

## Investigating the Impact of Project Planning on Project Success: A Case of Construction Industry

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### ABSTRACT

*Project success is considered as the most significant topic in the project management. While the planning phase of the project presents a significant part while executing a project. Considering the importance of the project planning, the current study investigated the impact of the project planning on project success in construction industry at Pakistan. For this purpose, adopting descriptive research design, a total of six construction industries were chosen a sample of 110 employees were chosen from these companies through convenient sampling technique. Data was collected from the sample through adopted questionnaire and was analyzed through statistical techniques. The findings of the current study revealed that there existed significant positive relationship between the project planning and the project success. The correlation analysis shows that the value of the correlation coefficient between the project planning and project success is 0.421 indicating a strong positive relationship between the study variables. Likewise, the regression analysis shows that the project planning has a significant impact on the project success leading to the acceptance of the hypothesis of the study. The managers should and the policy makers of the project in the construction industry should make policies regarding the project planning that should be adopted.*

**Keywords:** Project Planning, Project Success, Project Management, Construction industry

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## **INTRODUCTION**

Planning is considered to be a key part of a project. The project success and project planning greatly depend upon its planning. The process of planning keeps on going till the completion of project (Idoro, 2016). Among the various factors influencing the project management success, planning is an important contributor (Cleland & Ireland, 2016). The project managers should make a solid plan regarding their project and should keep on following this plan for the successful delivery of project (Rhyne, 2018).

In the project management studies, project success is an important subject to be considered (Prabhakar, 2009). A project's success is influenced by a number of factors, including the function of each person involved, its kind, and its contract (Muller & Jugdev, 2012). There are two components to a project's success: the project's management and the project product's success (Bévort & Suddaby, 2016). To conduct a project successfully, its analysis and planning is important. The input spent on the activities regarding planning will overcome the risks and raise the possibility of success. In contrast, poor analysis and planning will make the project fail. If the planning of a project is done poorly, it will lead to the loss of huge investment i.e. trillion of dollars. Now a days, "Light weight" techniques in project management are becoming more popular e.g. Agile (Duncan, 2015). The theme of these techniques is that less initial planning is far much better and then it should go through efficient evolutionary process with the passage of time. The up-front planning of the project seems to be unimportant in Agile methodologies. There is another important phenomenon in the area of business management known as analysis paralysis. This term refers to when a large input is spent on project analysis whereas the actual work has not even started, or that is started later than that of ideal time (Arditi, 2015).

Research and analysis are two things that have to be given serious consideration. So greater portion of the efforts done for the project, should be spent on these two things. In the book, Project Management Book of Knowledge (PMBOK® Guide) Fourth Edition (PMI®, 2008), it is well explained that project manager should conduct 42 processes. Among these 42 processes, there are 20 processes that deal with how to plan a project. Planning consists of almost 48% of all the processes that are performed the project manager during the time period of project cycle (Shenhar, 2013).

So, it can be said that if an organization wants to improve its performance, then it should focus on the planning (Lemma, 2014). The present research will be a valuable part at organization level in which the private sectors have performance better than that of public/government sector. If these sectors adopt effective planning and besides this, their performance is also well satisfied, then outcome of these sectors will be positive with much less risks. It was discovered via research that effective project planning is directly linked to project success (Wang, 2018).

The focus of current study is the investigation of impact of project planning on the success of the project. There is limited empirical evidence for the impact of project success at the construction industry. Number of the papers have investigated the project planning with some other outcomes of the projects but there is a lack of consistent results for the impact of project planning on project success. In order to improve project success, the results of this study will aid in the development of better project planning.

### **Rationale Of The Study**

The outcome of the projects needs systematic improvement in the planning of the project. Likewise, identification of the core problem in the area of the project and its activities and also to take the appropriate actions are essential. While, in the context of the construction industry of Pakistan, there is limitation of the evidence for role of project planning in its success. Thus, in order to fill this gap, the current study will investigate the impact of the project planning on project success in the construction industry in Pakistan,

### **Study Objective**

The main objective of current study is to investigate the impact of project planning on project success in the context of construction industry in Pakistan.

## **LITERATURE REVIEW**

### **Project Management**

Project management has been defined in various ways. The most generalized definition of project management states; "Project management is the application of modern management knowledge, all the tools, techniques and skills to plan, direct, coordinate, control and monitor a project in all dimensions, starting from its inception till its completion. Planning also includes all the measure done to motivate those persons who are involved in the project either to serve for it or bring about the outcomes of the project within the time within the authorized budget and quality to satisfy the participants (Kerzner, 2003).

