PROJECT PLANNING AND THE SUCCESS OF MTN BOREHOLE PROJECT IN RUHANGO DISTRICT, RWANDA

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Abstract:

The study investigated the project planning and success of MTN Borehole Project in Ruhango District, Rwanda. The specific objectives are to determine the effect of resource planning on the success of MTN Borehole project in Ruhango District; the effect of time schedule on the success of MTN Borehole project in Ruhango District; the effect of scope planning on the success of MTN Borehole project in Ruhango District; and the effect of Risk management on success of MTN Borehole projects in Ruhango District. The descriptive and correlative research design were used in this study deeply to investigate and analyze the project planning and project success. Target population was 145 employees in Ruhango District. The use census survey used to select all 145 people as sample size. Data collection methods were documentary analysis; and questionnaire. Descriptive statistic method was used to analyze the collected data; correlation coefficient and multiple linear Regression analysis models. The results revealed that positive and strong correlation between project communication planning and success of MTN Borehole project in Ruhango District as Pearson correlation was 0.891^{**} with the p-value of 0.000 which is less than standard significance level of 0.01. This indicates that, out of the considered other factors influence success of MTN Bore Hole projects in Ruhango District. The results show that there is a positive and very strong correlation between Project Time schedule and the success of MTN Borehole project in Ruhango District as Pearson correlation is 0.905^{**} with the p-value of 0.000 which is less than standard significance levels of 0.01. Findings show that there is a positive and very strong correlation between Project Scope Planning and the success of MTN Borehole project in Ruhango District as Pearson correlation is 0.941^{**} with the p-value is 0.000, which is less than standard significance level of 0.01. This indicates that, out of the considered other factors influencing success of MTN Borehole project in Ruhango District., only Project Scope Planning have significant and positive relationship of 94.1% with the success of MTN Borehole project in Ruhango District. Findings show that there is a positive and very strong correlation between Project Risk management and the success of MTN Borehole project in Ruhango District as Pearson correlation show 0.992^{**} with the p-value is 0.000, which is less than standard significance level of 0.01. The findings revealed that the level of significance was 0.000(b) this implies that the regression model is significant in predicting the relationship between project planning and success of MTN Borehole projects in Ruhango District. The findings showed level of f-test model is 2461.901 which is positive with p-value of 0.000b less than both standard significance levels of 0.05 and 0.01. This means that the study retained all alternative hypotheses.

1. Introduction

Project planning is part of project management worldwide which relates to the use of schedules such as Gantt charts to plan and subsequently report progress within the project environment. Successful projects are those that meet business requirements, are delivered and maintained on schedule, are delivered, and maintained within budget, and deliver the expected business value and return on investment (Gray & Larson, 2018). The project success is majorly revealed into five major components including customer satisfaction, learning and exploitation, stakeholder objectives, user satisfaction and operational assurance. Environmental regulations control the placement of transmission towers to protect the population from radiation, while the installation of satellite antennas must consider resistance to wind. Cables must be rodent-resistant.

Wireless transmissions must meet specific health laws as well as aesthetic standards. When different classes of service are offered to meet some marketing goals, this could translate into different types of licenses, each of which is subject to different laws and regulations for individual country. Thus, in telecommunication services, risk analysis calls upon a combination of engineering, financial and legal expertise (Desmond, 2014). The industry leader in Rwanda's mobile telecommunications is MTN Rwanda-cell PLC (MTN Rwanda). They have been the nation's top network since 1998 and have consistently invested in growing and modernizing our reach. MTN further explained in the Borehole Project, Project Zero aligning with Rwanda's Climate Action Plan to eliminate 38% of greenhouse gas emissions by 2030 (relative to business as usual), building up to our Vision 2050 of a carbon neutral economy. The MTN Foundation was likewise started in February 2010 and is run by a board of Rwandans from outside the country.

