

Chapter Three

Identification of the Research Problem

3.1 Introduction

Delay has negative effects on different aspects of a project, including time, quality, cost and safety. In the projects with long-term delays, the plan lose its economic justification, which may cause terminated projects, if the executor was private sector or decrease quality and safety to prevent more financial loses, if the executor was public sector. Negative effects of delay in projects include legal problems between employer, contractor and consultant; decrease of productivity and revenue; unfinished projects (21)

3.2 Effects of Construction Delays

chart (3.1) explain the effect of delay

- Acceleration
- Schedule Change - Inefficiency
- Delayed project completion
- Missed intermediate
- Completion dates
- Liquidated Damages
- Frustration – claims
- Increased Costs



Effects of delay in construction projects

Chart (3.1) Effect of delay

These effects have to immediately be studied in order to discover how to solve them before they affect the whole project. Commonly, there are main clear reasons in which cause them and therefore lead to the delay, and here the researcher will explain in details the extent of each.(3)

Impact of delay:

During the study, some major impacts caused by the delay were found:

Increase in project costs.

Increase market risk.

Overall efficiency decreases.

Increased labor work hours -(decreasing the safety of individuals).

Delay in production.

Decrease in customer's faith and trust.

Delay in local or regional development.

Increased land acquisition costs.

Increased material cost.

Increased stress to overall team.(3)

3.3 Common factors that cause delay:

Let's take look at the most common causes of construction delays.as shown in chart (3.2)

3.3.1 Client Driven Delays

- Possible changes to initial design
- Unforeseen financial trouble
- Slow to make decisions
- Unclear about their ultimate goals and desires

3.3.2 Contractor Delays

- Overbooked on other jobs
- Poor management skills
- Poor communication
- Shortfall in number of subcontractors

3.3.3 External Consultant Delays

- Architect, engineer or other consultant
- Timely delivery of project information
- Build-ability of design

- Difficulty in communication
- Priority on construction time
- Priority to other projects

3.3.4 External Factors

- Weather
- Restrictive regulations
- Public works delays (water, gas, sewer hook-ups, etc)
- Bank influence

3.3.5 Project Conditions

- Function of end use (office, residential, etc...) and the additional restrictions that come with
- Complexity
- Location
- Access
- Power availability

(19)



Eight main delay causes (Delay factors) in the Dungquat refinery project of Vietnam

Chart (3.2) Causes of delay

3.4 The questionnaire flow chart

The questionnaire divided into six part as shown in chart (3.3)

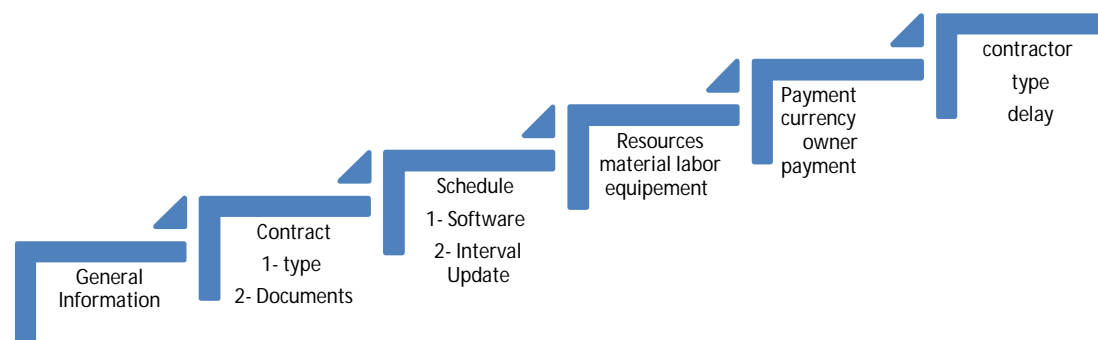


Chart (3.3) The Questionnaire flow chart

The eight hypotheses, early mentioned, are included in different parts of the questionnaire, as following:

First one which is the Project integration management ensuring that the various project elements are effectively coordinated, is shown in the first part of the questionnaire.

