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The Association between Project Success and Project Initiation Phase: A Study on Some Selected Projects in Bangladesh

Md. Shariful Islam[1*] Md. Nazim Uddin Bhuiyan[2] Mahfuzul Hoque Ph. D.[3]

1. Lecturer, Department of Accounting & Information Systems, Jahangirnagar University, Savar, Dhaka-1342, Bangladesh. Tel:+88-01914-959642
2. Professor, Department of Accounting & Information Systems, University of Dhaka, Ramna, Dhaka, Bangladesh. Tel:+88-01818-946368
3. Professor, Department of Accounting & Information Systems, University of Dhaka, Ramna, Dhaka, Bangladesh.Tel:+88-01711-151515

*Email of the Corresponding Author: sharif10.ais.du2004@gmail.com

Abstract

The purpose of this study is to examine empirically the association between the different phases of project initiation process and the project success in the environment of Bangladesh. The study samples 50 companies, local and foreign, operating in real estate, garments, and electronics sector in Bangladesh. The result of the study indicates that most of the factors in the project initiation process have significant positive relationship to the project success other than project taken based on opportunity and feasibility study done by specialized firms. The study is important to managers, policymakers, and academics as it demonstrates which factors of project initiation process contribute significantly to the successful completion of a project. There is no research on the association between the different phases of project initiation process and the project success in Bangladesh. This study extends the literature by demonstrating the impact of different phases of project initiation process on project success.

Key Words*:* Project Success; Business Case; Project Initiation; Project office; Project Phase review.

1. INTRODUCTION

The past several decades have been marked by rapid growth in the use of project management as a means by which organizations achieve their objectives. Project management provides an organization with powerful tools that improve its ability to plan, implement, and control its activities as well as the ways in which it utilizes its people and resources. Project management has emerged because the characteristics of our contemporary society demand the development of new methods of management. In Bangladesh, this is also true. Many of the multinational companies, government agencies, and private companies are using the project management to implement their projects. In developed countries, there have been many works on the project management and its effectiveness of achieving the success of the organization. However, very less has been done in our country. To make a project successful several steps are followed in the project management. Though all of these are important, most important is the project initiation or beginning process because at this stage, the viability of the project is checked and other prerequisites are made. So far, no study on how the project initiation of a company affects the success of the project has been found in project management literature in Bangladesh. The aim of this paper is to analyze the association between the effective project initiation process and the overall project success. With this aim in view, the rest of the paper is organized as follows: second section provides a review of the relevant literature, the third section outlines the research design, and the fourth section sets out the hypothesis of the study. The fifth, sixth and seventh sections explain the variables, present the result of the regression analysis with a discussion on the findings. The eighth and ninth sections outline the tests carried out to test the validity and stability of the models developed in the paper and finally summarizes the findings of the study and draws conclusion.

2. REVIEW OF EXISTING LITERATURE

The section reviews research that has focused primarily on the association between project initiation process and the project success. A questionnaire is prepared to identify the different variables of success in the project initiation process in the context on Bangladesh.

Meredith and Mantel (2006, p. 113) describes the importance of various phases of the project initiation process in the accomplishment of a project. They cover the role of the project manager, the various ways the project can be organized, and the special requirements for managing a cross-cultural project. They also show that the success of a project is largely dependent on the conduct of feasibility study. In addition, emphasis is given to conduct the feasibility study by a specialized firm that has enough experiences. They have shown that the feasibility studies done by inexperienced firms tend to produce inaccurate data and the information of those feasibility studies do not provided good basis for making accurate information. Project charter and project office are also important in order to facilitate the smooth operation of projects.

Kim Heldman (2007, p. 285) shows how important the project initiation process in the success of project accomplishment. He classifies the project life cycle (according to the PMBOK Guide) in the following ways-initiating, planning, executing, monitoring & controlling, and closing. Among them it is described the project initiation process is the most important because in this phase major decisions regarding the project and the allocation of resource decision are made. So the companies should consider all phases of the project initiation process very importantly. He also describes the importance of different phases of the project initiation. It is proved that feasibility study is not very much important in the success of the project in the industries that have already saturated. Rather feasibility study is important on the project of new venture or the project in which the company is first time attempting to undertake. He emphasizes on the phase review and the project office in order to find the deviation from the action desired. He shows that the project taken based on the problem or opportunity has different behaviors in regarding the successful completion of the project. They do not have the uniform characteristics in achieving project success. They show different results under different circumstances. However, the project based on opportunity is more likely to be successful in developing countries.

Peter Hobbs (2008) also shows the project initiation process in relation to the successful completion of a project. However, his association was related to the most of the cases the developed nation environment. He mostly emphasizes on the phase review of the project initiation process. He says phase review helps to control and monitor the other phases of the project initiation process. It also shows the conducting of feasibility study.

