

THE MOST IMPORTANT FACTORS THAT AFFECT RISK MANAGEMENT IN CONSTRUCTION PROJECTS (SCHOOL BUILDINGS) IN NAJAF GOVERNORATE

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ABSTRACT

In recent times, risk management has received great attention because of its impact on the development of countries. In our research, a number of risks were included according to scientific books, previous research, and specialists and they were arranged within a questionnaire, which included (15) questions distributed among (32) specialists. The data were entered into the statistical program (SPSS) and Cronbach's alpha tax was obtained with a value of (0.633), which is an acceptable value to indicate the acceptance of the credibility and stability of the results. The results of the recurring tables also showed the factor (weakness of the implementing companies) of the most dangerous factors in the management of school building projects, where the number of supporters of its seriousness was (27) people out of (32) and the highest percentage reached (84.4%), then came the factor (political conditions of the country). In the second place, where the number of supporters of the seriousness of this factor reached (24) respondents, with a percentage of up to (75.1%), while the rest of the factors came after it with different percentages. The researcher recommended the need to choose efficient companies, the need to activate the role of quality control to control the materials used in construction, the need to conduct soil investigations based on solid laboratories, as well as electronic archiving of the risks of previous projects to benefit from them in other similar projects. In conclusion, a number of relevant researches were proposed, including (the most important factors that affect the quality of construction works and ways to reduce them, the reasons that lead to an increase in the cost of the construction project).

Keywords: Risks, Construction Project, Risk Management, School Buildings.

INTRODUCTION

Recently, risk management has received great attention from the responsible authorities because of its great impact on the development of countries. The activities of construction projects are numerous and have great changeability, so there is a difficulty in predicting the outputs of each event, and consequently the difficulty of estimating the outputs of the facility in general. The construction project, from its inception as an idea until its delivery to the beneficiaries, contains several inputs in each of its stages, especially in the implementation phase, knowing that these inputs are many and varying, so it is difficult to predict the final output of the construction project. Based on the foregoing, there are many risks in the implementation of construction projects that require researchers to focus on those risks and how to manage them and reduce their risk.

The Aim of the Research

The research aims to know the most important risks related to school building projects, study those risks and develop appropriate solutions to reduce them. The construction project is based on three elements (specification, cost, time).

In each of the above elements, risks are included as an essential factor that cannot be ignored or overlooked, and therefore the risks may lead to the end of the construction project with poor specifications and high cost and delay in the completion of the project.

Research problem

Since construction projects have become the main criterion for the development of countries, the competition has become to find the best ways to reach the approach and the means that must be followed to manage risks to reduce or avoid them. Likewise in Iraq, the focus on expanding conducting solid research based on studies, scientific books and the opinions of experts is very weak, also the delay in projects, the increase in costs over the main estimated amounts, the decline in the level of implementation, the weakness of engineering and administrative cadres and skilled and unskilled labor cadres, the weakness of the management of institutions and companies construction and thus will have a negative impact on the project management. All this prompted us to pay attention to conducting an extensive study based on the foundations of credibility and stability to reach results that can be used in construction projects.

Research Hypothesis

Finding an appropriate method of work in order to develop a strategy to manage the risks to which school building projects are exposed in the Najaf Governorate. This strategy aims to identify and study risks through segmentation and analysis of these problems and during the workflow stages of building projects.

Research questions

- What are the most important risks that hinder construction projects (school buildings)?
- What are the methods used for the purpose of segmenting and analyzing the most important risks and ways to avoid those risks?

