Mismanagement Reasons of the Projects Execution Phase

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ABSTRACT

The execution phase of the project is most dangerous and the most drain on the resources during project life cycle, therefore, its need to monitor and control by specialists to exceeded obstructions and achieve the project goals. The study aims to detect the actual reasons behind mismanagement of the execution phase. The study begins with theoretical part, where it deals with the concepts of project, project selection, project management, and project processes. Field part consists of three techniques: 1- brainstorming, 2- open interviews with experts and 3- designed questionnaire (with 49 reason. These reasons result from brainstorming and interviewing with experts.), in order to find the real reasons behind mismanagement of the execution phase. The most important reasons which are negatively impact on management of the execution phase that proven by the study were (Inability of company to meet project requirements because it's specialized and / or large project, Multiple sources of decision and overlap in powers, Inadequate planning, Inaccurate estimation of cost, Delayed cash flows by owners, Poor performance of project manager, inefficient decision making process, and the Negative impact of people in the project area). Finally, submitting a set of recommendations which will contribute to overcome the obstructions of successful management of the execution phase.

Key words: execution phase, project mismanagement, brainstorming.

أسباب سوء الادارة في مرحلة تنفيذ المشاريع

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الخلاصة

تعتبر مرحلة تنفيذ المشروع هي المرحلة الاخطر والاكثر استنزافا للموارد خلال دورة حياة المشروع، لذلك فهي تحتاج الى مراقبة وسيطرة دقيقة يقوم بها اصحاب الاختصاص من اجل تجاوز العقبات وتحقيق اهداف المشروع. إن الهدف من الدراسة هو لبحث وايجاد الاسباب الحقيقية وراء سوء ادارة المشروع في مرحلة التنفيذ. بدأ البحث بالدراسة النظرية وإستطلاع ادبيات الموضوع. بعد ذلك بدأت الدراسة الميدانية والتي استندت على استخدام ثلاثة تقنيات معتمدة وهي: 1- العصف الذهني، 2- المقابلات المفتوحة مع الخبراء، و 3- تصميم استبيان (يحتوي على 49 سببا تم استنباطها من العصف الذهني والمقابلات مع الخبراء)من اجل إيجاد الاسباب الحقيقية المؤدية إلى سوء إدارة المشروع في مرحلة التنفيذ. اثبتت الدراسة ان الاسباب التالية هي الاكثر تأثيرا على ادارة مرحلة التنفيذ: (عدم قدرة الشركة على تلبية متطلبات المشروع لكونه من المشاريع التخصصية و/ او الكبيرة، تعدد مصادر القرار والتداخل في الصلاحيات، ضعف التخطيط للمشروع، عدم دقة تخمين الكلفة، تأخر صرف مستحقات المقاول من قبل صاحب العمل، ضعف اداء مدير المشروع ،ضعف عملية اتخاذ القررا، والتأثير السلبي لسكان منطقة المشروع). واخيرا تقديم مجموعة من التوصيات ستسهم في تجاوز معرقلات الادارة الناجحة لمرحلة التنفيذ.

1. INTRODUCTION

After 2003, Iraq has got a high income and this have encouraged the successive governments to adopt a quick and ambitious programs for reconstruction, either by establish new projects for public infrastructure or by developing the old facilities which are necessary to grow needs of all sectors. Unfortunately, there are many problems in reconstruction programs because improvisatory and unplanned. Therefore, they do not achieve their goals. The selection of an appropriate project for implementation and provide the necessary financial allocations in addition to proper management, all of which are required to achieve a success project.

2. CONSTRUCTION PROJECT

Construction projects are complex, time-consuming undertakings. The development of a project typically consists of several stages requiring a diverse range of specialized services. To some extent each project is unique-no two jobs are ever exactly the same, **Sears, et al., 2008.**
The construction project goal is to build something. What differentiates the industry of construction from other industries is that its project is large, built on –site, and generally unique, **Gould, 1997.**
The major characteristics of a project are as follows:

1- An established objective.
2- A defined life span with a beginning and an end.
3- Usually, the involvement of several departments and professionals.
4- Typically, doing something that has never been done before.
5- Specific time, cost, and performance requirements, **Larson,** and **Gray, 2011**.

