

# **CHAPTER ONE**

## **INTRODUCTION**

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## introduction:

### **1-1-General veiw:-**

Human knew the risk that since God created resort to various means to counter the risks, and urged all human religions on the face of the risks and management, and in the Koran full evidence of risk management. In the story of the prophet peace be upon him observe how risks are managed. To manage the risks great importance of the face, the permanent human endeavor to use modern scientific methods to address those risks, and that research is a permanent and continuous in order to find ways and means to cope with the new risks that human faces because of scientific and technological progress has risk emerged were not exist before because of the use of modern machinery and equipment.

The use of corn, either in peace or war led to the emergence of new risks man did not know. The Organization study of risk analysis began after the fire, which occurred in the American Apollo spacecraft in January 1967 and claimed the lives of three astronauts was space agency NASA before this incident based on the practical experience of the engineers, quality assurance and control. In April 1969m formed body is working to create benchmarks for safety during space flight so that the safety factor by 95% and that the risk of death is higher than or injured astronauts about 1%, and we find that dealing with the risks considered this land has absolute truths are not dealt with it describes the standards and prospects degree of risk. now put NASA analysis software for quantitative risk to support the safety during the stages of design and implementation of space flight.

In the nuclear energy sector, near the end of the fifties study in 1957 showed m focused on several scenarios for the leakage of nuclear radiation from the reactor within 30 miles of gathering center a population could not probability that radiation leakage account at that time; but pursue improvements to the design of nuclear reactors to reduce the likelihood of catastrophic radiation

leak, and the desire to find out how much and how much effect these improvements on the nuclear reactors that eventually led to the emergence of what is now known as "analysis of the probability of the risk" and was the first application of this method by nuclear Safety Commission and published in 1975m. (Nuclear Regulatory Commission) by the analysis but Annaly risk or the so-called quantitative analysis of the risk currently applied in many sectors such as transportation, buildings, energy, chemical reactions, space, and the area of Military and even in the planning and financing of projects, which is used in the regulatory framework by the competent authorities It also sometimes applied to verify the safety factors or to confirm the need for more precautions during project implementation. And perform risk analysis in these areas to find solutions to help the decision-maker to manage these risks and control mechanisms, (Risk assessment and risk management K 26/1).

## **1-2 Risk Definitions:-**

**Risk:** Unknown factor or event that has the potential for, and if it happens a negative impact in at least one goal of the project's objectives of scheduling and cost, quality and safety ( Artto, Kähkönen, 2005).

Through the study process to explain the types of these risks or we identify more accurately As follows:

- Some of the risks are considered a simple vanish does not affect of the project progress.
- some risks develop to turn into a problem that has dimensions and must mode plan to fix it fast.
- Asmall percentage of risk may turn into crises ridden the project completely,(Risk assessment and risk management K 26/1).

The objective of study of risk management is to ensure that the third type can be completely fades When it is good planning by the Risk Management.

**Uncertainty:** an event or factor can not be determined precisely, but it has the potential for, and can not be accurately predicted the result, because of the scarcity of information about what will happen in the future and when the impact and extent (AL-Bahar and Crandall ;).

**Opportunity:** Event happen is uncertain, but it is supportive to accomplish the goals in case it happens (AL-Bahar and Crandall ;).

**Risk management:-** Systematic process throughout the project life cycle, aims to identify and analyze the risks, and then respond to them to get the maximum score or accepted to be removed or controlled and tuned ( AL-Bahar and Crandall;).

### **1-2-1 Why management of risk is important?**

A certain amount of risk taking is inevitable if your organization is to achieve its objective.

Effective management of risk helps you to improve performance by contributing to:

- Increased certainty and fewer surprises
- Better service delivery.
- More effective management of change.
- More efficient use of resource.
- Better management at all levels through improved decision making.
- Reduce waste and fraud, and better value for money .
- Innovation.
- Management of contingent and maintenance activities.

Together these elements can be summed up in the statement that adoption of well managed risk taking is likely to lead to sustainable improvements in service delivery ,organization need in place the skills ,management structures and organizational .

Structures to take advantage of potential opportunities to perform better and to reduce the possibility of failure.

### **1-2-2 Why help is needed to manage risk?**

Management of risk is critical to organizational success. Informed risk-takin helps to improve performance through innovative approaches for managing the business service.

Delivery and value for money .thus we need to improve the implementation of risk management practices.

### **1-3 Problems Statement:-**

Risk management in construction projects today is an important field in the fields of construction and mastering skills of planning and control and scheduling of the project has become vital to its success, since the business environment characterized by dynamic and rapid change, many surprises and risk is taken into account stand out suddenly, leading to stagger the project and block the implementation of or perhaps completely collapse . Failure full knowledge of the party responsible administrative process analysis and response and control and good pre-planning may have lead to the collapse of the project.

Can be summarized as the most important research problems are as follows:

- Lack of recognition of the importance of risk management in sudan .
- Absence of clear methodology to identify and assess risk .
- Poor assessment and inadequate response to the identified risks that could jeopardise the construction process.

### **1-4 Objectives:-**

- Determine of the risks that cause the parties to the project in the occurrence and effective ways to manage these risks in the context of cooperation between the parties to the project.
- Defining the risk management process in construction projects.
- Developing the risk management methodology in order to guide the project safely and efficiently.
- Determine the extent of the understanding and application of risk management by relevant parties in Khartoum State.
- Proactive responsiveness and sound decision making to reduce or militate against the identified risks.

- Distinguish between luck good management and the bad luck and bad management.
- Reduce the ever-increasing disputes in the construction industry about the party responsible for risk tolerance.

### **1-5 Study scope:-**

The limits of this study lies in the temporal framework with the beginning of the idea of the project and to the end, taking into account the age of maintenance. But in terms of the spatial framework, it is limited spatially construction companies in the state of Khartoum.

### **1-6 Methodology:-**

Researcher relied on the use of approaching specialized project management in the local environment of the limits research that have cases of practical process that can benefit from this research to support the theoretical aspect of the works to promote the study of these practical cases to give this theoretical framework for greater support with the importance of the subject and the need to put the issue to their importance everyone working in project management. The study also relied on direct interviews with experts in the field of engineering in Khartoum of consultants and engineers, architects and construction companies academics.

The researcher designed a questionnaire for field study in order to distribute it to the experts to take their opinions in the above-mentioned problem of the research on the construction industry.

The researcher interviewed the target sample was randomly selected to larger understanding of the target sample answers and explain any ambiguity in the questionnaire.

research method to include the following aspects: -

- Define a strategy and research design.
- Sample selection.
- A review of the literature.

- Study and learn about the theories and planning stages of the process etc.
- Gather information and that a survey and a questionnaire based on the circumstances of companies in the construction industry in Khartoum.
- Analyze and discuss the information collected orphaned and then access to the Conclusions and Recommendations