Risk Management

Renuka et al. (2014) explained that there is a relationship between uncertainty and risk. Uncertainty is a risk that cannot be measured, while risk is uncertainty, but it can be measured and predicted. Renuka defined risks as not being negative in all circumstances, they may be positive, but over the periods the thinking of researchers and those interested in the issue of project risks drifted to the negative side only. Knew Abazid & Harb (2018) that the main objective of risk management is to evaluate the success of the construction project in all its directions and aspects. Adeleke et al. (2016) also indicated that the risks in construction projects are so many due to the large number of its clauses and the participation of many parties in the construction and construction work from contractors, employers, beneficiaries and consultants. The techniques used in risk management are still not of the required size, as it was found

Akinbile et al. (2018) that the best and most appropriate way to manage risks is by using brainstorming to identify the most important risks facing the project in the future, but not all techniques are suitable for all circumstances and for all projects, where there are conditions for other projects that are consistent with intelligence techniques. Artificial ones tend to probabilistic analysis and other techniques.

Sample Studies in Some Countries

In general, there are well-known and clearly visible risks that can be expected in most construction projects. At the same time, there are risks that are difficult to predict, as they are related to the economic, social, environmental and political situation of the project incubator area. In any case, he dealt with those studies and got to know the most important results they reached, as they give indications of the type and size of the risk that the project may be exposed to in our country. Based on the foregoing, we will discuss several studies conducted in different countries and their results.

Iqbal et al. (2015) conducted a study for the purpose of knowing the risks facing the water organization, and he identified the objectives of his research with a number of questions, including knowing the most important risks facing the organization and how to manage it and determining the authority that undertakes that management. He reached the following results.

- Weakness of specialized cadres such as engineers and skilled workers, in addition to the large number of tasks assigned to them.
- Deliberate red tape in state institutions, which led to delaying the completion of projects and consequently the difficulty of facing market price fluctuations and other problems.
- Replacing the members and heads of the organization constantly during the course of implementing the paragraphs, and this causes confusion at work.

Serpella et al. (2014) defined the risks as all that negatively affect the project, starting from the initial study and ending with the benefit phase of the project. Each of the risk factors has been subjected to validity and reliability by experts and specialists, and the following conclusions have been reached.

- All partners in the project have sufficient experience to manage risks, but they did not rely on prior plans prepared for this purpose, but rather relied on solving problems simultaneously.
- Problems of designs and schemes and the lack of time in completing those schemes.
- Inadequate study of cases of market inflation that used to occur repeatedly and at different times.

Research Methodology

The methodology of conducting the research depends on two important aspects:

- Theoretical aspect: It is intended to collect information of interest to our research from reliable sources, by relying on interviews, collecting qualitative information, giving the numerical value to the worker, and dealing with accurate quantitative bases.
- The practical aspect: here was based on a questionnaire containing (15) workers and in which there are five spectra (strongly agreed, somewhat agreed, neutral, neither agreed to some extent nor strongly agreed) and the questionnaire was distributed to (32) specialists in the field of construction and they are :-
 A- Project managers.
 b- Building and construction engineers.
 c- Electrical engineers.

D- contractors.

C- Employers.

This means that the practical aspect, or what is called the stage of distributing the questionnaire and obtaining answers by specialists, is called the quantitative aspect, i.e. giving a quantitative description of the situation, describing it and giving it the quantitative feature spoken, not a number (Ramlee & Berma, 2013).

Questionnaire Test

Each question of the questionnaire must be subject to two main elements Szymanski (2017).

Honesty: When the questionnaire is finally completed by collecting data through scientific books and research conducted in other countries and regions related to our research and sitting with specialists from technicians, engineers, contractors, employers and consultants, then the questionnaire will be submitted to a committee of experts for the purpose of giving their opinions on the questions asked. It was raised, and in many cases a major change is made in the questionnaire by deleting paragraphs and creating other paragraphs. As a result, we will have a validated questionnaire in terms of honesty.

Stability: After completing the first stage (the honesty stage), the stability stage comes, and this means, that the final questions of the questionnaire, in which honesty is achieved, are they stable or not? Of course, if the question gives the same result every time, this means that stability is achieved and vice versa. If the answers are different, this means that this question cannot be adopted because stability is not achieved. In this case, the stages of honesty and stability must be repeated for the same question until stability is achieved. In our research, and based on the statistical program (SPSS), the Facronbach's Alpha tax is considered as a tool for measuring stability and the extent of internal consistency between the paragraphs of the questionnaire with each other, as well as showing the extent of internal consistency between the paragraphs of the total resolution (Uzuegbu et al., 2018).