William and Taylor (2008) emphasizes on a very different and dissimilar points for the successful completion of the projects. They focus on the communications for successful completion of a project. Their finding suggests that, because of miscommunication most of the projects fail. However, their emphasis was not on only the initiation process, but also the overall process of the projects. The present study does not cover this aspect of the project.

Richard Newton (2009, p.1013) focuses heavily on the project manager. He says that the project manager is very much influential in retaining a project from failure. He considers that a project is very much dependent on the proper coordination and communication of the project managers. He says that project manager must be competent to cope with the requirement of a project. A project manager should not be allowed to engage in all projects. Even he emphasizes on the specialization of the project managers by engaging them in the similar project even if they are competent in conducting other projects.

3. RESEARCH DESIGN

A total of 50 companies, local and foreign, operating in real estate, garments and electronics sector in Bangladesh is included in the study. The sample consists of 35 real estate, 10 garments business and 5 electronics companies.

A success index is constructed based on the questionnaire survey containing 10 questions. 2 questions are related to the background of the project undertaken. 3 questions are related to feasibility study. 1 question is related to each of the project phase review, project team, project charter. The answer to each question is graded on a five-point scale. The scale is provided in the questionnaire appended in the appendix. All of the respondents are asked to answer to the questions regarding the project initiation phases and next a question is provided to answer whether they think that if the above-mentioned phases are followed then what the extent of

the project success is. Based on their information the SPSS software package is used to find out the effect of the various phases of the project initiation process on the extent of the project success.

4. OBJECTIVES OF THE STUDY

The primary aim of this article, as mentioned earlier, is to examine the association between the extent of success and the project initiation process. The expected association is examined by testing the following hypothesis.

H_0: *There is no significant association between the project initiation phases (Business cases, feasibility study, project charter, project office, project team, project review) and the extent of project success.*

The analysis is carried out by means of multiple linear regression techniques. The dependent variable is the project's success (ProSucc) and the explanatory variables are the Business Case, i.e. Problem (ProProb), Opportunity (ProOppr),Feasibility Study (FeaStu), Decision on FS (DecFs), Feasibility Study by Specialized firm(SpeFs), Project Charter (ProCha), Project team (ProTeam), Project Office (ProOff) and the Project Review (ProRev).

5. THE DEPENDENT & EXPLANATORY VARIABLES

5.1 Dependent Variables: The present study focuses on the success of the project. There are many ways by which the success of a project can be measured. But most of the time, it is agreed that the project that meets the quality as expected by the customers, the cost is within the budget and the project is completed timely, is a successful project. The present study also assumes the same criteria for successful completion of a project.

5.2 Explanatory Variables:

i) **Project taken based on opportunity** (ProOppr): The first explanatory variable here is considered the opportunity. Many of writers consider that opportunity plays a key role in the successful accomplishment of the projects. Actually, the writers here consider the mental motivation to capitalize on the opportunity. They found that the opportunity gives the project manager a mental stimulus to make the project successful.

ii) **Project taken based on Problem (ProProb):** Many times projects are undertaken to solve the problem that the companies are facing and for which the company wants an immediate solution. Most of the projects undertaken based on problem are very likely to be successful because they are small in nature and the company gets very much engrossed to get it done.

iii) **Consideration of Feasibility Study** (FeaStu): Feasibility study is done to test the viability of a project. By feasibility study, it is tested whether the project is worth further pursuing. Feasibility study is considered very much important in case of large projects and the projects of complex nature. They are few writers who do not emphasize the importance of feasibility study in the successful accomplishment of the projects. But they differ in respect of situations in which the feasibility study is best suited for the successful completion of the projects.

iv) **Decision Based on Feasibility Study** (DecFs): Though feasibility study is considered very important, sometimes decisions are not taken based on the feasibility study. Decisions are taken either at the intent of the top management or groupthink hampers the proper decision-making. However, the different studies support that decisions should be based on the output of the feasibility study if conducted properly.

v) **Feasibility Study done by specialized firm** (SpeFs): In case of important and complex projects, it is important that a specialized firm do the feasibility study. Research supports that feasibility study done by the specialized firms are more likely to provide valuable information, than the feasibility study done by less specialized firms.

vi) **Project Charter Undertaken** (ProCha): Project charter is the written acknowledgement that the project exists. The project charter names the project manager and gives that person the authority to assign organizational resources to the project. It is very valuable to have a project charter for every project, because it facilitates the proper understanding of the responsibility and authority of the project managers.

vii) **Project Team competent with the requirement of the project** (ProTeam): There is no denying the fact that the overall success of a project is dependent upon the competence of the project team. Most of the studies have supported this. A good, competent, and efficient project team is more likely to contribute to the success of a project than a less efficient project team.

viii) **Project office should be maintained** (ProOff): For proper operation and maintenance, a project management office is very much important. It helps to coordinate and control the activities of a project. Project office also facilitates effective utilization of the resources. Studies show that project office contributes greatly for the successful completion of the projects.

ix) **Have phases of Project review** (ProRev): Phase review is very much important in order to find out the deviation or the lacking in the process from expectation. A good phase review increases the possibility of finding the limitations of the project initiation processes. It also facilitates the quick detection of the misuse of the resources. Studies show that good phase review increases the probability of a project being successful.