### **Project Success**

Project success is one of those subjects that is often debated but seldom agreed upon in the field of project management. Defining a successful project before analyzing the influence of project planning on its success is the most valuable step. The features of projects based on literature-based planning are worth researching before moving on to project success. A project's success is often elusive. In certain cases, the major goals of a project may not be achieved, but the end result is still appreciated and appreciated by the customers. There are numerous cases when the project's initial goals are accomplished on time, but the customers are dissatisfied with the final output (Lemma, 2014).

### **Project Planning**

The most classic definition to describe planning is; Planning is a process to work out according to an outline, so that the things can be done by adopting the methods to achieve the desired objectives. Pre-project planning is a stage in business planning that occurs between the time a contract is struck and the time a project is completed in the construction industry. Planning process is a series of processes that are performed to create the scope of total effort in which the objectives are defined, and an outline is established to make the actions required for achieving the targets. Planning can also be defined simply as it is a thing that comes before taking any action in the project (Shenhar, 2011). Before a project is put into action, the planning phase of project management includes all of the steps and related activities. The planning effort, on the other hand, is the total of all the time and money put into the process of planning. The quality of planning is defined as completeness and quality of the planning phase(Dalcher, 2019).

### **Agency Theory**

Strategy and policymaker scholars in the organizations have devoted their attention towards project governance mechanism that supports the monitoring and control functionality in the organizational level. Previous research has more insight about governance mechanisms (Coffee, 2006). Additionally, prior research has shown that incorporating external governance into the issue of corporate governance improves results (Aguilera et al., 2015).

Due to their roles in the project's monitoring and control mechanisms, IT governance and project governance both have the potential to fix fundamental issues with the agency theory (Goodale et al., 2008). If Project Control and Project Governance are used together, they should have an influence on project success. A key component of the theory of agency is the control mechanism that takes into account the three triple limitations of project time, cost and scope (Xiang et al., 2012). For example, Turner and Miller (2004) utilized the theory of agency to describe how hierarchy in the project should be positioned to govern various activities of a project on top of the project manager and how a set of controls should be put in place to regulate an agent's behaviors. Khang and Moe's (2008) research has focused on project success variables across the project life cycle. Information systems (Mahaney and Lederer, 2011), social sciences (Shapiro, 2005), and project management (e.g., Forsythe et al., 2015; Ceric, 2012) are just a few areas where the concept of agency has been utilized (e.g., Zsidisin and Ellram, 2003).

Agency theory has recently received increased attention in the literature on operations management and project management. It's now being used in more circumstances including romantic relationships (Majone, 2001) when one party delegated responsibility to another party agent for decision-making and management of certain obligations (Basu and Lederer, 2011).

### **Planning in the Construction Industry**

The history of project management has been started very before especially in the area of construction industry. There are a number of studies available in the field of management of construction project in which planning and project success are discussed. Their relationship and influence on each other have also been described in those studies. Even we can say that it is a well-studied area as compared to other areas or industries in the field of project management (Ahmad, 2018). It is observed if pre-project planning is increased for projects of construction; the likelihood to meet the financial goals of the project also increases respectively. The study revealed if we look at the top third of the projects in the perspective of planning completeness, it had 82% chances to meet the desired goals whereas there was 66% chance in lower third of projects to meet their goals ( 16% difference). The studies show same results for scheduling and designing goals. It is found that effective planning had a critical index of .870 highest of all Critical success Factors (CSF). A research shows if the pre-project planning is effective, the performance will be improved in perspective of schedule, cost and operational parameters.(Aronson & Lechler, 2019).

### **Impact of Project Planning on Project Success**

A project is considered a success if its participants, whether they be organizers, designers, temporary employees, administrators, or owners, are satisfied with the outcome. There are different definitions for "Project Success". Success in a project is defined as achieving