Research Community

After reviewing the information obtained regarding school building projects, the parties that responded to the questionnaire were identified, as they were supervising engineers in the field of school construction, contractors, officials and decision-makers. We have decided that the comprehensive survey of the research is right, since the research community is confined to limited spaces and it is possible to obtain the answers completely. As the number of construction projects that faced implementation risks is more than (30) projects, and the number of contractors implementing those projects is more than (10) contractors. The supervising engineers and decision-makers who have been keeping pace with the work in the recent period within the direct and indirect supervision of the projects have been counted and used in order to conduct a full study and obtain answers in an integrated manner, and their number is more than (15) people.

Search Tool Scale

Five spectra were adopted (strongly agreed, somewhat agreed, neutral, disagree to some extent, strongly disagree) and these five spectra were adopted to measure the impact of each

factor in the questionnaire that was prepared in advance on the construction project (school building projects) and measure the severity of each Worker on school building projects. A weight was given for each spectrum according to the table 1 below:

Value	Spectrum	Interpretation
1	Strongly disagree	The factor is not influential in managing the risks facing the construction project
2	I don't quite agree	The factor has little effect in managing the risks facing the construction project
3	Neutral	The factor has an impact on managing the risks facing the construction project
4	I totally agree	The factor has a very big impact in managing the risks facing the construction project
5	Strongly agree	The factor has the most impact in managing the risks facing the construction project

Preparing a questionnaire for the risks of school building projects

As we mentioned earlier, each stage of the construction project life cycle contains several risks that differ in their impact on the project completion stages. A questionnaire was prepared containing (15) questions, and the questionnaire was presented to (32) specialists in the field of supervision and implementation (school building projects).

Statistical Program (SPSS)

The Statistical Program (SPSS) is one of the most popular analysis programs for projects that depend on the questionnaire. It is possible to know the factors that are of great importance by the respondents to the survey, and the factors that are of less importance. Likewise, it is possible to know the extent of the strength of the correlation between the factors and the effect of each factor on the other factor. Also, through the Cronbach's alpha tax scale, the reliability of the risk factors is known, meaning that the results will be very similar in the same circumstances with different time. As the results obtained from the distributed questionnaires were entered into the statistical program for the purpose of converting those quantitative answers into qualitative answers with numbers. Thus, the higher the degree, the greater the risk of the worker on the project and had a greater impact, and vice versa, the lower the degree (the weight of the worker) had an impact (Alasadi et al., 2021). And less risk. The statistical program (spss) is the best statistical program for extracting numbers and processing data for research that depends on questionnaires. For the purpose of answering the questions related to the research, it is necessary to know the arithmetic mean, standard deviation, and others (in questions whose answer is numeric) and frequency tables (in questions whose answer is in writing). Also, through this program, the extent of the impact of each risk factor will be known by arranging them within the program based on the data table 2 entered and according to the following equation (Mahendra et al., 2013).

$$\text{Extent Effect } (E.E)(\%) = \sum d(f / F) \times 100 / 5$$

- (E.E): the extent of the effect
- (d): the weight of each spectrum

- (f): Frequency of the answer for the participants in the questionnaire.
- (F): the number of respondents in the overall survey

Analyze Results Using Frequency Tables

Workplace

	Frequency	Percent	Valid Percent	Cumulative Percent
Directorate of Education	16	50	50	50
Construction Authority Department	5	15.6	15.6	65.6
implementation companies	4	12.5	12.5	78.1
other institutions	7	21.9	21.9	100
Total	32	100	100	-

The above Table 2 shows that the respondents to the questionnaire that were prepared amounted to (16) persons from the education sector, i.e. a percentage (50%) of the respondents, who numbered (32) persons. Factors, segmentation and analysis of those factors in risk management for school building projects. The number of respondents from the Construction Authority was (5) people, or (15.6%), the number of respondents from the implementing companies was (4) people, or (12.5%), and the number of respondents from other agencies was (7) people, at a rate of (21.9%).

