

# CRITICAL FACTORS INFLUENCING PROJECT SUCCESS IN PLANNING AND IMPLEMENTATION OF PROJECT ORGANIZATIONS IN ETHIOPIA

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## ABSTRACT

The purpose of the study was to analyze factors affecting project success in case of South Gondar Zone. This study was carried out through qualitative and quantitative approach to analyze the response from the sample respondents. For the study descriptive and explanatory research design was employed. Furthermore, both primary and secondary data sources were used. In order to collect the necessary data questionnaire and interview was used. The target population of this study was professionals at project organization, consultants and contractors, planning workers and managers, finance and economic development employees and managers of South Gondar Zone. To this end, 112 respondents were taken as a sample for this study and to get them purposive and simple random sampling was used. Variables such as communication factors, team factors, technical factors, organizational factors, environmental factors were taken as independent variables and project success dependent variable. To check the correlations that exist among variables Pearson correlation was done. Multiple regressions were employed to examine the influence of predictors over the outcome variable. Furthermore As evidenced by this study, technical factors, team factors, and communication factors and environmental factors the major factors that affected the project success of the study area.

**Keywords:** communication, team, technical, organization, environment, project success

## 1. INTRODUCTION

In today's competitive project world, most businesses are focused on capturing market share and completing projects profitably. However, project success is a big trouble for many project managers. Successful accomplishment in project management can mean many things: it can be defined as sustainable and ongoing performance from both cost and time point of view (Hamed & Abolfaz, 2016). In the field of management practice, project success is the ultimate goal of each project. The implication of project success is not unified yet, its depth and breadth has been changing, but the iron triangle (i.e. cost-quality-time) is always at the core (Zhao, Jiang, LI, & Shu-lan, 2017). In terms of quality standards, cost, time, and safety precautions, project success can be described as a project that delivers greater results than expected or normally obtained. (Samiullah, Ashfaq, Kaleem, Muhammad, & Jam, 2018). Project completion appears to be largely dependent on successful project management strategies. (Abdulrahman & Alnefai, 2019). Ethiopia is a country with significant development potential in many aspects of life. This potential has enticed international

corporations from several industries to set up shop in Ethiopia (Pär, 2011). Failed projects in Ethiopia are raising the country's sunk cost since fixed investments are specific to the project's intended function and are difficult to liquidate or demand a high switching cost. Furthermore, it depletes the bank's loanable funds, which could be used to finance other initiatives that are critical to the country's economic progress. (Alex, 2018). As a result, the goal of this study was to assist in the discovery and recommendation of project success factors for the interested bodies in Ethiopia's South Gondar Zone.

### **1.1 Statement of the problem**

With increasing globalization causing a rapidly changing world, the project success has got considerable attention (Raafat, Heliu, & James, 2015). Projects are used in all economic and non-economic domains to organize activities with the goal of achieving desired outcomes. (Ioana & Razvan, n.d). The ability of projects to deliver what they set out to do, the expected benefits is just as important. For example, previous works on project success or project management success Iktoriya & Abylova (2019) were not limited only by traditional method but examined different aspects of success as human factors, knowledge transfer, stakeholders and perception concept, communication and advanced considerations. Public sector projects are not always implemented successfully in Africa. Both the Government and donor partners funded projects have reported poor performance and are a disappointment to project stakeholders and beneficiaries. It is commonly acknowledged that it has a negative impact on project success in terms of timeliness, quality, and cost. (Yosef, Emer, & Quezon, 2017). As developing countries, Ethiopia also faces project implementation challenges (Selam, 2017). Ethiopia is one of the world's poorest countries, and government administration divisions in charge of project management frequently lack budget and resources (Salman, Francesco, & Espen, 2018). Many of the projects implemented within the country failed to meet at least the iron triangle. Cost overrun, time overrun and problem with related to quality become common for those projects conducted in Ethiopia (Selam, 2017). Project failures continue at an alarming rate, despite the government of Ethiopia launching different projects. The high frequency of using projects in all fields determined the increasing importance of adequate project management. Particularly, in South Gondar Zone Government invest on several projects to improve economic growth and sustainability; expansions of different infrastructural activities like construction of roads, hospitals, schools, agricultural irrigation canal facilities and so on. As per view and understanding from experience of researcher there are major problems of project success in Ethiopia in general and the study area in particular. Hence, the researchers were interested to study the success factors that lead to project success in South Gondar Zone. Thus the study carried out with the following objectives:

- To assess the current project planning and implementation practices in South Gondar zone.
- To examine the relationship between the success factors and project success in the study area
- To identify which factors more contributing to project success in South Gondar zone

## **2. Empirical Review on Project Success Factors**

### **2.1 Communication factor**

Nothing is more crucial to a project's success than excellent communication. In order to create an environment that promotes project success, effective and succinct communication is critical. (Rashid, Rashid, Sultana, & Sudong, 2018). It should inflate at all project levels and during all phases of the project life cycle. The success of a project is determined by three factors: communication, communication, and communication (Venkata & Tekalign, 2020). Delays are tolerable if they are reported promptly and have a positive impact on clients' psychological satisfaction with projects. (Rashid, et al 2018).

H<sub>01</sub>: Communication factor has a positive and significant influence on project success

### **2.2 Team factor**

Project management has an open team aspect that necessitates a diversified geographical and cultural team to solve tomorrow's concerns (Rashid, et al 2018). Experienced project management team is a key to project success (Samiullah, et al 2018). Furthermore, project management is carried out by a variety of personal personalities with a diversity of backgrounds, resulting in a wide range of human behaviour and project expectations. Individuals participating in the project who have difficult habits and attitudes will now have a big impact on the project's success (Venkata & Tekalign, 2020).

H<sub>02</sub>: Team factor has a positive and significant influence on project success

### **2.3 Technical factor**

A project is effective if two aims are met: one is professional and technical skill, and the other is recognition of the client's significance, which increases customer happiness at the moment of exchange and future customer loyalty. The second is the extent to which it has met its technical objectives within the cost and time constraints set out (Rashid, Rashid, Sultana, & Sudong, 2018).

H<sub>03</sub>: Technical factor has a positive and significant influence on project success

### **2.4 Organizational factor**

Organizations want projects to be completed on schedule, on budget, and with the least amount of resources (Rashid, et al 2018). As per Venkata & Tekalign (2020) The success of a project is inextricably linked to the operations of the organization. An organization must have the best process, method, or technique that it can justify as a methodology that is more efficient and successful in achieving larger objectives. A good technique includes effective leadership that sends a clear and coherent message to all stakeholders, cultivates corporate culture, and leads to project management advancement (Rashid, et al 2018). The success rate of various projects is determined by a variety of factors, including the process of assigning resources to projects, departmental levels of support and involvement in the pursuit of stated goals, and managers' appraisal of group performance and project outcomes (Venkata & Tekalign, 2020).