6. TEST OF HYPOTHESIS

The descriptive statistics for the explanatory and dependent variables is presented in the appendices (Table -1). The skewness and kurtosis of the variables are also provided.

A correlation matrix of all the above explanatory variables along with the dependent variables is constructed which is shown in Table 2. The reason for inclusion or exclusion of a variable has been detailed in the preceding section. Therefore, the final model based on the combined sample stands as follows:

The Model is

$$ProSucc = a + \beta_1 ProOppr + \beta_2 ProPrb + \beta_3 FeaStu + \beta_4 DecFs + \beta_5 SpeFs + \beta_6 ProCha + \beta_7 ProTeam + \beta_8 ProOff + \beta_9 ProRev + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

The model developed here is based on the sample of 50 companies. A summary of the regression output using the 'enter' method for the model is shown in Table 3.

7. DISCUSSIONS OF THE RESULTS

The regression analysis carried out in this study has some unique aspects. First, the sample provides an approximate fair representation of the companies that make use of project management tools. All major companies are covered by the sample that encompasses companies from both the private and public sectors. From Table 1 it is seen that the mean statistics of all of the studied variables are between 3 and 4 which means that the studied variables are important in the project success. Moreover, the statistics of skewness and kurtosis also support this. Furthermore, to assess whether the sample suffered from multicollinearity the correlation matrix is calculated. The table shows that the correlation between the pairs is not significant because none of the correlation coefficient is so high (>0.75) as to present significant multicollinearity problems. The regression output shown in table 3 indicates that the model is significant with an adjusted R^2 of 0.58. This is consistent with some of other studies. For each variable other than Project taken based on problem (ProPrb**)** and Feasibility Study done by Specialized firms **(**SpeFs**)** has positive beta coefficient that means they contribute to the success of the project. Moreover, the *p* value of the variables is not large enough to accept the hypothesis. However, the result does not agree with some of other studies in terms of Project taken based on problem (ProPrb**)** and Feasibility Study done by Specialized firms **(**SpeFs**).** The project taken on the basis of problem might not be successful due to the fact that in our country we consider project management practice works best in terms of opportunity and most companies tend to use project management effectively in case of availing of opportunity. Project management practice, though used for problem, does not bring success due to the nature of problem itself and the lack of interest to use project management effectively. In case of feasibility study done by specialized firms, our result is directly opposite to that of the most of the studies. It provides a dramatic scenario that focuses attention on further research to identify the factors responsible for this.

8. TESTS OF THE REGRESSION MODELS

The model developed in this paper has been tested for multicollinearity, heteroskedasticity, and stability. The tests and the results are presented in the following-

Tests for Multicollinearity: To determine whether the variables suffered from multicollinearity a correlation matrix is developed. From the matrix, it is seen that the correlations between independent variables are significant at 1% and 5%. Furthermore none of the correlation coefficients is so high (>0.75) as to present significant multicollinearity problems (D.A. Lind et al .2005)

Tests for heteroskedasticity: If the residuals of a regression equation are found to follow certain trend instead of, having a constant variance, heteroskedasticity problem is warranted. The following tests for detecting heteroskedasticity have been undertaken-

(i) The standardized & unstandardized residuals have been plotted in histograms and all of them were found to be normally distributed.
(ii) The observed residuals have been plotted against expected probability plot and the observed residuals were found to follow the expected probability plot and the observed residuals were found to follow the expected normal probability line.

Test for Stability: The stability of the model is tested using the Chow test that involves splitting the sample into two sub-samples and running the regressions separately for both the sub-samples. In the present study, the sample was divided into two sub-samples based on the using feasibility study and the regressions were run for both of them. No significant differences were found in the significant and insignificant variables across the sub-samples. Therefore, the results can be expected to remain valid across samples of companies from the same population.

9. SUMMARY & CONCLUSION

The objective of this study was to focus on the relationship between project success and project initiation processes. In particular, we have studied different phases of project initiation process in order to measure their effects on project success: project taken based on Problem and Opportunity, Conduct of Feasibility Study, Decision taken on the basis of Feasibility Study, Feasibility Study done by specialized firm, having Project Charter, Project Office and the Project Review.