Scientific Level

	Frequency	Percent	Valid Percent	Cumulative Percent
BA	17	53.1	53.1	53.1
Master's	11	34.4	34.4	87.5
PHD	4	12.5	12.5	100
Total	32	100	100	

The above Table 3 shows that the number of respondents who hold a bachelor's degree is (17) people, at a rate of (53.1%), and the number of those who hold a master's degree is (11) person, at a rate of (34.4%), and the number of doctorate degree holders is (4), at a rate of (12.5%). This means that the percentage of holders of bachelor's and master's degrees reached (87.5%) of the total percentage of the number of respondents to the questionnaire

Experience

	Frequency	Percent	Valid Percent	Cumulative Percent
less than 10 years	11	34.4	34.4	34.4
Between 10-15 years	7	21.9	21.9	56.3
Between 15-20 years old	12	37.5	37.5	93.8
More than 20 years	2	6.3	6.3	100
Total	32	100	100	

The above Table 4 shows that the respondents to the questionnaire, whose experience ranged between (10-15) years, (7) persons, at a rate of (21.9%). The number of people whose field experience (more than 20 years) exceeds only two, while there are (11) people whose field experience does not exceed (10 years). From the above table, there are (21) people with a rate of (65.7%) who have a very large field experience of more than 10 years, and perhaps up to 25 years for two of them (Abraham & Schmukler, 2017)

Questionnaire Results

The Disparity in the Properties and Strength of the Project Soil

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	2	6.3	6.3	6.3
I don't quite agree	4	12.5	12.5	18.8
neutral	3	9.4	9.4	28.1
I totally agree	8	25	25	53.1
Strongly agree	15	46.9	46.9	100
Total	32	100	100	

The above Table 5 shows the results obtained regarding the first factor of the construction project risk factors (the disparity in the properties and strength of the soil of the project). The results showed that there are (15) people who agreed strongly and said that this factor is very influential and poses a threat to the management of the construction project, with a percentage of (46.9%), which is a very large percentage. This was confirmed by the respondents that the problems and nature of the soil on which the project is based vary in its characteristics and durability, and this factor must be managed carefully and with high planning so as not to cause catastrophic problems in the future. Note that there are (8) people who agreed somewhat with the seriousness of this factor, and therefore the total of those who agreed on the risk factor of variation in the properties and strength of the soil amounted to (23) people out of (32) people, at a rate of (71.9%). It is almost one of the most dangerous factors affecting the construction project management in school building projects.

Difficulty accessing the work site

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	11	34.4	34.4	34.4
I don't quite agree	6	18.8	18.8	53.1
Neutral	8	25	25	78.1
I totally agree	1	3.1	3.1	81.3
Strongly agree	6	18.8	18.8	100
Total	32	100	100	

The above Table 6 shows the extent of the impact of the second factor of the construction project risk factors (school buildings), where there are (11) people and a percentage of (34.4%) did not agree strongly with the difficulty of accessing the work site, and there were (6) people (18.8%) who did not agree somewhat. There are (17) people out of (32) people who do not find it difficult to access the site and consider it very easy to reach the work site. While there are (7) people (21.9%) who have difficulty accessing the work site.

Force Majeure Circumstances Beyond the Control of the Parties

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	1	3.1	3.1	3.1
I don't quite agree	5	15.6	15.6	18.8
neutral	7	21.9	21.9	40.6
I totally agree	11	34.4	34.4	75
Strongly agree	8	25	25	100
Total	32	100	100	

In the above Table 7, which includes the results of the third factor, there are 19 respondents with a rate of (59.4%) who agreed that there are force majeure circumstances that are beyond the control of the parties involved in the implementation and supervision and the beneficiary parties and pose a great danger to the course of managing the work of the construction project. Note that there is (1) person (3.1%) who did not agree on the existence of force majeure circumstances, which is a very weak percentage. Note that there are (7) respondents and a rate of (21.9%) were neutral. From the foregoing, this factor is considered one of the influencing factors that should make the studied plans to reduce its danger and to identify the most important reasons for its activity (Obaid, 2011).