2.1 Project Context (Environment)

Construction project is influenced by multiple factors which can be internal or external to the organization responsible for its execution and management. The external factors which making this environment includes the client or customer, contractors, various external consultants, suppliers, national and local government agencies, competitors, politicians, pressure group, public utilities, and the end user. Internal influences include the organization's management, the project team, internal departments, (technical and financial) and possibly the shareholders.
The important thing for the project manager is to recognize what these factors are and how they impact on the project during the various phases from inception to final handover, or even disposal, **Fig.1** illustrates the project surrounded by its external environment**, Lester, 2006.**

2.2 Project Selection

The process of projects selection for implementation is subject to several considerations such as; the needs of organization, realistic expectations for deliverables sophistication, strategic plans, project success attributes, and the restrictions for the project's success. To make logical and consistent decisions in prioritizing and projects selection, a company shall establish a specific process of evaluating projects. Projects ranking is commonly conducted according to certain criteria and in terms of importance with the use of an index, sometimes called a metric, or a group of indices called a model. Indices used for project selection tend to fall into two major categories. The first category includes quantitative indices that are generally based on financial characteristics such as: total cost, cash flow demand, cost-benefit ratio, Payback period, average internal rate of return, net present value. The second category includes qualitative indices that are intended to measure subjective issues, such as operational necessity, competitive necessity, product line extension, market constraints, Profitability, Feasibility, desirability, recognition, and

success. **Fig. 2** shows a simple weighted summation for the results of the of graphical depiction indices to a selection model that is composed of four indices, **Rad, 2002.**

2.3 Project Success Criteria

One of the topics in the project management plan is the project success criteria. These are the most important attributes and objectives which must be met to enable the project to be termed a success. For example if one of the project success criteria is that the project finishes by or before a certain date, then there can be no compromise of the date, but the cost may increase or quality may be sacrificed, **Lester, 2006.**

A project is generally considered to be successfully implemented if it:
a) Comes in on-schedule (time criterion).
b) Comes in on-budget (monetary criterion).
c) Achieves basically all the goals originally set for it (effectiveness criterion).
d) Is accepted and used by the clients for whom the project is intended (client satisfaction criterion), **Pinto**, and **Slevin, 1987.**

2.4 Project Management

Is the planning, monitoring and control of all aspects of a project and the motivation of all those involved in it, in order to achieve the project objectives within agreed criteria of time, cost and performance. **Lester 2006.**

2.4.1 Need for project management
It can be summarized the great importance of project management in the following aspects:

a) Project management allows managers to plan and manage strategic initiatives.
b) Project management tools decrease time to market, manage expenses, ensure quality products, and enhance profitability.
c) Project management helps sell products and services by positively differentiating them from their competitors.
d) Project management is one of the most important management techniques for ensuring the success of an organization, **Richman**, **2011.**

2.4.2 Poor project management
The lack of project management by owners or contractors on projects leads to construction delays and extra costs for both parties. In addition to the problems that occur during construction, poor project management can also result in a completed facility that fails to meet the specified quality and suitability of materials, fails to produce the intended products, or cannot be operated for its intended life. Reasons for project failure that are often cited during disputes: **King**, **2015.**
1- The failure of the project management team to adequately plan the work, or, when a plan developed, to properly execute that plan.
2- The failure to provide adequate human resources, staff or direct labor, to the project.
3- The failure to develop adequate project schedules, or to maintain those schedules throughout project execution.
4- The failure to control costs and changes throughout the execution of the project.