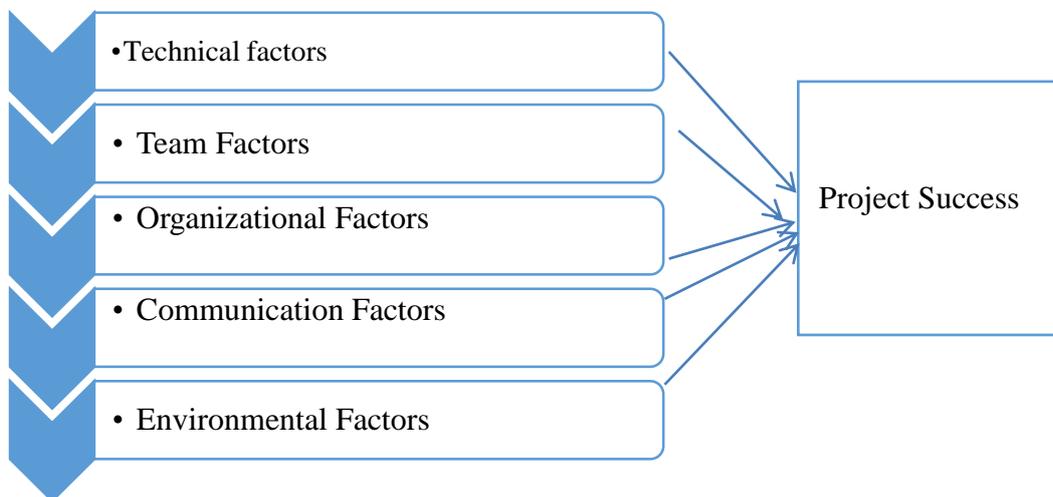
H<sub>04</sub>: Organizational factor has a positive and significant influence on project success

## 2.5 Environmental factor

With the increased instability of the business climate, businesses are becoming increasingly worldwide. A volatile climate makes it harder for enterprises to make decisions, but a more stable environment makes it easier to plan more effectively, which leads to project success. Environmental considerations include political and technological issues, which might influence the project's outcome, whereas environmental factors are classified as macro factors.

H<sub>05</sub>: Environmental factor has a positive and significant influence on project success

### Conceptual Framework of the study



**Figure 1: Conceptual Framework of the study adopted from literature review (2022)**

## 3. Research Methodology

In this research both qualitative and quantitative approaches was used. The research design that researchers adopted was explanatory and descriptive type. The researchers are initiated to examine cause of project success and attempted to find remedial measures in projects that are facing so it is exploratory. On the other hand it also used descriptive because it tries to describe the overall practices of project planning and implementation. The target population of this study was professionals at project organization, consultants and contractors, planning workers and managers, finance and economic development employees and managers. According to the data gathered from South Gondar Zone targeted woredas, the total population of employees was 290.

By using Yamane formula (1967) to 112 sample was determined for the study. For this study both primary and secondary data was employed. Both quantitative and qualitative data was used. Questionnaires and interview as a data collection tool was utilized. The researchers used the five-point Liker scale question. For the study the researchers employed

stratified sampling method. The samples were drawn by proportional allocation method and stratified simple random sampling method was used. Statistical Program for Social Science (SPSS) version 25 was used to analyze the gathered data. To examine the correlation between dependent and independent variables, descriptive analytic tools such as percentage, frequency, and Pearson correlation were used with SPSS software. The quantitative data was presented through table and qualitative data was presented in narrative form. Multiple regressions were also utilized to analyze the statistical connection between the dependent and independent variables

**Table 1: Sample size of the study**

Main source of data	Data collection tools	Districts	Population	Sample size
Employees (experts) and consultants and project contractors	Questionnaire	Farta	73	29
		Estie	66	26
		Libo Kemkem	69	27
		Fogera	76	30
Project managers from selected districts and Zone Finance and Economic Development Department.	In-depth interview	6		6
Total		290		118

Compiled by the researcher

## 4. Results and Discussion

### 4.1 Validity and Reliability of the data

The questionnaires were adopted from previous researchers work. The Validity and Reliability of the data was checked before distributing the questionnaire. For each statement scored on a 5-point liker scale, an internal consistency reliability test was undertaken using Cronbach's alpha coefficient test using a questionnaire that was provided for the pilot project Cronbach's alpha of 0.70 or above is usually considered an excellent indicator of dependability (Sekaran, 2003). Therefore the Cronbach's alpha coefficient for this study was checked for acceptable reliability. Thus, Technical factor has a Cronbach's alpha coefficient of 0.786, Team factor 0.830, Organizational factor 0.714, Communication 0.732, Environmental factor 0.831 and project success has a Cronbach's alpha coefficient of 0.864 as shown in the below table.