The foundation provides funding for projects in the fields of environment, health, economic empowerment, and education. Giving grants or making social investments into initiatives or programs with the goal of having a long-lasting positive impact on society is what is meant by corporate social investment. Such initiatives ought to fulfil the demands of the global community as agreed upon in the Sustainable Development Goals (SDGs) (https://www.mtn.co.rw Retrieved 25/05/2023) and be in line with MTN's main business. The foundation provides funding for projects in the fields of environment, health, economic empowerment, and education. Giving grants or making social investments into initiatives or programmes with the goal of having a long-lasting positive impact on society is what is meant by corporate social investment. Such initiatives ought to fulfil the demands of the global community as agreed upon in the Sustainable Development Goals (SDGs) (https://www.mtn.co.rw Retrieved 25/05/2023) and be in line with MTN's main business.

In accordance with the MTN Group's Ambition 2025 goal, MTN Rwanda launched the Green Rwanda project in December 2021 in support of the Rwandan Government's plan to eliminate greenhouse gases by 2050. In order to provide drinking water to 500 families in the Ruhango District, MTN Rwanda cell Plc (MTN Rwanda) and Living Water International-Rwanda, an international non-governmental organisation, have signed a Memorandum of Understanding (MoU). This project is expected to be completed by June 30, 2022. Two long-lasting hand pump boreholes were supposed to be drilled and erected to service the villages in Ruhango District for twelve million Rwandan Francs (12,000,000). After construction was finished, the Water User Management Committees, with technical assistance from Living Water International and district oversight, fully owned and controlled them (MTN Rwanda, 2023). In collaboration with the Rwandan Ministry of Environment, Rwandan Environmental Management Authority, and Global Green Growth Institution Rwanda, the project was started (MTN Rwanda, 2023).

Statement of the Problem

Despite the effort used generally in environment protection and access to clean water projects for all in the Rwandan communities, most of the project management in Rwanda are critically still facing some issues like completion delays, lower quality, cost overrun, underperformance and other challenges that consequently lead to the unsatisfied project sponsors or customers (Anne C., 2022). In addition, the presence of lack of sufficient preparation, inadequate project documentation and tracking, poor project leadership, failure to define project parameters, inexperienced project managers, inaccurate cost estimation of project, poor project communication between teams, poor project financial and resource planning that leads to unsatisfactory project success (Anne C., 2022). Guoli (2010) found that the consequences of insufficient cash flow in a project are frequently associated with delays and significant extra costs because there is a significant threat for a temporary discontinuation of the entire project.

However, most of the studies reviewed, have contributed much to current study, but the authors did not clarify how does resources planning; financial resource planning; time and scope planning as the factors of project planning influence the success of projects in Rwanda as the scarce of studies around Rwanda.

Objective of the Study

The general objective of this study was to determine the effect of project planning on project success. The study was directed by four specific objectives:

[i] To determine the effect of resource planning on the success of MTN Borehole project in Ruhango District.

[ii] To identify the effect of time schedule on the success of MTN Borehole project in Ruhango District.

[iii] To identify the effect of scope planning on the success of MTN Borehole project in Ruhango District.

[iv] To determine the effect of Risk management planning on success of MTN Borehole projects in Ruhango District;

Research Hypothesis

This study verified the following alternative hypothesis:

[i] Ha1: There is significance effect of resource planning on success of MTN Borehole project in Ruhango District;

[ii] Ha2: There is significance effect of time management on success of MTN Borehole project in Ruhango District.

[iii] Ha3: There is significance effect of scope planning on success of MTN Borehole project in Ruhango District.

[iv] Ha4: There is a significance effect of Risk management planning on success of MTN Borehole project in Ruhango District;

2. Conceptual Review

Project Planning

According to the World Bank (2020), randomized planning involves the collection of information on a project at points in time which provide the most rigorous statistical analysis of project impacts and the contribution of other factors.

Project Scope

The project scope is the definition of what is expected to achieve and specify the budget of both costs that needs to be provisioned to create the project deliverables before the project gets closed, one needs for the best result, one needs to take care of clearly carving out project definition the budget requirements. More detailing & precision during project planning help the team organize their work efficiently and deliver the project more effectively (Cho, 2010).

Project time schedule

According to Eric and Murray (2011), in the world of project management, project schedules can be characterized by their level of sophistication, by their intended usage, or by the nature of their content. Project schedules range in sophistication from the most basic (an activity listing and a deadline) to the most complicated.