3. UNDERSTANDING PROJECT PROCESSES
All projects progress through five project management process groups:

3.1 Initiating Process
The Initiating process determines which projects should be undertaken (project selection). It examines whether the project is worth doing and if it is beneficial to the company when all is said and done, **PMBOK**, **2013.**

3.2 Planning Process
The planning process requires establish the scope of the project, refine the objectives, and define the course of action required to attain the objectives that the project was undertaken to achieve, **PMBOK**, **2013.**

3.3 Executing Process
It is involves the actual "work" of the project. Materials and resources are procured, the project is produced, and performance capabilities are verified. There are two aspects to the process of project execution. One is to execute the work that must be done to create the product of the project. This is properly called technical work. Executing also refers to implementing the project plan, since without a plan there is no control, **Heagney**, **2012**.
Executing means carrying out the activities described in the work plan, and where visions and plans become reality, **Dillon**, **2008.**

3.4 Monitoring and Controlling Process
Monitoring and controlling can actually be thought of as two separate processes, but because they go hand in hand, they are considered one activity, **Heagney**, **2012.**
Monitoring: Collecting, recording, and reporting information concerning project performance that project manager and others wish to know.
Controlling: Uses data from monitor activity to bring actual performance to planned performance, **Meredith**, and **Mantel**, **2000**.

3.5 Closing Process
Finishing your assigned tasks is only part of bringing your project to a close, **Portny**, **2010**. If you did a good job of planning and execution, the close-out phase should be fairly simple and fun. Some project leaders avoid close out because there are unresolved problems with the project: There are unhappy customers or team members, overrun budgets, and late schedule dates, **Martin**, and **Tate**, **2001**.

4. THE TECHNIQUES
 The researcher provides detail explanation about the techniques which are used in this part of the study.

4.1 Brainstorming Technique
It is a creating technique and popular tool of generating ideas to solve a problem. The main outcome of a brainstorm session may be a full solution to the problem, a set of ideas for an approach to a subsequent solution, or a set of ideas resulting in a plan to find a solution. Brainstorming can be used in:

a) To diagnose problems.
b) Problem solving.
c) Project management.
d) Team building, **Ozmen**, **2006**.

The number of participants with range (6-12), it is good for brainstorming, **Balackova**, **2003**.

The researcher conducted brainstorming session with (8) participants from different sectors and specialties, as shown in **Table 1**.

Brainstorming session consists of two phases, individual and group brainstorming which mixed together in order to diagnose the problem, as follows:

Phase I: The researcher stated the problem in detail and clarity to two groups, each group consisting of (4) persons. They have actual experience not less than (15) years. The participants are from several specialties as shown in **Table 1**. The researcher asked them to record every reason that they believe it may be obstructive to the management of the project execution phase.

Phase II: In the presence of the two groups (8 participants); the study begins with the second phase and it is recalled the problem. Then listened to the reasons offered by the participant No. (1). The reasons are recorded on a large blackboard with a large handwriting and they are clearly seen by everyone. After that, the rest of the participants provide the reasons that they believe it negatively impact on the management of a project. The total reasons that are collected from the first phase are (40). We started the second phase of brainstorming with (40) reason, the process of producing and developing reasons is continued. When the second phase have been finished the study gets (75) reasons. The participants then conduct a review to assess the results that it is obtained. Moreover, the numbers of reasons have been reduced from 75 to 55.

4.2 Interview with Experts

In order to discuss, assess and evaluate the results obtained from the brainstorming session, the researcher conducted interviews with (10) experts who have actual experience not less than (30) years from both public and private sectors, the experts were from various areas of construction projects management, planning, execution, statutory and financial. The experts have been reducing the reasons of mismanagement from 55 to 46, and then added 3 reasons. They believe these (49) reasons have a significant negative impact on the management of the execution phase.