With regard to each variable other than the project taken based on problem and feasibility study done by specialized firm there is a positive relation. That each factor contributes significantly to the success of a project. However, the result for project taken based on problem shows a negative relation. This is due to the fact that in our country we consider project management practice works best in terms of opportunity and most companies tend to use project management effectively in case of availing of opportunity. Project management practice, though used for problem, does not bring success due to the nature of problem itself and the lack of interest to use project management effectively. This result is inconsistent with the result of most of the other studies done in different countries.

In relation to the Feasibility Study done by the specialized firms it is seen that the rate of success of project is very high. However, our study provides an opposite results that is there is a negative relation. This is quite unexpected and this warrants further research to identify the factors responsible for this.

The study has several implications. First, it helps identify which factors of project initiation process are most important for successful completion of a project. Second, it provides policymakers to prescribe guidelines for big and important projects for their successful completion. Finally, the study opens up new horizons for further study in the area of project management practice in Bangladesh.

Further researches can be conducted in the same context by applying a different project success index or including the other variables of the project initiation process that might have significant effect on the project success.

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APPENDICES:

Questionnaire

No	Questions	Answers				
		Strongly Disagree	**Disagree**	**Neutral**	**Agree**	**Strongly Agree**
01	The project should taken on the basis of the opportunity					
02	The project should taken on the basis of the problem faced					
03	The feasibility study should considered before initiating a project					
04	The decision should be based on the final output of feasibility study					
05	The feasibility study should be accomplished by the organization itself or any other specialized firm					
06	There should be a project charter for the project undertaken					
07	The project team should be competent with the requirements of the project					
08	There should be a project office for the project you have undertaken					
09	The project initiation phase should be followed by a phase review					
10	The project success is very much dependent on the project initiation process (the steps above mentioned)					

1= Strongly Disagree; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Strongly Agree.

Table 1: Descriptive Statistics of the Dependent & Explanatory Variables

							Skewness		Kurtosis	
	N Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Variance Statistic	Statistic	Std. Error	Statistic	Std. Error
ProSucc	50	2.00	5.00	4.2200	0.9321	0.869	-1.093	0.337	0.386	0.662
ProOppr	50	2.00	5.00	4.0600	0.8429	0.711	-0.755	0.337	0.249	0.662
ProProb	50	2.00	5.00	3.6600	0.9606	0.923	-0.118	0.337	-0.910	0.662
FeaStu	50	3.00	5.00	4.1000	0.6144	0.378	-0.055	0.337	-0.260	0.662
Dec Fs	50	2.00	5.00	4.1600	0.6180	0.382	-0.647	0.337	2.132	0.662
SpeFs	50	3.00	5.00	3.9000	0.6776	0.459	0.123	0.337	-0.746	0.662
ProCha	50	2.00	5.00	3.9400	0.7398	0.547	-0.848	0.337	1.315	0.662
PrTeam	50	3.00	5.00	4.0400	0.6688	0.447	-0.045	0.337	-0.669	0.662
Valid N (listwise)	50									

Table 02: Matrix for Explanatory Variables with the Dependent Variables

	ProSucc	ProOppr	ProPrb	FeaStu	DecFs	SpeFs	ProCha	ProTeam	ProOff	ProRev
ProSucc	1									
ProOppr	0.295	1								
ProPrb	-0.165	-0.1	1							
FeaStu	0.317	0.225	-0.01	1						
DecFs	0.15	0.138	0.162	0.279	1					
SpeFs	-0.255	-0.204	0.292	-0.074	0.136	1				
ProCha	0.079	0.071	-0.374	0.148	0.2	0.069	1			
ProTeam	0.182	-0.004	-0.137	0.238	0.28	-0.081	0.335	1		
ProOff	0.165	0.02	0.223	-0.055	-0.028	0.187	-0.064	0.155	1	
ProRev	0.497	-0.08	-0.03	0.129	0.108	0.004	-0.131	0.137	0.346	1

Table 03: Summary of the Regression Output for the Sample Model Summary

Model	R	R Square	Adusted R Square	Std. Error of the Estimate
1	0.889	0.790	0.58	0.76875

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig
Regression	18.941	9	2.105	3.561	0.003
Residual	23.639	40	0.591		
Total	42.58	49			

Variables in the Equation

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std. Error	B		
Constant	0.093	1.509		0.062	0.001
ProOppr	0.261	0.142	0.236	1.844	0.053
ProPrb	-0.05	0.142	-0.051	-0.35	0.007
FeaStu	0.25	0.197	0.165	1.267	0.212
DecFs	0.058	0.207	0.038	0.28	0.078
SpeFs	-0.281	0.182	-0.204	-1.542	0.131
ProChar	0.113	0.182	0.09	0.623	0.005
ProTeam	0.006	0.191	0.004	0.031	0.004
ProOff	0.083	0.195	0.059	0.424	0.012
ProRev	0.6	0.168	0.481	3.564	0.001