Project Communication planning

Project management communication: Effective communication is crucial to a project's success. It is crucial to carefully plan out communication with all project stakeholders and to create realistic expectations. Learning the customer's expectations and initiating face-to-face first contact with the project team to develop team dynamics are essential for project success. Effective communication requires simultaneous sending and receiving of messages (Kerzner, 2011).

Project Risk Management

Risk management has been one of the major concerns of executives and professionals involved with projects today, especially after the financial crisis that shook the world in 2008. Ex-post evaluations of projects and even the verification of missed commercial prospects for firms are blatant signs that the evidence has gotten stronger (Zwikael & Sadeh, 2017).

Project Success

A successful project has a number of important traits. Understanding a project's fundamental nature, the key elements of project management processes, how success is measured, the roles, responsibilities, and activities of a project manager, the level of expertise needed, and the environment in which projects are carried out are all necessary to comprehending a project's value (Project Management Institute, 2014).

3. Empirical Literature

Tache (2011) carried out a study on developing an Integrated Planning for Sustainable Investment Projects in Romania. The objective of the study was to develop a general integrated flow, encompassing both a project planning for the investment projects to assess its success, as well as cross-cutting social and environmental targets. The whole approach was presented as a flowchart, which highlights the intimate relationship between the project planning and

provides a formal framework for performing a logical monitoring and project success, considering simultaneously the economic, social and environmental perspectives.
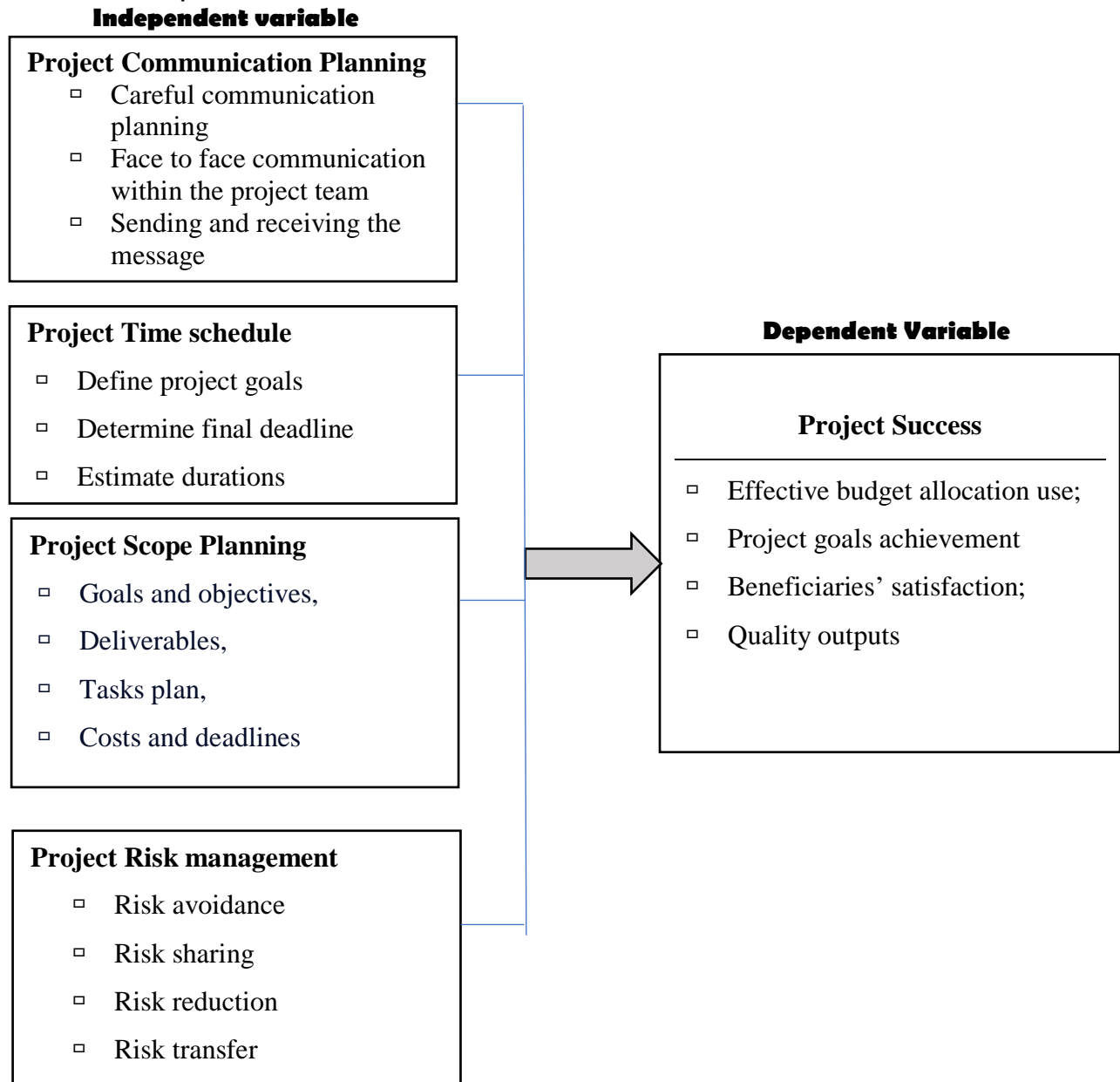
The study used critical analysis and found both the estimated advantages and the disadvantages of such a project planning tool, opening new perspectives for developing further improved models and systems. Jiang (2014) investigated the link between Chinese project success and project management. The author's study's goal was to examine the contribution of management to project success. He did this using a documentary review method and discovered that, even though leadership or management is rarely considered when project planning variables are considered, it still has an impact on project success through a variety of patterns, including teamwork abilities and management skills with both followers and clients.