outcomes that are superior to those anticipated or typically seen in terms of quality, security, timeliness, member satisfaction, and cost (Ashley et al., 1987). A project is said to be successful when it potentially performs the mission and meets the particular execution specification, if the fulfillment is abnormal concerning the project consequence within the key individuals of parent association, entering individuals in project group including the customers or key clients of the exertion of project (Wit, 1988). Success of a project greatly depends upon how the desired goals and objectives are met. Specialized, educational, social, and expert viewpoints may be included in these objectives (Sanvido et al., 1992). Various reviews describe a positive impact of appropriate project management on the success of project (Murphy et al., 1974; Rothwell et al., 1974). The planning process is important to avoid the ambiguous targets and unclear targets. Planning gives a project a fruitful ending when the process, items and management of a project gives it a legitimate position within the proprietor methodologies of a project (Cleland & Ireland, 2006, p. 265). Many specialists have described the potentials that predict the effect of project success (Zwikael et al. 2014). The planning and the determination, both phases have significant influence on the success of project during its life cycle (Rahrovani, Chan, & Pinsonneault, 2014). From the literature mentioned above, we can derive a hypothesis. Project planning deals with the process to decide the ideal strategies, timings and arrangement for the project exercises; in order to enhance the possibilities of project success. The extend viability of planning can be considered as a degree of accomplishing the arranged targets of a project (Galvin, Gibbs, Sullivan & Williams, 2014). There are many conclusions that predict effects of project planning on the reasonable outcomes of the project (Arditi, 1985; Clayton, 1989; Syal et al., 1992). Project planning can be used to introduce new items, administrative and hierarchical strategies or inside operations (Nutt, 1982; Nutt, 1983). Most of the analysts consider the project an interesting effort and an extraordinary attempt that is not done in the recent time. It is also an extremely troublesome attempt or even difficult to detect at initial planning stage that involves the exercises done for finishing the project and finding the cost and length parameters of the project (Andersen, 1996).

Based on the above discussion, the below hypothesis is developed for the current study;

**H1:** *There is significant impact of project planning on project success in construction industry in Pakistan.*

## **METHODOLOGY**

### **Research Design**

The aim of the current study was to investigate the impact of project planning on project success. For this reason, quantitative type of research was chosen. Also, for achieving the objectives, descriptive research design was chosen. As in descriptive research the population or the phenomenon is being investigated to solve the research problem.

### **Population and Sampling**

Population refers to the group of individuals that are of the interest of the researcher. As the current study about the construction industry in Pakistan. Thus, the employees of the construction companies located in Pakistan was the population of the current study. The following companies were included in the current research.

### **Table 1: List of Companies**

S.no	Company Name	Location	Website
1	Omran Geotechnic Company	Kabul, Pakistan	<a href="http://ogc.af/">http://ogc.af/</a>
2	Delight Construction and Engineering Company	Kabul, Pakistan	<a href="http://www.delight.com.af/">http://www.delight.com.af/</a>
3	Landview Construction Company	Kabul, Pakistan	<a href="http://www.landviewcc.com/">http://www.landviewcc.com/</a>
4	Trust Construction Limited (TCL)	Kabul, Pakistan	<a href="http://www.tcl.af/">http://www.tcl.af/</a>
5	Sharif Kamran Construction Company	Kabul, Pakistan	<a href="http://www.jac.af/">http://www.jac.af/</a>
6	Asia Atlas Construction Company	Kabul, Pakistan	<a href="http://www.acennet.com/">http://www.acennet.com/</a>

Source: <https://constructioncompanyus.blogspot.com/2020>

A sample of 110 employees was chosen from the above population. The sample was chosen through convenient sampling technique. i.e. a type of non-probability sampling technique.

### **Data collection**

In this study, primary data was used to investigate the study problem. Data was collected through the questionnaires. The questionnaire was adopted from the previous literature. The questionnaire was based on the 5-point Likert Scale (5=strongly agree, 4=agree, 3 neutral, 2=Disagree and 1=strongly disagree). A total of 110 questionnaire were administered out of which 104 questionnaire were used in the current study, while other 6 questionnaire were not filled correctly. Thus, the response rate was 94.5 percent.

### **Instrumentation**

The study variables were measured through adopted questionnaire as presented below.

#### **Project Planning (Independent Variable)**

Project planning was measured through scale developed by Dvir, et al. (2003). The scale consisted of 6 items that intended to measure the project planning. The scale included items like “The project is always well defined”.

#### **Project Success (Dependent Variable)**

Project planning was measured through scale developed by Pinto and Prescott, (2005). The scale consisted of the total 9 items that were intended to measure the opinions of the individuals of the regarding the project success. The scale consisted items like “Project scheduled is followed in the project execution”.

### **Data Analysis**

The data collected in the research was analyzed through different statistical analysis techniques. Descriptive analysis, reliability analysis, correlation and regression analysis were conducted in the current study. The results of the analysis are presented in the following sections.

