**Risk Management and project profiling**

Research proposed by

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**Abstract**

the risk is viewed as one of the most important vital problems affecting projects effectively. Therefore, we must understand and know the definition of the word risk in a scientific way because of the increase in risk changes into a problem. For all projects are exposed to risks, it is possible through scientific study to codify the types of these risks or define them more accurately Some of the risks are secondary, fade away, and do not change project development

The Darnel Preston Complexity Index (DPCI) is designed to improve project customs that reflect different aspects of the project from that of management and project implementation strategy. DPCI is built on four categories of attributes

**Keywords**: - risk , risk classification ,project profiling

**1.1introduction**

If we go back to the story of Joseph and the King of Egypt, you will find that the - peace is upon him - discovered the dangers that will happen tomorrow. So make a strategic plan for it to put the wheat in the bomb so that it remains over time and does not spoil, but does it make sense for the solution to be fixed simply without mapping, analyzing, and assessing the risks?(زيدان, 2012)

 In the nuclear energy sector, near the end of the fifties, a study appeared in the year 1957 AD, which centered on several scenarios of nuclear emission leakage from a reactor operating 30 miles from a population center and could not calculate the possibility of this radiation leak at that time; However, changes in the design of the nuclear reactor continued to reduce the possibility of a radiation leak disaster, and it was the desire to know how much and how much these improvements would affect the nuclear reactor that ultimately led to the emergence of what is now known as "potential risk analysis" and the first application of this method was by the safety authority Al-Nawawi was published in the year 1975 AD by. (Nuclear Regulatory Commission)(Benz, 2012)

**1.2 Important of researcher**

Any risks are supposed minor and do not affect the project Some of the risks evolve into a problem with dimensions that provide a plan for a speedy repair A small corner of the risks turn into crises that may affect the project The importance of the research came to know all the risks that beset the project

**1.3 Objective of researcher**

Work to prevent the event of danger, and follow the best means to protect the facility and its employees from potential material losses, and educate workers on how to properly perform their work to prevent the occurrence of the danger. Work to reduce the effects of the risk if it occurs, to ensure the continuation of the facility in Its work. Setting policies and practical procedures that guarantee facing any danger to reduce the hurts resulting from the danger, if it happens.

 **Risk management1.4**

It is a process of mapping and evaluating risks and developing strategies to succeed them. These strategies include transferring risks to another entity, avoiding them, minimizing their negative impacts, and accepting some or all of their results.

It can also be defined as an administrative activity that points to control risks and reduce them to adequate levels , More precisely, it is the process of identifying, measuring, controlling and reducing risks allowing a business or organization(Berg, 2010)

**1.5 risk**

It is a link between the probability of an accident and its outcomes

**1.6 Identify the risks**

* Objective-based identification: - The companies and teams working on a project all have goals, so any experience that exposes the achievement of these goals to risk, in part or in full, is deemed dangerous(Wong, 2007)
* scenario-based identification: - In the scenario analysis process, different scenarios are created that may be alternative ways to achieve a goal or an analysis of the interaction between forces in a market or battle, so any event that generates a scenario that is different from what was envisioned and undesirable is defined as Danger.(O'Brien & Meadows, 2013)
* Classification-based identification: It is a breakdown of all possible sources of risk
* Common risk review: - In many situations, there are lists of potential risk



 **Risk Management1.7**

The risk management process performs a complete and detailed review and analysis of all types of risks that may be exposed to the subject of the study of the risk

1. Planning: The skipping of the risk management process, mapping the scope of work, the basis, and standards in which it depends, as well as fixing a structure for the process and a program for analysis(Amland, 2000)
2. Definition of risks: - There are several methods that can be used to define risks, but during the application, more than one means of combining with one another is used to get to know the greatest amount of risks that may be changed by the work being analysed.(Amland, 2000)
* Opinions of experts
* Split the plan
* Foundation analysis
* Opinion of decisions
* Trade ideas
1. Risk analysis: - A risk analysis is done in several ways, and the most relevant ones are applied according to the project for which the study is conducted, and the mildest and most general method is