A study on change management and how it affects project implementation in Malesia was done in 2013 by Fatima, Alyaa, and Abdul. Using documentary analysis, they were able to determine that a number of things, including bad project management, are to blame for the current high rate of project failure. Additionally, creating a dynamic structure is very challenging due to how quickly time changes from day to day. Therefore, to ensure the success of the project's implementation benefit, professional management is required. Lucky change management is highly sought after to ensure the outcomes and sustainability of any organizations because of its attention on enhancing project planning to deal with the current significant change component.

4.Conceptual Framework

This study evaluates project planning as independent variables represented by communication planning; time schedule, scope planning; risk management planning and dependent variables is success of projects represented by effective budget allocation use; project goals achievement; beneficiaries' satisfaction; and quality outcomes of project. Figure 1 shows the conceptual framework as follows:

Independent variable

Project Communication Planning
- Careful communication planning
- Face to face communication within the project team
- Sending and receiving the message

Project Time schedule
- Define project goals
- Determine final deadline
- Estimate durations

Project Scope Planning
- Goals and objectives,
- Deliverables,
- Tasks plan,
- Costs and deadlines

Project Risk management
- Risk avoidance
- Risk sharing
- Risk reduction
- Risk transfer

Dependent Variable

Project Success
- Effective budget allocation use;
- Project goals achievement
- Beneficiaries' satisfaction;
- Quality outputs

Figure 1: Conceptual Framework
Source: Researcher conceptualization (2023)

5. METHODOLOGY

The researcher employed descriptive and correlative study designs. Descriptive research's goal is to fairly reflect the subjects of the investigation. An explanation of people, phenomena, and situations is provided via a descriptive study design. The necessity to demonstrate a correlation or relationship between the variables was taken into account in the study. As part of this research design, a thorough assessment and analysis of the effects of

communication planning, project resource planning, time scheduling, scope planning, and risk management on project success in Rwanda was conducted. The population should fit a certain specification, which the researcher is studying, and the population should be homogenous. The target population was 145 employees who are involved in the implementation of MTN Borehole project in Ruhango District. The sample is a small portion of the population that represents a sizable population. Slovin's hypothesis claimed that when a population is small, a sample size formula is not necessary; instead, the researcher can simply utilize a sampling procedure to choose a representative sample of the entire population for the study. The researcher prefers to choose all 145 participants in this study as the sample size using the census survey sampling approach.