4.3 Questionnaire Design

the questionnaire construction is relied on the reasons that are collected from the techniques of brainstorming and interviews with experts. For the importance and complexity of the research topic and to give a realistic, comprehensive, and strength to the results of the study, the researcher decided to design the questionnaire according to the following steps:

a) Initial questionnaire: after the techniques of brainstorming and interviews with experts have been finished, the researcher classify the reasons that have been collected for, develop hypotheses of the study, and then build the questionnaire in its initial form. The initial questionnaire have been distributes to a small sample of 10 persons, in order to discover weaknesses and ambiguities.
b) Final Questionnaire: After the ten questionnaires are collected and viewing the comments and opinions of the participants, there are some changes to remove the ambiguity and misunderstanding in the formulation of phrases. So, now the questionnaire has been completed in its final form, as details in the paragraph 5.

5. STUDY HYPOTHESES (STUDY PIVOTAL)

The study aims to identify the causes of mismanagement in the execution phase; therefore, to achieve this purpose, the researcher develops three hypotheses as a result of the brainstorming and interviews with experts. Each hypothesis composed of a group of reasons (problems), as follow:

5.1 First Hypothesis (first pivotal): The lack of infrastructure for application of project management leads to mismanagement of the project execution phase. This hypothesis measured with the reasons (1 to 19).

5.2 Second Hypothesis (second pivotal): Lack of awareness of construction companies to the importance of the planning for project management leads to mismanagement of the execution phase. This hypothesis measured with the reasons (20 to 34).

5.3 Third Hypothesis (third pivotal): Lack of awareness of construction companies and employer to the importance of commitment with project management plans, lead to mismanagement of the execution phase. This hypothesis measured with the reasons (35 to 49).

6. QUESTIONNAIRE DISTRIBUTION

The questionnaire forms have been distributed to the target sample which consisting of 90 respondents. The distribution process was in two ways. The first way, the questionnaire distributed directly to the targeted people, where it is offered simple clarifying about the study and its objectives. The method of direct meeting is considered as the ideal way in follow-up the questionnaire and get results conform to reality. This method included 77 respondents, equivalent 88% of the sample size. The second way is indirect meeting with the target people through internet, where we have distributed 13 electronic questionnaire forms, it is also offered simple clarified about the study and its objectives. The number of full forms that we have collected in this way was 10 forms, and only 3 of them do not return. Thus, the study gets 87 complete and correct forms from the total number which is 90; **Table. 2** shows the individual characteristics of the respondents.

7. STATISTICAL ANALYSIS OF THE QUESTIONNAIRE DATA:

Reliability and validity considered as the most important methodology conditions in the design of research tools therefore must be proving the reliability and validity of the questionnaire before conduct the statistical analyses of data, **Jerjaoi**, **2010.**

7.1 Reliability

It is to ensure get almost the same results if re-application the questionnaire more than once on the same group of individuals under similar circumstances, **Jerjaoi**, **2010.**

Reliability coefficient takes values ranging between (0.00) and the (1.00), if there is no reliability in the data it will be equal to (0.00), and on the contrary if data with complete reliability, it will be equal to the (1.00), **Abdel Fattah**, **2008.**

The appropriate reliability coefficient is (0.7) and more, and high reliability coefficient when it reached (0.8) and more, and is average if ranged between (0.6. and 0.7), and low if it is less than that, **Hassan**, **2006.**

By using SPSS program (version 19), the researcher calculated reliability coefficients of the study were (1st pivotal=0.813, 2nd pivotal =0.796, 3rd pivotal =0.784, and the Reliability coefficient for the study overall =0.919). (Where; 1st pivotal = 1st hypothesis, 2nd pivotal = 2nd hypothesis, and 3rd pivotal = 3rd hypothesis)

7.2 Validity

It is the degree to which a questionnaire reflects reality. The researcher calculates the validity coefficient from calculating the root of reliability coefficient, **Abdel Fattah, 2008.**

Validity coefficients of the study were (1st pivotal =0.902, 2nd pivotal =0.892, 3rd pivotal =0.885, and the Validity coefficient of the study overall =0.959).