**1.8 Risk classification(Quinn & Hilmer, 1994)**

* Amazing external risks: These are risks that are outside the control of the manager or company and are not Expected at all
* Expected and unconfirmed external risks: These are the risks that are required to happen but do not know to what extent they will affect the project
* Internal technical risks: - that emerge from technology to work in the project, from designing or building the project, or designing the final output
* Internal non-technical risks: - It is caused by the lack of good control from the managers responsible for the project, i.e. management check at the work level, and those in management of this part must make a greater effort to reach the required results.
* Legal risks: - It falls below civil and illegal law
* Explain the risks
* Risk assessment
* Risk assessment: - It is the identification of the two risk factors through
* The effects of each danger
* The risk of every risk
* Providing risk and communication papers
* Control and address risks: By determining which methods are used to reduce the risk and its effects.(Heagney, 2016)
* Automatic monitoring and follow-up: - It is done to explore any new sources of risk or failure to control previous risks

**1.9 Project Profiling**

is the process of extracting a description from a project's known resources. This description will provide a complete understanding of the project, which should lead to proper development, appropriate implementation, and allocation of organizational resources(Atkinson, Crawford, & Ward, 2006)

A profiling project is a process that reviews what is known about project properties and places the project in a category with other projects that have similar features. For example, you can define a project as a large project or a small project. The size of the project becomes a profiling feature. The project can be described as local or global, and the project site becomes a feature of profiling.

**1.10 Working example(Darnall & Preston, 2010)**

A company that has twenty projects may decide that four of these projects cost more than $ 1 million, and the remaining 16 projects are estimated to cost much less. The company decided to consider all projects estimated to cost more than one million dollars as a major project. The company has placed a rule that large projects require a scheme manager with at least five years of action, and he will have an executive producer and will require a quarterly official report. In this example, one feature is used to develop an organization's project management approach for its twenty projects

Project Profiling Models: It means defining different ways to change projects

Aaron J. Shenhar and Dov Dvir have developed a physical classification or stereotyping for engineering projects that reflect two dimensions:

* The first dimension is a technological risk: it ranged from low technology, medium technology, and high technology to high technology. Although the projects involve the use of various levels of technology, Shinhar and Dvir set standards for each type of technological possibility that enabled the project's diversity.
* The second dimension is the scope of the system. The scope of the system ranged from aggregation projects that deal with building a single component, to system projects that introduced interactive elements, to a group of projects that included a wide measure of interactive systems and subsystems.

Among the increase in project technology, project managers have become more invested in technical case management processes such as redesign and trial.

With an increase in the scope of the system, project managers have become more invested in informal planning and oversight. Example: Project managers will use the project risk management system when technological change is important.

Robert Ucker identified four main variances in types of projects, level of operator development, level Details in planning, the novelty of the technology, and time pressure.

Euchre also identified other characteristics that help in project defining such as project size, duration, industrial sector, geographical location, number of workers, cost, complexity, and organizational design as features that help define the project method.

#### **1.11 Complex systems and the Darnel-Preston Complexity Index**

Transistors in a computer have three connections to other computer parts, but every nerve cell in the social brain can be connected to thousands of other cells in the brain, which is why the human brain is more complex than the computer.(Darnall & Preston, 2010; Heagney, 2016)

So the complexity is an allowed connection. The project is more or less complex depending on the number of projects, the type, and depth of relationships with other project activities, and the degree and type of relationships in the project background.

**1.11.1Daniel-Preston Complexity Index**

Correct project modeling requires a relatively easy-to-use system, but this includes enough points to identify the most important characteristics of a complex project.

 The Darnel-Preston Complexity Index achieves this goal by grouping eleven features into four broad categories: internal features, external features, technological finesse, and environmental characteristics

1. External features. Environmental features that are present initially such as size, term, and available resources.
2. Internal features. Clarity of project objectives, clarity of scope, organization and complexity, and stakeholder agreement
3. Technological complexity. Technology novelty and familiarity of team features with technology
4. Environmental characteristics. Legal, cultural, political, and others

**Conclusions**

Any risks develop into a problem that has dimensions, and a plan to quickly fix them must be developedA small percentage of the risks turn into crises that may affect the project The risk control study aims to emphasize the three type, as it can fade completely when it is well planned by risk management

The Darnel Preston Complexity Index (DPCI) is designed to develop project stereotypes that reflect different aspects of the project from that of direction and project implementation approach. DPCI is built on four categories of properties

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