Table 1: Stratification of Population

S/n	Category	Population	Sample size
1	Engineers, plumbers, technicians	16	16
2	Project management team	49	49
3	M&E team	32	32
4	Supervisors	11	11
5	Field officers	37	37
	TOTAL	**145**	**145**

Source: *Structure of MTN Borehole project in Ruhango District (2023)*

If the researcher prefers to use a census survey sampling technique to select all 145 people as the sample size for their study, it means they intend to collect data from every single member of the population of interest. Using a census survey ensures that every member of the population is included in the study. This can provide the most accurate and comprehensive data possible for the research objectives. Because every participant is included in the sample, results from a census survey can be securely generalized to the entire population. It takes a lot of time and money to conduct a census survey, especially in areas with bigger populations.

In conclusion, a census survey is a great option when the goals of the research and the resources at hand are in line with the desire to gather information from every member of the community. Although it removes sampling error and offers the maximum level of accuracy, it necessitates careful planning and resource allocation. The questionnaire is preferred in primary data because the respondents were free to give answers to the questions. Also, it is encouraging respondents to give open and close questions to sensitive questions thus helping the researcher to acquire important information. The questionnaires were in English. The use of questionnaires involved a list of written questions given to certain categories of employees. The scaling was composed of the following: 1=Strongly Disagree (SD), 2=Disagree (D), 3=Neutral, 4=Agree (A) and 5=Strongly Agree (SA). Statistical Package for the Social Sciences (SPSS) version 23.0 and excel were used by researcher in processing and analysis of data which inform the presentation of findings, analysis and interpretation. The presentation focused on the research questions, the kind of statistical treatment depends upon the nature of the problem, especially the specific and the nature of data gathered. The data collected were analyzed with respect to study objectives, using both descriptive and correlative research designs. The results obtained were presented in the form of tables.

Descriptive statistic method was the term given to the analysis of data that helped to describe, how or summarize data in a meaningful way. In addition, to descriptive statistics, researcher used multiple regression model and diagnostic tests associate with the test of Pearson correlation examines project planning and success of projects. Many linear Equation econometric models were used to demonstrate relationships using regression analysis models: $y=f(x)$; $Y= \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \varepsilon$ where x1 refers to planning for communications, x2 to planning for timetables, x3 to planning for scope, and x4 to managing risk planning; The y-intercept is 0; the slopes of the line are 1 through 4; and the error term is.

6. RESULTS

The questionnaires were addressed to 145 respondents who were given two weeks of responding and data collection results indicated participation rate of 100.0% to fill the questions. This allowed us to proceed with data cleaning and analysis step in order to produce statistical tables. Findings show the distribution of respondents by age; the results confirmed that majority of respondent's range between 46-55 years old. This is justified by 56 or 38.6% of respondents who are between 46-55years old; followed by 39 or 26.9% of respondents who were less than 25years. The findings also show 36 or 24.9% are between 26-45 years old representing 14 or 9.7% who are 56 years and above. Findings illustrate the marital status of individuals can typically be categorized into several common statuses: single, married, widowed; divorced/separated. The results revealed that 69 or 47.6% respondents were single, 70 or 48.3% of the respondents were married, and 6 or 4.1% respondents were divorced/separated respondents.

6.1 Inferential Statistics Analysis

Inferential statistics is a branch of statistics that involves drawing conclusions or making inferences about a population based on a sample of data. It is a crucial part of data analysis and is used to make predictions, test hypotheses, and make generalizations about a population from which a sample is drawn.

Normality Analysis Tests

Normality analysis tests are statistical methods used to assess whether a data set follows a normal distribution, which is a fundamental assumption in statistical techniques. Many statistical methods, such as t-tests and analysis of variance (ANOVA), assume that the data is normally distributed. If the data deviates significantly from a normal distribution, it can affect the validity of these statistical tests. In this study, they have used common tests and graphical methods to assess the normality of data like histogram; normal Probability Plot (Q-Q Plot) which is a graphical tool that compares the quantiles of your data against the quantiles of a normal distribution. If the points on the plot fall approximately along a straight line, it suggests that the data follows a normal distribution. The Shapiro-Wilk Test is used as a formal statistical test for normality. It tests the null hypothesis that a dataset comes from a normally distributed population. If the p-value from this test is greater than chosen significance level (e.g., 0.05), we would fail to reject the null hypothesis, indicating that the data appears to be normally distributed, and Kolmogorov-Smirnov Test is used to compare the cumulative distribution function (CDF) of our data to that of a normal distribution.