**Table 2: Reliability Statistics**

Variable	Cronbach's Alpha	Nof items
Technical factor	.786	4
Team factor	.830	4
Organizational factor	.714	5
Communication factor	.732	3
Environmental factor	.831	7
Project success	.864	4

#### 4.2 Current project planning and implementation practices of the study

From 118 distributed questionnaires 112 was returned to the researcher which was 95% return rate. Respondents are asked whether Project leaders have continuous involvement in the project planning and implementation and the majority of the respondents replied 49(43.8%) disagree, 30(26.8%) agree, 15(13.4%) strongly disagree, 11(9.8%) strongly agree, and 7(6.3%) undecided. As to Budget and progress monitoring process of the project is technically excellent, the majority of the respondents 52(46.4%) disagree, 30(26.8%) agree, 16(14.3%) strongly agree, 8(7.1%) strongly disagree, 6(5.4%) answered neutral. The respondents are asked to answer the statement “The Control mechanism of the project activities were poor”, the majority 45(40.2%) agree, 28(25%) strongly agree, 32(28.6%) disagree, 3(2.7% strongly agree, and 4(3.6%) answered neutral. Similarly respondents were asked the question “The Overall management actions of the project is effective” on the study area accordingly majority 50(44.6%) replied disagree, 17((15.2%) strongly disagree, 28((25%) agree, 9(8%) strongly agree, 8(7.1%) neutral.

#### 4.3 Multicollonarity test

The Variance Inflation he variable correlation factor (VIF) is used to see if one predictor has a strong linear association with the others. If the average VIF is larger than 1, multicollinearity may be biasing the regression model, and VIF greater than 5.0 suggests problems with multicollinearity. In addition to VIF tolerance statistics, (1/VIF) is used. Tolerance ratings of less than 0.1 indicate major issues (Field, 2009). Because the VIF value ranges from 1.073 to 2.393 and the Tolerance value is greater than 0.1 for all variables, the model exhibits strong multicollinearity, as shown in table below.

**Table 3: Multicollinearity**

Model		Collinearity test	
		Tolerance	VIF
1	Technical factor	.418	2.393
	Tem factor	.458	2.184
	Organization factor	.932	1.073
	Communication factor	.742	1.348
	Environmental factor	.803	1.245

Project success is a dependent variable

#### 4.4 Multiple Regression analysis

**Table 4: Regression output model summary**

Model Summary									
Model	R	R Square	Adjusted R Square	Rtd. Error of the Estimate	Change Statistics				
					R Square Change	F change	df1	Df2	Sig.F Change
1	.853 <sub>a</sub>	.728	.715	.32642	.728	56.632	5	106	.000
a. Predictors: (Constant), Environmental factor, Technical factor, Organization factor, Communication factor, Team factor Dependent variable: project success									

Source: survey findings 2022

The model summary gives us some crucial details about the model, such as the R, R Square, and Adjusted R<sup>2</sup> values. The R column contains the values of the multiple correlation coefficients between the predictors and the result. As we already know, the R<sup>2</sup> value in the next column is a measure of how much variability in the outcome is accounted for (Field, 2009). The adjusted R<sup>2</sup> value is 71.5 percent, and R<sup>2</sup> value of 72.8 percent as shown in the SPSS regression output model summary. That is, the selected explanatory variables of technical factor, Team factor, Organizational factor, communication factor and environmental factors account for 72.8 percent of the variation in project success. Furthermore, the model's overall significance is 0. Multiple regressions allow you to assess the predictive power of several independent variables and discover the optimal collection of factors for predicting a dependent variable. It also allows you to investigate how numerous independent factors interact to determine a dependent variable's value. To begin, type or paste something into this box, then hit the enter key. It also calculates the standard errors associated with each of these regression coefficients in order to assess the precision with which we estimate how the many potential independent variables interact (Glatz & Slinker, 1990).