Number two, which is the Project scope and document management ensuring that all the work required (and only the required works) is included in the contract from the beginning, is shown in part two of the questionnaire.

Number three, which is the Project time management and effective project schedule, realistic according to availability of the resources and regular suitable update, is shown in part three.

The fourth one, which is project cost management to identify needed resources and maintaining budget control, timely payments and the currency's availability is shown in part five.

The fifth one, which is Project quality management to ensure functional requirements are met, and types of material most used, is shown in part four.

Hypothesis six regarding the human resources management to develop and effectively employ project personnel is shown also in part four.

The seventh, which is the Project communications management to ensure effective internal and external communications, is shown in part four.

The final hypothesis, Project risk management to analyze and mitigate potential risks, and how the decision depends on scientific method, is shown in part six.

In the coming chapter the four objectives of the research are studied in the questionnaire's analysis.

The research's objectives are demonstrated in the questionnaire as following:

The first objective of creating new alternatives from the beginning to clear the responsibilities of delay is shown in part two of the questionnaire. Objective number two, identifying the major causes of delays of building construction projects in Sudan is shown in all parts of the questionnaire. The third objective identifying the perceptions of the three main parties regarding the causes of delays and to suggest possible ways of eradicating or minimizing them was given an opinion paragraph in the sixth part. Finally the tools of time controlling and improving it to be more effective technique, which is the fourth objective is demonstrated in the third part of the questionnaire.

The steps that the researcher has followed in establishing the questionnaire started with first studying well the main reasons that cause the delay in general, and from previous studies, then placing them in headways to discover all the related sides for each. For example:

The researcher chose the contract as headway and tried to discover the elements in it that may cause the delay. Elements such as contract type, contract documents, liquidated damages and so on.

The researcher proposed that the sequence of questions should be based on their importance. Questions at the beginning of the questionnaire were designed to check that the right person is being interviewed, and to filter those respondents with a peripheral interest in the subject with a special collection of questions; screening questions, designed

separately under 'Recruitment questionnaire' used solely to find suitable respondents before properly administering the questionnaire. Questions flow easily from one to another and this helps if they are grouped into topics which follow a logical sequence, collecting respondent's thoughts in a sensible and orderly way. In the body of the questionnaire itself, the questions follow an obvious path and so help the thinking process of respondents. This invariably means moving from the general to the particular; from open ended questions to closed questions; from unprompted to prompted questions. Questions are divided into six sections every section contains all the issues related to construction work. The gathering of related questions in one section with logical order throughout the questionnaire is meant to enable people to easily answer and welcome it.

3.5 Questionnaire advantages and disadvantages

3.5.1 The advantages of questionnaires

1. Practical.
2. Large amounts of information can be collected from a large number of people in a short period of time and in a relatively cost effective way.
3. Can be carried out by the researcher or by any number of people with limited affect to its validity and reliability.
4. The results of the questionnaires can usually be quickly and easily quantified by either a researcher or through the use of a software package.
5. Can be analyzed more 'scientifically' and objectively than other forms of research.

6. When data has been quantified, it can be used to compare and contrast other research and may be used to measure change.
7. Positivists believe that quantitative data can be used to create new theories and / or test existing hypotheses.

3.5.2 The disadvantages of questionnaires

1. Is argued to be inadequate to understand some forms of information - i.e. changes of emotions, behavior, feelings etc.
2. Phenomenologist state that quantitative research is simply an artificial creation by the researcher, as it is asking only a limited amount of information without explanation.
3. Lacks validity.
4. There is no way to tell how truthful a respondent is being.
5. There is no way of telling how much thought a respondent has put in.
6. The respondent may be forgetful or not thinking within the full context of the situation.
7. People may read differently into each question and therefore reply based on their own interpretation of the question - i.e. what is 'good' to someone may be 'poor' to someone else, therefore there is a level of subjectivity that is not acknowledged.
8. There is a level of researcher imposition, meaning that when developing the questionnaire, the researcher is making their own decisions and assumptions as to what is and is not important...therefore they may be missing something that is of importance.(11)