Aarbitrators validity is one of the most common and easy methods of validity and the best known among researchers, **Jerjaoi, 2010.**

As it is mentioned earlier, the questionnaire is designed in consulting with ten experts; therefore, we also won the validity of arbitrators

7.3 Test of Normality

Applied researchers should always look at the shape of their data before conducting statistical tests. Looking at data can give you some idea about whether your data are normality distributed, **Larson-Hall, 2010.**

The researcher adopted two tests, Shapiro-wilks and Kolmogorov to test the distribution type of answers is it normal (equinoctial) or not. These tests are necessary to check the study hypotheses, because most of parametric tests require normal distribution for data, **Abu Dakka**, and **Safi**, **2013**.

By using (assume) a significance level ($\alpha = 0.05$), we will test the type of answers distribution of all reasons. In the beginning we assume two hypotheses, the first is the null hypothesis (H0), and the second is the alternative hypothesis (H1). Null hypothesis means that the distribution of the sample answers behaves as normal, accepts this hypothesis if the value of significance (sig. which computed by SPSS program) is greater than (α), and reject if the value of sig. is smaller than (α).

The alternative hypothesis H1 means that the distribution of the answers is random. This hypothesis is accepted if the value of computed sig. is smaller than (α) and it is rejected if the value of computed sig. is greater than value of (α). As it is shown in **Table. 3**, the sig. values are computed for the first four reasons were less than of ($\alpha=0.05$), therefore, the null hypothesis is rejected and accepts the alternative hypothesis which means that the distribution is random, **Larson-Hall**, **2010.**

The results of normality test for all answers show that the distribution are random.

7.4 Likert Scale

A psychometric response scale mainly used in questionnaires to get participant's preferences or degree of agreement with a statement or group of statements. Ask Respondents to indicate their agreement level with a given statement by using an ordinal scale, **Johns, 2010.**

The design of the questionnaire is based on that the answer of each question is one of five options. So, the likert scale quintet is used. It is usually enter values (weights) as in the **Table. 4. Abdel Fattah, 2008.**

7.5 The Mean

It is the algebraic sum of a set of items divided by their number. It uses with quantitative variables in the case of similar distributions (almost), especially if we take into account all the values, **Larson-Hall**, **2010**.

By using SPSS program (Version 19), the mean of all reasons are calculate, and then compare with the weighted mean to know the trend of answers on each reason, whether it is acceptable or not, or neutral.

7.6 Chi-Square

Chi-square: As it is proved in the paragraph "test of normality", the distributions of respondents' answers were random. Here, non-parametric tests are used, including chi-square. The chi-square test is used to examine the presence of statistically significant differences between answers (approval, neutrality, and disapproval). This test is based on comparison the calculated chi-square against scheduled chi-square at a significance level ($\alpha = 0.05$). It is supposed that:

1) The null hypothesis or (H0) stated: (distribution of the respondents answers are regular, and the differences in those answers can be attributed to chance), this hypothesis is accepted if calculated chi-square is less than scheduled chi-square and it is rejected if calculated chi-square is greater than scheduled one.

2) Alternative hypothesis (H1) stated: (distribution of the respondents answers are irregular), this hypothesis is accepted if the value of calculated chi-square is greater than the value of scheduled chi-square and it is rejects if calculated chi-square is less than a scheduled one**, Bousnina, 2011.**

8. RESULTS

After the statistical operations on the data have finished, it is reached the following results:

8.1 First:

After the statistical analysis on the questionnaire data have been finished, the researcher identified the reasons which have a significant negative impact on the management of project execution phase, which are (26) reasons; below it is mention some of them:

1- Inability of company to meet project requirements because it's specialized and / or large project, with agreement ratio reached (4.68).
2- Inefficient and non- professional supervision committees, with agreement ratio 4.66.
3- Inadequate planning, with agreement ratio 4.62.
4- Relying on manager only to control the project, with agreement ratio 4.53.
5- Unrealistic project plan, with agreement ratio 4.51.
6- Inaccurate estimation of cost, with an agreement ratio 4.48.
7- Poor performance of Project Manager, with agreement ratio 4.39.
8- Delayed cash flows by owners, with agreement ratio 4.37.
9- Poor performance of contractor, with agreement ratio 4.14.
10- Inefficient decision making process, with agreement ratio 3.9.
11- Multiple sources of decision and the overlap in powers, with agreement ratio 3.89.
12- Negative impact of people in the project area, with agreement ratio 3.71.

