438	7
<b>Actions related to reorganization</b>			
25.	Closing down some regional branches of the company/merging units and departments.	0.586	1
26.	Change in the higher management of the company.	0.542	2
<b>Actions related to innovation</b>			
27.	Changing the company's brand image	0.33	5
28.	Investing in R&D to further explore business opportunities	0.402	2
29.	Innovative methods of project management	0.39	3
30.	Implementing a new business model or plan, such as a crisis management plan	0.45	1
31.	Introducing sustainability initiatives	0.372	4

## Conclusions

- The results showed that Iraq is still suffering from the spread of financial and administrative corruption with RII (0.93) despite the strategies announced and used in the fight against corruption by the regulatory agencies and integrity agencies. The fluctuation in oil prices, which represents the main resource in financing the state's general budget, ranked second with RII (0.9). Other reasons that have been reached to it are the weak contribution of the non-oil economic sectors such as (agriculture, industry, and tourism) in the formation of the gross domestic product. Also, the massive waste of funds and their spending in contrast to the budget is due to decision-

makers' mismanagement of financial resources. Moreover, the security instability and the unsafe environment in the country.

- The effects of the economic crisis of 2014 on the construction industry were wide-ranging, of which they were classified into seven categories included (Materials and equipment, Depreciation, Projects duration, Projects cost, Administrative aspects, and financial aspects of construction companies and society in general). The results related to the criterion (society in general) showed that the failure to complete strategic projects and the increased damage to the existing infrastructure due to the suspension of its rehabilitation and maintenance projects. In addition to the high unemployment rates, have achieved the 2<sup>nd</sup> and 4<sup>th</sup> positions among all the factors of influence. This indicates the importance of the construction sector and shows the extent of the damage that the recession can cause in this sector. This is natural because the construction industry usually provides great job opportunities, and its stagnation leads to the compulsion of companies, especially those operating in the private sector, to lay off their employees because any halt in the implementation of public sector projects affects the private sector because they are closely related together.
- The higher authorities have adopted procedures that have primarily focused on reducing the number or canceling new projects; secondly, limiting the scope of projects under implementation. Thirdly, arranging projects according to priority within the project portfolio. However, the re-assessment of project risks was not among the procedures that were focused on by the top management in spite of its great importance.
- The companies preferred (Suspending or freezing projects and starting them after the improvement in the financial situation) with the highest RII (0.788), and did not prefer to continue implementing projects by relying on their financing or by a second party for several reasons, including the existence of financial dues that have not been paid. Also, they did not prefer to take risks due to the ambiguous conditions of the country at that time and the loss of their confidence in the future market prospect. It also focused on freezing the hiring of employees with RII (0.776). This is due to many companies' belief that it is easier to reduce costs by layoff a handful of employees rather than generating additional revenues. Furthermore, the results showed that government companies have relied on government support through grants provided by the state without focusing on financial or administrative innovations. This is due to several reasons, including the succession of inefficient and corrupt administrations and the control of the ministries over administrative decisions in these companies, which created difficulty in finding new job opportunities or even competition with the efficient private sector.

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