Table 2: Case Processing Summary

| | Cases | | | | | |
| | Valid | | Missing | | Total | |
	N	Percent	N	Percent	N	Percent
Project Planning	145	100.0%	0	0.0%	145	100.0%
Project Success	145	100.0%	0	0.0%	145	100.0%

Table 3: Descriptive

			Statistic	Std. Error
	Mean		88.3690	1.81780
	95% Confidence Interval for Mean	Lower Bound	84.7759	
		Upper Bound	91.9620	
	5% Trimmed Mean		90.1552	
Project Planning	Median		101.5000	
	Variance		479.138	
	Std. Deviation		21.88923	
	Minimum		31.83	
	Maximum		107.50	

			Statistic	Std. Error
	Range		75.67	
	Interquartile Range		30.58	
	Skewness		-1.021	.201
	Kurtosis		-.107	.400
Project Success	Mean		28.9267	.68693
	95% Confidence Interval for Mean	Lower Bound	27.5689	
		Upper Bound	30.2845	
	5% Trimmed Mean		29.6075	
	Median		35.6250	
	Variance		68.422	
	Std. Deviation		8.27177	
	Minimum		9.25	
	Maximum		35.63	
	Range		26.38	
	Interquartile Range		14.19	
	Skewness		-.993	.201
	Kurtosis		-.159	.400

Table 4: Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	Df	Sig.
Project Planning	.652	145	.000	.816	145	.000
Project Success	.701	145	.000	.781	145	.000

a. Lilliefors Significance Correction

The mean and median as shown in the 'Descriptive' table are extremely similar. The skewness for Project planning is -1.021; while for Project Success, it becomes -.993 as shown in the 'Descriptive' table which is well within the acceptable range of -1 to 1. The kurtosis for Project e planning is -.107 and also -.159 for project success as shown in the Descriptive table, which is within the acceptable range of -1 to 1. The value for the Shapiro-Wilk test is 0.252 and 0.301 for project planning and project success as listed under 'Sig.' in the 'Tests of Normality' table that greater than 0.05 as required. The stem and leaf plot are roughly symmetrical. The points do not deviate much from the line in the Normal Q-Q plot, and there are roughly equal number of points above and below the line in the detrended Q-Q plot. The median is approximately in the middle of the box plot, the whiskers are of similar length and there are no outliers. This helps to continue with testing inferential statistics included by correlation coefficient and multiple linear regression analysis.

6.2 Correlation Coefficient Analysis

Findings indicated the correlation coefficient matrix as a table showing correlation coefficients between variables. Each cell in the table shows the correlation between two variables. A correlation matrix is used to summarize data obtained from respondents in MTN Borehole projects in Ruhango District. Table 5 shows the findings on correlation coefficient matrix results as follows.

Table 5: Correlation Coefficient between Variables

		Project Communication Planning	Project Time schedule	Project Scope Planning	Project Risk management	Project Success
Project Communication Planning	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	145				
Project Time schedule	Pearson Correlation	.782**	1			
	Sig. (2-tailed)	.000				
	N	145	145			
Project Scope Planning	Pearson Correlation	.822**	.960**	1		
	Sig. (2-tailed)	.000	.000			
	N	145	145	145		
Project Risk management	Pearson Correlation	.904**	.893**	.930**	1	
	Sig. (2-tailed)	.000	.000	.000		
	N	145	145	145	145	
Project Success	Pearson Correlation	**.891****	**.905****	**.941****	**.992****	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	145	145	145	145	145

**. Correlation is significant at the 0.01 level (2-tailed).

From the correlation matrix test in table 5, results showed that there is a positive and strong correlation between project communication planning and success of MTN Borehole projects in Ruhango District as Pearson correlation is 0.891** with the p-value of 0.000 which is less than standard significance level of 0.01. This indicates that, out of the considered other factors influence success of MTN Borehole projects in Ruhango District, only project communication planning has a significant highly influence of 89.1% on the success of MTN Borehole projects in Ruhango District. The results show that there is a positive and very strong correlation between Project Time schedule and the success of MTN Borehole projects in Ruhango District as Pearson correlation is 0.905** with the p-value of 0.000 which is less than standard significance levels of 0.01. This indicates that out of the considered other variables of project planning affect the success of MTN Bore Hole projects in Ruhango District; only the Project Time schedule has a significant relationship of 90.5% with success of MTN Borehole projects in Ruhango District.