Poor Performance of Companies

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	1	3.1	3.1	3.1
I don't quite agree	5	15.6	15.6	18.8
Neutral	7	21.9	21.9	40.6
I totally agree	11	34.4	34.4	75
Strongly agree	8	25	25	100
Total	32	100	100	

In the above Table 8, the results showed that there are (15) respondents and a rate of (46.9%) fully agreed that the weakness of the executing companies is one of the dangerous factors facing the construction project. Also, there are (12) respondents with a percentage of (37.5%) who somewhat agreed on the danger of this factor, and therefore there are (27) respondents out of (32) respondents, and with a percentage of up to (84.4%) they confirmed the seriousness of the weakness of the implementing companies. This is a very dangerous factor due to the confirmed high rate of its seriousness.

Poor Building Materials

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	9.4	9.4	9.4
I don't quite agree	2	6.3	6.3	15.6
Neutral	5	15.6	15.6	31.3
I totally agree	7	21.9	21.9	53.1
Strongly agree	15	46.9	46.9	100
Total	32	100	100	

The above Table 9 shows that (15) respondents, at a rate of (46.9%), which is a very high percentage, confirmed that the materials involved in the implementation were not at the required level. As the poor quality of building materials is one of the dangerous factors facing the construction project management. Note that the results showed (7) people who agree to some extent with the poor quality of building materials involved in the implementation of projects, and therefore the total respondents amounted to (22) people, with a percentage of up to (68.8%). Out of (32) respondents, they had the final word about the seriousness of this factor. Also, there are (3) respondents and (2) respondents who did not confirm its seriousness (Zainy & Mohammed, 2021).

Lack of Experience among Supervisory and Implementation Engineers

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	9.4	9.4	9.4
I don't quite agree	5	15.6	15.6	25
Neutral	11	34.4	34.4	59.4
I totally agree	4	12.5	12.5	71.9
Strongly agree	9	28.1	28.1	100
Total	32	100	100	

The above Table 10 shows that there are (11) respondents and a percentage of (34.4%) were neutral in their answer. And there are (8) people (25%) who did not agree with its seriousness. Also, there are (13) respondents (40.6%) who answered that there is a lack of experience and expertise among the supervision and implementation engineers, and this constitutes a danger to the construction project management.

Poor Implementation of Instructions Issued by Higher Authorities

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	3	9.4	9.4	9.4
I don't quite agree	8	25	25	34.4
neutral	4	12.5	12.5	46.9
I totally agree	12	37.5	37.5	84.4
Strongly agree	5	15.6	15.6	100
Total	32	100	100	

The above Table 11 shows that the number of respondents and somewhat in agreement with the weak application of instructions issued by the higher authorities amounted to (12) respondents, at a rate of (37.5%). Likewise, the number of respondents who agreed with this factor amounted to (5) people, at a rate of (15.6%). As a result, the total of those who fully agreed and agreed. Somewhat with the danger of weak application of the instructions issued by the higher authorities amounted to (17) respondents, and the total percentage amounted to (53.1%), which is a large percentage that must be focused on and the most important details that affect the activation and control of the application of the instructions issued by the higher authorities. Note that there are (8) respondents at a rate of (25%) and there are (3) respondents with a percentage of (9.4%) who did not agree with the seriousness of this factor.