The agreement ratio on each reason is represent the mean value according to Likert scale quintet. The total (26) reasons which are lead to mismanagement of the execution phase are descendingly arranged according to value of the mean as it is shown in **Table. 5**. All reasons that have been approved by the study have statistically significant differences, since the value of calculated chi is greater than the scheduled chi.

8.2 Second
 Prove the hypotheses of the study overall, as follows:

1) Prove the first hypothesis of the study which states that, the lack of infrastructure for application of project management leads to mismanagement of the execution phase, where the ratio of those who agree with this hypothesis reached 54.63%, and the chi calculated (513) greater than chi scheduled (9.488) which indicates the presence of statistically significant difference between answers.

2) Prove the second hypothesis of the study which states that, lack of awareness of construction companies to the importance of planning for project management leads to mismanagement of the execution phase, where the ratio of those who agree with this hypothesis reached 71.34%, and the chi calculated (615) greater than chi scheduled (9.488) which indicates the presence of statistically significant difference between answers.

3) Prove the third hypothesis of the study which states that, lack of awareness of construction companies and employer to the importance of commitment with project management plans leads to mismanagement of the execution phase, where the ratio of those who agree with this hypothesis reached 68.28%, and the chi calculated (553) greater than chi scheduled (9.488) which indicates the presence of statistically significant difference between answers.

9. CONCLUSIONS
The most important conclusions are:

1. The agreement of respondents on hypotheses of the study will imparts realism to the study and its results, (Ranking: 1- 2nd hypothesis, 2- 3rd hypothesis, and 3- 1st hypothesis).

2. The choice of construction project for implementation is subject to improvisational and chaos with a lack of clear criteria in the selection process.

3. The full absence of vocational rehabilitation centers which increases in loss of skilled workers in the construction industry.

4. Most contractors have not any managerial skill.

5. Reliance on personal experience only in full control of the project with full absence of standard tools of performance evaluation.

6. Weakness in the supervision and follow up by employer

7. Inability of company to meet project requirements, because it's specialized and / or large project, is considered as most important factor that leads to mismanagement of the execution phase.

8. The failure of execution management can be considered as the problems that are not borne by one party alone, but due to all parties of the project.

9. Inaccurate estimation of costs is one of mismanagement causes

10. RECOMMENDATIONS

The study presents a group of recommendations which may help to eliminate or reduce the negative impact of the reasons of mismanagement of the project execution phase:

1. Restricted to clauses (2, 11, 14, 15, 42, 44, 47, and 62) of the general conditions for contracts of civil engineering works. because they can help to overcome the reasons of mismanagement.

2. Activating the role of council of reconstruction in provinces and give it wide powers within the terms of reference. It must play a major role to follow the basic design of province and protect it, and to take a consultative role in feasibility studies of the projects and also in prepare their documents.

3. Communicate with competent international bodies is necessary to train the managerial and technical leadership according to international standards.

4. Encourage the site meetings because their necessity for all parties to the project.

5. The construction companies must rely on trained professional staff in the fields of planning and execution, even if the wages are high.

6. The importance of communication between the designers and executants for project's success.

7. Importance of statistical databases of previous projects to the planning process for future projects.

8. Encourage the staff of project, either in the planning or execution and give them reward and incentives to induce them to do work efficiently.