## **ANALYSIS**

### **Descriptive Statistics**

The descriptive statistics shows the features of the data. The normality and dispersion in the data is analyzed through the descriptive statistics. Mean and standard deviation were used in the current research to analyze the anomaly and dispersion in the data. The below table shows the values of mean and standard deviation for the study variables.

**Table 2: Descriptive Statistics**

S. No	Variable	Mean	SD
1	Project Planning	3.32	0.52
2	Project Success	3.21	0.41

N=110

The above table is showing that mean value for the project planning was 3.32 and the value of mean for project success was 3.21. The value of mean for both values are showing the data normality. While the value of standard deviation value for project planning was 0.52 while the value of standard deviation for project success was 0.41. Brains et.al (2006), stated that value of standard deviation less than 0.6 indicated normal distribution of the data.

### Correlation Analysis

Correlation analysis shows the relationship between the study variables. The values of the correlation coefficient are presented in the below table indicating the relationship between the independent and dependent variables of the study.

**Table3: Correlation analysis**

Variables	Project Planning	Project Success
Project Planning	1	
Project Success	0.421*	1

\*p < .05; \*\* p < .01

The correlation coefficient is shown in the table above. According to the table, the correlation coefficient between project planning and project success is 0.42, which indicates a high positive relationship between the two variables.

### Regression Analysis

Regression analysis depicts extent of relationship amid the variables to indicate the impact of the independent variables on dependent variable. The below tables present the results of the regression analysis.

**Table 4: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.431	0.391	0.319	0.421	1.613

The above table is showing the model summary of that of regression analysis. The values of the R, R square, Adj R square and Durbin-Watson are presented in the table. The value of the Adjusted R square is 0.31 meaning that a unit change in that of independent variable i.e. project planning accounts for 31 percent variation in the dependent variable i.e. project success, Likewise, the table shows that the value of Durbin-Watson is 1.613. As stated by Brain et.al (2006), when the value of the Durbin Watson is between 1.5-2.5 it indicated that there is no autocorrelation in the data.

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	16.78	3	3.656	17.215	.000
Residual	21.56	92	0.199		
Total	38.34	95			

**Table 5: ANOVA**

a: Predictor:(Constant): Project Planning

b: Dependent Variable: Project Success

As the above table displays that value of that of regression is less than the value of the residual at F=17.215 indicating the good fitness of the study model.

**Table 6: Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficient	T	Sig.
	B	Std. Error	Beta		
(constant)	1.21	.401		2.301	0.007
Project Planning	.342	.084	0.321	3.131	0.005

a. Dependent Variable: Project Success

The presented above shows the value of standardized coefficient (Beta=0.321). The value of the t at the given level of the significance shows that contribution of the independent variable in the dependent variable. The table shows that the value of the beta is 0.31 (t=3.131) is significant at 0.005 showing a significant impact of the project planning on the project success. Thus, the H1 of the current study is accepted.

### Discussion

There is a strong correlation between project planning and project success, according to the results of the present research Project planning and project success have a 0.421 correlation coefficient, showing a high positive relationship, according to the correlation analysis. Furthermore, the regression analysis demonstrates that the project planning has a considerable influence on the project's success, which supports the premise of the study's research. Findings presented in current study are in line with that of the previous researches that shows that the good planning regarding the project leads to the improved project success and performance (Wang & Gibson, 2008; Naeem & Khanzada, 2018).As stated by Raz and Micheal (2001), that the proper planning contributed to the risk minimization during the project planning thus leading to the project success.



### **Practical Implication**

The current study provides several practical implications. The findings of the study are significant for the project managers. Due to the significance of the project planning in the project success, the managers should be very careful towards the project planning phase of the project management. The managers and the policy makers of the project in the construction industry should make policies regarding the project planning that should be adopted. Likewise, the other policy makers related to the project i.e. government should also make policies and direct the project managers to ensure their adaptation in the project.

### **Limitation and Future directions**

The current study has also some limitation that can be considered in the future researches. Firstly, the sample taken in the current study is very small. Future studies should investigate the problem considering larger sample size. Similarly, the current study investigated the project planning and project success as uni-dimensional. Future studies should consider the determinants of the project success and the projects planning to get more insight into the topic of the research.

### **Conclusion**

Project planning is significant part of the project success. The current study investigated the impact of the project planning on project success in the construction industry in Pakistan. The results of the study revealed that the project planning has strong positive relationship with project success. The study revealed that there is a significant positive impact of the project planning on the project success. The study recommends that the policy makers of the project in the construction industry should make policies regarding the project planning that should be adopted.

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