The Rise in The Prices of Construction Materials

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	5	15.6	15.6	15.6
I don't quite agree	6	18.8	18.8	34.4
Neutral	5	15.6	15.6	50
I totally agree	6	18.8	18.8	68.8
Strongly agree	10	31.3	31.3	100
Total	32	100	100	

From the above Table 12, it became clear that this factor has a great danger to the management of the construction project (school buildings), as there are (10) respondents and their percentage was (31.3%) who agreed completely that this factor has risks in the progress of the construction work. Also, there are (6) persons with a percentage of (18.8%) who somewhat agreed with the seriousness of this factor. Note that the respondents, who numbered (11) people and their percentage was (34.4%), did not confirm the seriousness of this factor and considered it normal and expected during the work progress stages.

Frequent Mistakes in Structural Designs

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	6	18.8	18.8	18.8
I don't quite agree	7	21.9	21.9	40.6
neutral	4	12.5	12.5	53.1
I totally agree	4	12.5	12.5	65.6
Strongly agree	11	34.4	34.4	100
Total	32	100	100	-

We note in Table 13. that there are (11) respondents with a percentage of (34.4%) who answered with total support, with the presence of repeated mistakes in the construction plans, and this in turn poses a great danger to the management of the construction project, as well as there are only (4) people and (12.5%) who answered with their consent To a certain degree, there is a danger to this factor. Note that there are (13) respondents and their percentage was (40.6%) who did not care about such a factor and considered it normal in the urban plans and it would be repeated without risks to the construction project.

Official Holidays and Many Occasions

	Frequency	Percent	Valid Percent	Cumulative Percent
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Strongly disagree	6	18.8	18.8	18.8
I don't quite agree	3	9.4	9.4	28.1
Neutral	9	28.1	28.1	56.3
I totally agree	4	12.5	12.5	68.8
Strongly agree	10	31.3	31.3	100
Total	32	100	100	

The above Table 14 shows that there are (10) respondents, and their percentage was (31.3%) who confirmed that the factor of official holidays and the large number of occasions poses a danger to the management of the construction project, while there are (4) people with a percentage of (12.5%) who answered in agreement to some extent with the seriousness of this. Thus, there are (14) respondents out of (32) respondents to the questionnaire, and their total percentage reaches (43.8%) have confirmed the danger of this factor to the management of school building projects. On the other hand, there are (9) people with a percentage of (28.1%) who were neutral with this factor for many related reasons. And there are (9) people also, the total of those who did not fully agree and who did not agree somewhat with the seriousness of this factor, with a percentage of up to (28.1%)

Project Site not Configured

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	5	15.6	15.6	15.6
I don't quite agree	5	15.6	15.6	31.3
Neutral	8	25	25	56.3
I totally agree	7	21.9	21.9	78.1
Strongly agree	7	21.9	21.9	100
Total	32	100	100	

The above Table 15 indicated that there are (7) respondents, with a percentage of (21.9%), who confirmed that the failure to prepare the project site poses a threat to the progress of the construction work, and sometimes this factor may lead to the cancellation of the contract and consequently the cancellation of the project. On the other hand, the same number of respondents above agreed to some extent with the seriousness of this factor. At the same time, there are (5) respondents and their percentage (15.6%) did not agree with this factor completely, also there is the same number and percentage did not agree somewhat with the severity of the factor mentioned above. Noting that there are (8) respondents and at a rate of (25%) they were neutral with the seriousness of the aforementioned factor.

Geographical Location of the Project

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	2	6.3	6.3	6.3
I don't quite agree	6	18.8	18.8	25
Neutral	5	15.6	15.6	40.6
I totally agree	14	43.8	43.8	84.4
Strongly agree	5	15.6	15.6	100
Total	32	100	100	

The above Table 16 shows that there are (14) respondents, and their percentage was (43.8%) who agreed somewhat that the geographical location of the project poses a great danger to the workflow of the construction project, and the same is true that (5) people (15.6%) totally agreed with the seriousness of this The factor, as a result, there were (19) respondents and a percentage of (59.4%) were with the seriousness of this factor. Note that the above table showed that the number of people who did not confirm the danger of the mentioned factor was (8) out of the total number of (32) respondents, with a percentage of up to (25%).