9. Punish those who aggress on public property, (especially in project area).

10. Do not let the contractor who does not fit his financial and technical ability with project to offer the bid for implementation of the work by (list qualified contractors or company selection criteria).

11. Prepare cost estimation depending on WBS, final drawings and direct market surveys.

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NOMENCLATURE

α = significance level (Probability of error), takes values (0.05, 0.01, and 0.000).

df = degree of freedom. It is the number of changeable values in the calculation of the statistical property.

Table 1. The characteristics of participants in brainstorming, (researcher).

Sector	Specializations					
	Management	Planning	Executant	Supervisor	Statutory	Financial
Public Sector	1	1	1	1	1	1
Private Sector	1		1			
University Degree		Number	Actual service		Number	
BSc		6	15-20		5	
MSc		2	21-25		2	
			More than 25		1	

Table 2. The characteristics of questionnaire respondents, (researcher).

Variables	Categories	Number	Ratio
Academic degree	PhD	7	8.04%
	MSc	12	13.80%
	BSc	68	78.16%
Type of work	Civil	58	66.67%
	Electricity	11	12.64%
	Architect	8	9.19%
	Mechanical	6	6.90%
	Oil	3	3.45%
	Chemical	1	1.15%
Experience (year)	15-20	25	28.73%
	21-24	17	19.54
	25-29	24	27.59
	30 & more	21	24.14
Gender	Male	73	83.91%
	Female	14	16.09%
Sector	Public	64	73.6%
	Private	23	26.4%

Table 3. Test of normality, (researcher).

Items	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
First	.236	87	0.000	.866	87	0.000
Second	.259	87	0.000	.834	87	0.000
Third	.208	87	0.000	.857	87	0.000
Fourth	.267	87	0.000	.883	87	0.000

Table 4. Likert scale quintet weights, **Abdel Fattah, 2008**.

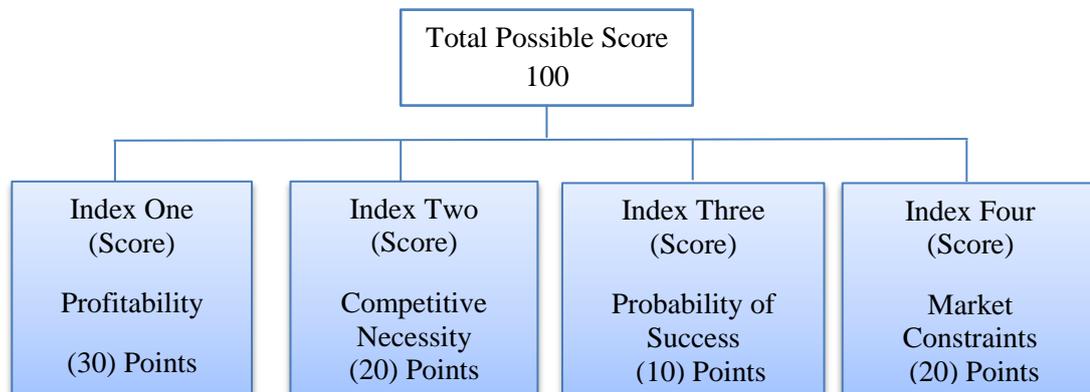| opinion	weight	Weighted Mean
Completely disagree	1	1-1.8
Disagree	2	1.81-2.60
Neutral	3	2.61-3.40
agree	4	3.41-4.20
Completely agree	5	4.21-5.00

Table 5. The reasons of mismanagement and their mean, (researcher).