**Table 5: Coefficient**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.153	.282		.541	.589
	Technical factor	.318	.081	.306	3.904	.000
	Team factor	-.105	.082	-.096	-1.279	.204
	Organization factor	-.169	.042	-.211	-4.015	.000
	Communication factor	.221	.062	.210	3.565	.001
	Environmental factor	.633	.061	.586	10.360	.000

a. Dependent Variable: Project Success

Source:-Researcher findings 2022

The specific beta values of each independent variable are shown in the coefficients table above. If the value is positive, we know that the predictor and the outcome have a positive association, whereas a negative coefficient indicates a negative link. Technical factor, Communication factor, and Environmental factor all have positive b-values for these variables, indicating positive associations. Tem factor and Organization factor, on the other hand, reveal a negative link. It also informs us how much each prediction influences the outcome. Assuming that the effect of all other predictors is constant, the coefficient model formula as follows:

$$Y=a+B_1X_1+B_2X_2+B_3X_3+B_4X_4+B_5X_5+\dots\mu t$$

$$Y=a+B_1CF+B_2TeamF+B_3TF+B_4OF+B_5EF+\dots\mu t$$

$$Y=0.153+0.318B_1-0.105B_2-0.169B_3+0.221B_4+0.633B_5$$

Where,

- ☞ Y= dependent variable (Project Success)
- ☞ a= Constant
- ☞ B<sub>1</sub>, B<sub>2</sub>.....B<sub>6</sub>=coefficients
- ☞ CF, Team F, TF, OF, EF, are independent variables (Communication Factors, Team Factors, Technical Factors, Organizational Factors, Environmental Factors) respectively
- ☞ μt= error

If no other variables change, the effect of one unit change in technical factor will affect 31.8% project success, according to the beta value of Technical Factor (= 0.318). Team Factor has a beta value of (= -0.105), indicating that the influence of Team Factor will result in a 10.5 percent negative effect in project success. When all other factors are held constant, it is statistically significant at p 0.05. The beta value for Organizational Factor is (= -0.169, p0.05) and it is significant, implying that a one-unit increase in Organizational Factor will result in a 16.9 percent decrease in project success provided all other factors remain constant.

The beta value of Communication factor is ( $= 0.221, p0.05$ ) meaning that the communication element will have a favourable impact on project performance by 22.1 percent. Accordingly the beta value of Environmental factor is ( $=0.633, p0.05$ ) indicates that the influence of environment factor is 63.3 percent in project success.

#### 4.5 Factors more contributing to project success

**Table 6: Correlation**

Correlations		Technical factor	Team factor	Organizat ion factor	Communicati on factor	Environ mental factor
Technical factor	Pearson Correlation	1	.684**	.011	.457**	.373**
	Sig.(2-tailed)		.000	.907	.000	.000
	N	112	112	112	112	112
Team factor	Pearson Correlation	.684**	1	.180	.459**	.097
	Sig.(2-tailed)	.000		.058	.000	.310
	N	112	112	112	112	112
Organization factor	Pearson Correlation	.011	.180	1	.116	-.114
	Sig.(2-tailed)	.907	.058		.221	.232
	N	112	112	112	112	112
Communication factor	Pearson Correlation	.457**	.459**	.116	1	.187*
	Sig.(2-tailed)	.000	.000	.221		.049
	N	112	112	112	112	112
Environmental factor	Pearson Correlation	.373**	.097	-.114	.187*	1
	Sig.(2-tailed)	.000	.310	.232	.049	
	N	112	112	112	112	112
**. Correlation is significant at the 0.01level (2-tailed).						
*. Correlation is significant at the 0.05level (2-tailed).						

As was demonstrated, on the above correlations analysis the Pearson Correlation indicates technical factor has significant correlation with Team factor 0.684\*\*, Communication factor 0.457\*\* and Environmental factor 0.373\*\*. Team factor had significant correlation communication factor Pearson Correlation of 0.459\*. Similarly, the Pearson Correlation analysis result 0.187\* indicates communication factor has correlations with environmental factors. Therefore according to the study result technical factor, team factor, communication factor, and environmental factors have a positive significance on the project success and the researcher accepts the hypothesis. Whereas according to the study result organizational factors have no significant correlations with project success factors; hence, the researcher reject the hypothesis.