Weak Manpower (Skilled and Unskilled)

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	2	6.3	6.3	6.3
I don't quite agree	5	15.6	15.6	21.9
neutral	6	18.8	18.8	40.6
I totally agree	8	25	25	65.6
Strongly agree	11	34.4	34.4	100
Total	32	100	100	

The above Table 17 shows that the respondents on the seriousness of this factor in the management of the construction project in total reached (11) with a percentage of up to (34.4%). Respondent out of (32) people and a rate of (59.4%), which is a large percentage and shows the seriousness of this factor in the construction work of school buildings.

Delaying Starting of the Work Site

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	7	21.9	21.9	21.9
I don't quite agree	6	18.8	18.8	40.6

neutral	1	3.1	3.1	43.8
I totally agree	6	18.8	18.8	62.5
Strongly agree	12	37.5	37.5	100
Total	32	100	100	

The above Table 18 shows that there are (12) respondents and a percentage of (37.5%), which is a large percentage, have fully confirmed that the delay factor in starting the work site is considered one of the very dangerous factors in school building management projects, if we combine the above number with people who somewhat agree with the seriousness of this The worker, the number will be (18) people, and a rate of (56.3%) confirmed that this factor is very dangerous to the management of school building projects. As the delay in initiating work will deprive the people of the neighboring areas from benefiting from the project at the specified time. Also, there will be a discrepancy in the prices of construction materials and the prices of labor in the event of a delay in starting work.

The Country's Political Situation

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	2	6.3	6.3	6.3
I don't quite agree	2	6.3	6.3	12.5
neutral	4	12.5	12.5	25
I totally agree	10	31.3	31.3	56.3
Strongly agree	14	43.8	43.8	100
Total	32	100	100	

The above Table 19 shows the seriousness of the country's political situation to the management of school building projects, as (14) respondents to the questionnaire and a rate of (43.8%), which is a very large percentage, stressed the seriousness of this factor. We will have (24) respondents and a percentage of up to (75.1%), which is the highest percentage if compared to the rest of the percentages of other factors, so we conclude that the factor of the political situation of the country is considered a key factor in the progress of school building projects.

Sequence	Risk Factor	Impact Extent (Impact Strength) (%)
1	The disparity in the properties and strength of the project soil	66.87
2	Difficulty accessing the work site	21.25
3	Force majeure circumstances beyond the control of the parties	52.5
4	Poor performance of companies	84.17
5	poor building materials	64.37

6	Lack of experience among supervisory and implementation engineers	38.125
7	Poor implementation of instructions issued by higher authorities	45.625
8	The rise in the prices of construction materials	46.25
9	Frequent mistakes in structural designs	44.375
10	Official holidays and many occasions	41.25
11	Project site not configured	39.375
12	Geographical location of the project	50.625
13	Weak manpower (skilled and unskilled)	54.375
14	Delaying the start of the work site	52.5
15	The country's political situation	68.75

In the third chapter, a value was given to each spectrum of the questionnaire, and after entering the data into the statistical program (SPSS) the results were shown (frequency Table 20). A spectrum from the five spectrums (strongly agreed, somewhat agreed, neutral, disagree to some extent, strongly disagree). For example, the spectrum of a factor (the political situation of the country) for each spectrum there is a percentage. For example, a spectrum (strongly agreed) got a percentage (15%) and a spectrum (agree To some extent) he got a percentage (17%), the two percentages will be combined. The summary of the above table will be summing the two highest percentages of the spectrums (strongly agree, agree to some extent) and (disagree severely, disagree to some extent) and take the highest percentage, which means the most dangerous factor.