Rank	Factor cause execution phase mismanagement	Mean
1	Inability of company to meet project requirements, because it's specialized and / or large project	4.68
2	Inefficient and non- professional supervision committees	4.66
3	Inadequate planning	4.62
4	Relying on manager only to control the project	4.53
5	Unrealistic project plan	4.51
6	Inaccurate estimation of cost	4.48
7	Lack of control to time of the project or predict the date of its end	4.45
8	Lack of funds for archiving, investigations, and data collection	4.41
9	Poor performance of project managers	4.39
10	Neglect the role of supervisors in the planning process	4.37
11	Delayed cash flows by owners	4.37
12	Inefficient executive manager of project	4.32
13	Non-completion of the plan in exact time	4.31
14	Lack of experience in creating and preparing project documents	4.29
15	Lack of funds for training and continuous development	4.28
16	Absence of an organizational structure for the company	4.25
17	Poor performance of the contractor	4.14
18	Randomness and lack of vision in the selection of projects	4.11

19	Bureaucracy in bidding / tendering method	4.05
20	Inappropriate contractual procedures of subcontracting	3.98
21	Time period of the execution	3.95
22	Inability of using measures of performance evaluation	3.91
23	Inefficient decision making process.	3.9
24	Multiple sources of decision and overlap in powers	3.89
25	The negative impact of people in the project area	3.71
26	Random and individual work	3.53
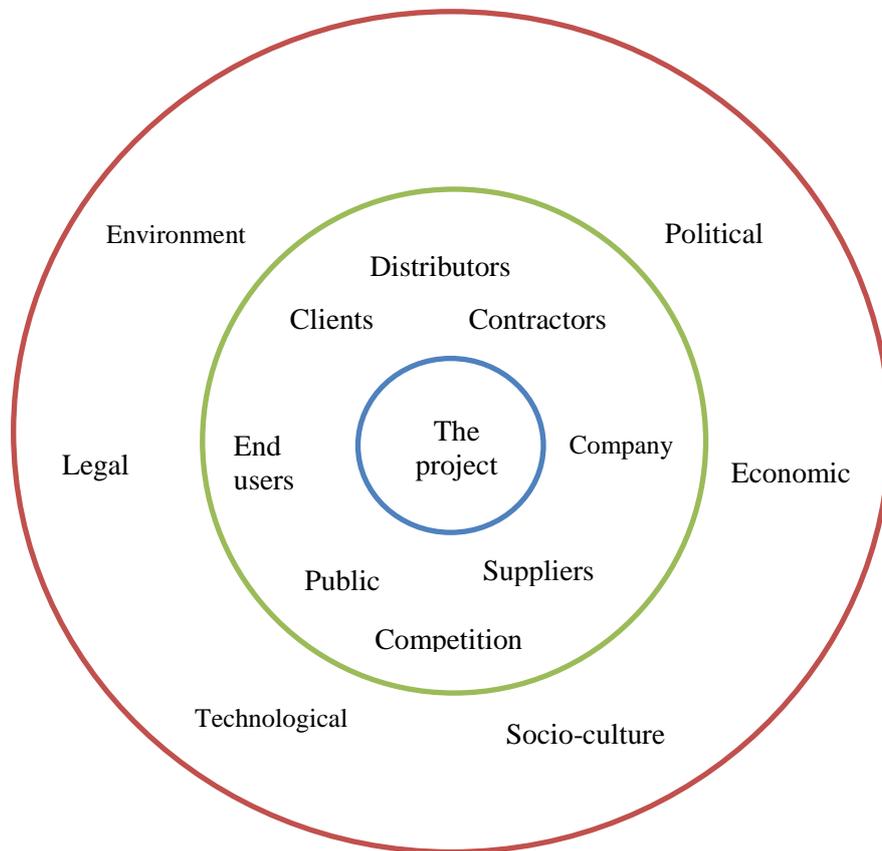
Figure 1. Project context (environment). **Lester, 2006**

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                    ┌─────────────────────┐
                    │ Total Possible Score│
                    │        100          │
                    └─────────────────────┘
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| Index One (Score) Profitability (30) Points | Index Two (Score) Competitive Necessity (20) Points | Index Three (Score) Probability of Success (10) Points | Index Four (Score) Market Constraints (20) Points |

Figure 2. 100 Points project scoring system-maximum points possible (project selection model).
Rad, 2002.