Findings show that there is a positive and very strong correlation between Project Scope Planning and the success of MTN Borehole projects in Ruhango District as Pearson correlation is 0.941** with the p-value is 0.000, which is less than standard significance level of 0.01. This indicates that, out of the considered other factors influencing success of MTN Borehole projects in Ruhango District., only Project Scope Planning have significant and positive relationship of 94.1% with the success of MTN Borehole projects in Ruhango District. Findings show that there is a positive and very strong correlation between Project Risk management and the success of MTN Borehole projects in Ruhango District as Pearson correlation show 0.992**with the p-value is 0.000, which is less than standard significance level of 0.01. This indicates that, out of the considered other factors influencing success of MTN Borehole projects in Ruhango District, only Project Risk management has significant and positive relationship of 99.2% with success of MTN Borehole projects in Ruhango District.

6.3 Regression Analysis

Regression analysis is a powerful tool for understanding and modeling the relationships between variables, making predictions, and drawing meaningful insights from data. However, it's important to choose the appropriate regression model and validate its assumptions to ensure the reliability of the results. $Y = a + b_1X_1 + b_2X_2 + ... + b_nX_n + \varepsilon$. Y represents the dependent variable; X represents the independent variable; a is the intercept (the value of Y when X is 0); b is the slope (how much Y changes for a unit change in X); ε represents the error term, which accounts for unexplained variation in Y. The model summary table reports the strength of the relationship between the model and the dependent variable. R., the multiple correlation coefficient, is the linear correlation between the observed and model-predicted values of the dependent variable. Its large value indicates a strong relationship. R-squared (R^2) is a statistical measure that represents the proportion of the variance for a dependent variable that's explained by an independent variable or variables in a regression model.

Table 6: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.993[a]	.986	.986	.99323

a. Predictors: (Constant), Project Risk management, Project Time schedule, Project Communication Planning, Project Scope Planning

b. Dependent Variable: Project Success

To explain the percentage of variation in the dependent variable (Project Success) as explained by the independent variables. Findings in the model summary Table 6 explained whether the model is a good predictor. From the results of the analysis, the findings displayed that project planning represented by project risk management, project time schedule, project communication planning, project scope planning which has contributed R=0.993[a] of the variation in project success like success of MTN Borehole projects in Ruhango District as explained by r^2= 0.986 which indicates 98.6% in the model as positive and very strong, as the independent variable very highly explained the dependent variable (**i.e.,** success of MTN Borehole projects in Ruhango District) and show that the model is a good prediction. Adjusted R-Square is also 0.986 used to compensate other factors which are not in the model of this study with the Std. Error of the Estimate of 0.99323.

Table 7: ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	9714.689	4	2428.672	**2461.901**	**.000[b]**
1	Residual	138.110	140	.987		
	Total	9852.800	144			

a. Dependent Variable: Project Success

b. Predictors: (Constant), Project Risk management, Project Time schedule, Project Communication Planning, Project Scope Planning

The findings in table 7 revealed that the level of significance was 0.000[b] this implies that the regression model is significant in predicting the relationship between project planning and success of MTN Borehole projects in Ruhango District. The findings showed level of f-test model is 2461.901 which is positive with p-value of 0.000[b] less than both standard significance levels of 0.05 and 0.01. This means that the study retained all alternative hypothesis confirmed that Ha1 which stated that there is significance effect of resource planning on success of MTN Borehole project in Ruhango District; Ha2 stated there is significance effect of time management on success of MTN Borehole project in Ruhango District; Ha3 said that there is significance effect of scope planning on success of MTN Borehole project in Ruhango District; and Ha4 confirmed that there is a significance effect of Risk management on success of MTN Borehole project in Ruhango District.