The results in the above Table 20 showed that the percentage (value of the risk factor) for the factor (weakness of the implementing companies) for the two spectrum (strongly agreed, agreed to some extent) had a percentage (84.17%), which is the highest percentage and the most influential and dangerous of the rest of the other factors on the progress of projects School buildings. In the fifth rank comes the worker (double the labor force (skilled and unskilled)), with a percentage of (54.375%). In the sixth rank comes the workers (force majeure circumstances outside the control of the joint parties, delays in starting the work site) with a rate of (52.5%). As for the seventh place, the factor (the geographical location of the project) comes with a rate of (50.625%). While in the eighth place comes the factor (the increase in the prices of construction materials) by up to (46.25%). As for the ninth rank, comes the factor (double implementation of the instructions issued by the higher authorities) with a rate of (45.625%). As for the tenth rank, comes the factor (repeated errors in structural designs), with a rate of (44.375%). As for the eleventh rank, the factor (official holidays and frequent occasions) comes with a rate of (41.25%). The factor (the lack of preparation of the project site) comes in the twelfth place with a rate of (39.375%). In the thirteenth place comes a factor (lack of experience among supervisory and implementation engineers) with a rate of (38.125%). It ranked last in terms of the impact and danger on the construction project management (school building projects, with a factor of (difficulty reaching the work site) with a percentage of (21.25%).

RESULTS

Summary of the Results of the Frequency Tables

The results of the research showed the most dangerous factors affecting the management of construction projects (school building projects) in Najaf Governorate, where the results indicated that the factor (weakness of the implementing companies) is considered one of the most dangerous factors in the management of school building projects, as the number of supporters of its danger was (27) person out of (32) with the highest percentage reaching (84.4%), then the factor (the country's political situation) came in second place, as the number of supporters of the danger of this factor reached (24) respondents, with a percentage of up to (75.1%), also in third place was From the share of the factor (the discrepancy in the properties and strength of the soil of the project) with a number of (23) respondents, at a rate of (71.9%), while in the fourth place came the factor (poor building materials) with a percentage of up to (68.8%). As for the rest of the factors, they came later and in different proportions.

Risk Factor Values Summary

The results obtained from the statistical analysis program (SPSS) showed that based on the equation (which was mentioned at the end of the third chapter), a value was given to each spectrum of the questionnaire.) of the total of the two spectral ratios (strongly agree, agree to some extent) is one of the most dangerous factors and influence on the management of the construction project (school building projects). The factor (the country's political situation) ranks second in terms of its severity, with a percentage of (68.75%). As for the factor (the discrepancy in the properties and strength of the soil of the project), it ranked third with a rate of (66.87%). Then comes the factor (poor building materials) in the fourth place, with a rate of (64.37%).

CONCLUSION

The study that was conducted recommends that it is necessary to select the efficient executing companies that have suitable similar works and not necessarily select the companies on the basis of the lowest bids, as it is very likely that the results will be counterproductive and thus the occurrence of such projects. Therefore, the optimal choice of companies implemented on a correct basis and a well-thought-out plan will contribute to reducing the risk of managing school building projects.

The study that was conducted urges activating the role of all organizations and parties that have an influence on the political decision to take their role in converging political views and avoiding disharmony among them, which leads to delaying the formation of governments and consequently delaying the approval of the budget and as a result there will be an impact on school building projects.

The study that was conducted urges the necessity of electronic archiving of risks, reviewing them from time to time, and benefiting from them in similar work or other similar circumstances.

SUGGESTED RECOMMENDATIONS FOR FUTURE RESEARCH

The study recommends intensifying efforts and focusing on this subject and conducting other studies and research on the same subject and in other separate places so that we can know more risk factors and know the most important of those factors to take precautionary measures and precautions to avoid or reduce them. It is also necessary to mention some important topics close to the topic of our research, including:-

- The most important factors that affect the quality of construction works and ways to reduce them.
- Time management skill during the implementation of the construction project.
- The reasons that lead to an increase in the cost of the construction project.
- The skill of managing the links between the parties involved in the construction project.
- Reasons for the success of construction projects and ways to activate those factors to achieve the project's goals

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