## 5. Summary Conclusion and Recommendation

### 5.1. Finding of the results

The findings of this study from project management professionals, project consultants and project contractors, project managers at finance and economic development department in order to analyze factors affecting the project success. According to this study, technical factors, team factors, communication factors and environmental factors have beneficial effects for project success. The majority 64(57.2%) of the respondents replied Project leaders have no continuous involvement in the project planning and implementation. The majority 58(51.8%) of the respondents replied budget and progress monitoring process of the project is technically not excellent. The majority 73(65.2%) of the respondents replied the Control mechanism of the project activities were poor. Similarly, majority 67(59.8%) of the respondents replied the Overall management actions of the project is ineffective. The Pearson Correlation analysis indicates technical factor has significant correlation with Team factor 0.684\*\*, team factor had significant correlation with Communication factor 0.457\*\* and Environmental factor 0.373\*\*. Team factor had significant correlation communication factor Pearson Correlation of 0.459\*\*. Similarly, the Pearson Correlation analysis result 0.187\* indicates communication factor has weak correlations with environmental factors. This study reveals that the independent factors, such as technical factors, team factors, communication factors, and environmental factors, have statistically significant effects on project success. There is a positive / direct link between project success and technical elements such as team factor, organizational factor, communication factor, and environmental factor, according to prior theories and study hypotheses. According to the results of the regression analysis, there is a statistically significant relationship between project success and technical factors, team factors, communication factor and environmental factors.

### 5.2. Conclusions

The primary goal of this study was to analyze factors affecting project success in south Gondar zone. According to the findings Project leaders have no continuous involvement in the project planning and implementation. Budget and progress monitoring process of the project is technically not excellent. Control mechanisms of the project activities were poor. As result the overall management actions of the project is ineffective in project delivery at the study area. According to the findings from Pearson correlations analysis, project success is positively influenced by technical factor, communication factor, and environmental factors, but negatively influenced by team factor and organizational factors. Project factors have a statistically significant impact on project success, according to the correlations. A project is successful over achievement of the professional and technical expertise and recognition of the customer's importance amplifies customer satisfaction at the time of exchange whereas customer loyalty in future. the degree to which it has attained its technical objectives within the specified parenthesis of costs and time (Rashid, Rashid, Sultana, & Sudong, 2018). Nothing is more important to the success of a project than effective communication. Elective and concise communication is utmost necessary in forming an environment that delivers project success (Rashid, Rashid, Sultana, & Sudong, 2018). Political and technological

factors are important ingredients of the environmental factors to alter the project's destiny, whereas environmental factor is identified as a macro factor. As evidenced by this study, technical factors, team factors, communication factors and environmental factors the major factors that affects the project success in the study area.

### **5.3. Recommendations**

Recommendations related to project planning and implementation practices on project success: Budget and progress monitoring process of the project should be technically excellent by periodically using monitoring and evaluation techniques based on project progress and performance.

Recommendations related to technical factors on project success: technical skill of the project staffs should be improved by providing training related to their job. It is better the government officials in the respective project areas providing adequate support for the project staffs.

Recommendations related to communication factors on project success: Communication problems hamper project success so that the communication system should be established by the project organization and there should be good working relationship between project team leaders and worker staff to successfully implement the project plan.

Recommendations related to environmental factors on project success: The general state of economic policy such as tax policy and inflation rate affects the project success and insufficient supply of materials is a critical problem for the project success. The escalation of prices material is severely affecting our project success due to high inflation rate in Ethiopia. The state Government should work on how to make stable the economy of the country. It was highly recommended that the project organization implement an effective safety, quality assurance and environmental programs for successful accomplishment of projects.

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