Table 8: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.080	.373		-5.570	.000
	Project Communication Planning	.024	.039	.014	.604	.047
	Project Time schedule	.008	.053	.005	.148	.003
	Project Scope Planning	.194	.062	.136	3.124	.002
	Project Risk management	1.104	.046	.873	23.900	.000

a. Dependent Variable: Project Success

The results from Table 8 indicated that project communication planning have positive and significant effect to success of MTN Borehole project in Ruhango District as involved β_1= 0.024, t= 0.604; p-value= 0.047 which is less than significant standard level of 10%. This indicated that, there is greater relationship between project communication planning and success of MTN Borehole project in Ruhango District as it is suggested that a 1-unit change in project communication planning can lead to 0.024-unit change to success of MTN Borehole project in Ruhango District. Therefore, if ignore other factors affecting success of MTN Borehole project in Ruhango District, and stay with project communication planning, the results indicated Y= -2.080+0.024x_1+0.039. The findings revealed that the project time schedule have positive and significant effect on the success of MTN Borehole project in Ruhango District as involved at 10% level of significance show that β_2= 0.008, t= 0.148; and p-value= 0.003 less than 10% as significant standard level. This is an indicator that there is greater relationship between project time schedule and success of MTN Borehole project in Ruhango District as it is suggested that a 1-unit change infrastructure factors lead to 0.008-unit change on success of MTN Borehole project in Ruhango District.

Therefore, if ignore other factors affecting the success of MTN Borehole project in Ruhango District, and stay with Project Time schedule, the results indicated that Y=-2.080+0.008x_2+0.053. Findings indicated that the project scope planning have a significant effect on success of MTN Borehole project in Ruhango District as involved at 10% as standard level of significance, as β_3= 0.194, t= 3.124 and p-value=0.002 less than 10%. This is an indicator that there is greater relationship between project scope planning and success of MTN Borehole project in Ruhango District as it is suggested that a 1-unit change project scope planning leads to 0.194-unit change on success of MTN Borehole project in Ruhango District. Therefore, if ignore other factors affecting Oil and Gas projects implementation, and stay with project scope planning, the results indicated that Y =-2.080+0.194x_3+0.062. Results from analysis stated that the project risk management have a significant effect on success of MTN Borehole project in Ruhango District as involved at 10% as standard level of significance, as β_4= 1.104, t= 23.900 and p-value=0.000 less than 10%. This is an indicator that there is greater relationship between project risk management and success of MTN Borehole project in Ruhango District as it is suggested that a 1-unit change project risk management lead to 1.104-unit change on success of MTN Borehole project in Ruhango District. Therefore, if ignore other factors affecting success of MTN Borehole project in Ruhango District, and stay with project risk management, the results indicated that Y =-2.080+1.104x_4+0.046.

7. Conclusion

In general, however, the success of a project like a MTN Borehole project can be assessed based on various factors, including project objectives were the initial objectives of the project clearly defined, and were they achieved. Planning and execution did the project follow a well-thought-out plan, including feasibility studies, budgeting, and timeline management. Effective project planning and execution are critical to success. Community Impact is assessing the impact on the local community is essential. Sustainability is a key factor in evaluating the success of a borehole project.

Stakeholder Engagement were the local community and relevant stakeholders actively involved in the project. Effective community engagement and participation are often indicators of success. Regular monitoring and evaluation throughout the project's lifecycle can help identify and address issues promptly, contributing to success.

The study on the success of the MTN Borehole Project in Ruhango District, Rwanda, has shed light on the critical role of project planning in the implementation and outcomes of MTN Borehole projects within the region.

8. Recommendations

These recommendations can be helpful if they are followed by the concern parties:

- o Community engagement and needs assessment: engage the local community early in the project planning process to identify their specific water needs and preferences. Conduct a thorough needs assessment to determine the most suitable locations for boreholes based on demand and geological factors.
- o Robust project planning: develop a comprehensive project plan that outlines all key activities, timelines, and resource requirements. Ensure that project planning accounts for potential challenges, such as geological complexities or adverse weather conditions.
- o Stakeholder collaboration: foster strong partnerships and collaboration with local authorities, NGOs, and community leaders to ensure a coordinated approach to project implementation.
- o Technical expertise: engage qualified hydrogeologists and engineers to assess the geological conditions, design appropriate borehole systems, and oversee drilling operations.

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