Journal of Entrepreneurship & Project Management

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ISSN: 2616-8464

Stratford Peer Reviewed Journals and Book Publishing
Journal of Entrepreneurship & Project Management
Volume 7||Issue 8||Page 94-113 ||August||2023|
Email: info@stratfordjournals.org ISSN: 2616-8464

Project Communication Practices and Performance of Construction Project: A Case of Sonatubes-Gahanga-Akagera Bridge Road Project

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***How to cite this article*: Kamariza G., & Irechukwu E., N. (2023). Project Communication Practices and Performance of Construction Project: A Case of Sonatubes-Gahanga-Akagera Bridge Road Project. *Journal of Entrepreneurship & Project Management. Vol* 7(8) pp. 94-113**
https://doi.org/10.53819/81018102t2184

Abstract

This survey of project communication practices and performance of Sonatubes-Gahanga-Akagera Bridge Road Project. The specific objectives are to evaluate the effects of project board in achieving the performance of Sonatubes-Gahanga-Akagera Bridge Road Project, to assess how Daily stand up meeting affect the performance of Sonatubes-Gahanga-Akagera Bridge Road Project, to find out how weekly status report provides the useful information on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project, to ascertain how a document repository play an important role on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project. Both qualitative and quantitative methods were used in this study's descriptive design. A descriptive survey was conducted in an effort to record the present state of affairs to provide a description of them. There were a total of 140 people included in the study, 60 from the Rwanda Transport Development Agency (RTDA) serving as Client and 80 from the China Road and Bridge Corporation (CRBC) serving as Contractor, all of whom were expected to provide information data relevant to the study's aims. According to the streamlined Slovene methodology, the sample size is 103, and all responders had an equal chance of being included in the sample. The researcher mostly communicated with participants through questionnaire, which included the quantitative questions. The investigator was able to get first-hand knowledge from respondents by asking them qualitative inquiries tailored to the study goals; this method was also useful for gathering data directly relevant to the aims. Other types of statistical analysis were necessary once the obtained data had been processed and put in some sort of tables. Both qualitative and quantitative methods of analysis were used in the conduct of this study, with the latter using SPSS 16.0 for descriptive statistical analysis that included the calculation of means, frequencies, percentages, and standard deviations. According to the data, the Sonatubes-Gahanga-Akagera Bridge Road Project has a high and important mean on the project board for attaining performance at 1.7249. The Sonatubes-Gahanga-Akagera Bridge Road Project benefits from a high mean daily stand-up meeting attendance of 1.6893, which should be

Stratford Peer Reviewed Journals and Book Publishing
Journal of Entrepreneurship & Project Management
Volume 7||Issue 8||Page 94-113 ||August||2023|
Email: info@stratfordjournals.org ISSN: 2616-8464

maintained. The Sonatubes-Gahanga-Akagera Bridge Road Project had an excellent mean score of 1.6925 on its weekly status report, which gives vital details on the project's progress. The impact of the Sonatubes-Gahanga-Akagera Bridge Road Project on average is modest (1.7702), hence there is room for significant improvement. For the same project's near future, the Rwandan government and Kicukiro district should prioritize the plan's execution via frequent monitoring, inspection, and environmental audit.

Keywords: *Communication Practices, Project Performance, Sonatubes-Gahanga-Akagera Bridge Road, Rwanda*

1. Introduction

Although good communication's sometimes is the "nervous system" of a project, ineffective communication may got an unpleasant effect on the outcome of a venture. The construction-industry is notable for producing infrastructure. Rwanda's government has an essential part in stimulating demand for the construction industry, which is one of the country's six cornerstones of growth. Because of this, the infrastructure and construction industries are poised to play an increasingly important role in the country's economic transition and job creation (International Labor Office, 2019).

Revenues from the building industry in Rwanda have increased by more than 60% since 2012. A total of $560,5 million was made in the construction industry in 2018, making up 6.2% of GDP and 38.2% of all industrial profits. With this level of concern, communication is an essential tool in order to ensure significant participation of project stakeholders for a continuous growth of the industry. The construction sector has been using various communication channels to reach stakeholders. The success of certain construction projects has been weakened owing to inefficient communication, and the inability to resolve these gaps in communication has led to the collapse of several projects. It is thought that most programs would continue to encounter delays and continually influence the growth of the construction sector if such communication breaches are not closed (AsokoInsight, 2019).

Prior research by Maralise (2011) on the function of communication in project management in South Africa's construction sector identified a variety of elements connected to project communication that affected project performance. The goals of this survey were to determine the significance of communication on program results, to identify the instruments necessary for its effective management, and to assess the link between communication and project management performance. Mugeni (2018) investigated the linkage among effective communication-management methods and the completion of projects in Rwanda.

However, none of the above researchers has particularly conducted research on the project communication practices and performance of Sonatubes-Gahanga-Akagera bridge road project and the above researchers have recommended that future research should extend the study in different framework in order to increase communication strategies applicability. After having observed the gap in this area of research, the researcher decided to conduct the research on project communication practices and performance of Sonatubes-Gahanga-Akagera Bridge Road Project by analyzing and evaluating the effect-of project communication practices on project success of Sonatubes-Gahanga-Akagera Bridge Road Project.

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Journal of Entrepreneurship & Project Management
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1.1 Objectives of the study

1.1.1 General objective

This study sought to analyze the project communication practices and performance of Sonatubes-Gahanga-Akagera bridge road project and recommend on effective communication practices for project performance

1.1.2 Specific objectives

The specific objective of the study was to analyze and evaluate the effects of project communication practices and performance on Sonatubes-Gahanga-Akagera bridge road project.

The specific objectives of the study are the following:

i. To evaluate the effects of project board in achieving the performance of Sonatubes-Gahanga-Akagera Bridge Road Project
ii. To assess how Daily stand up meeting affecting the performance of Sonatubes-Gahanga-Akagera Bridge Road Project
iii. To find out how weekly status report provides the useful information on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project
iv. To ascertain how a document repository play an important role on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

1.4 Research Hypotheses

HO1 there is no effect of project board to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project.
HO2 there is no effect of daily stand-up meeting to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project.
HO3 there is no effect of weekly status report to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project.
HO4 there is no influence of a document repository to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project.

2.1 Empirical Literature

Empirical literature focused on scholars and previous conducted by other researchers on the same topic.

2.1 Effect of Project Board on Project Performance

Haleema (2020) looked at how effective project communication affected the final outcome of a Pakistani project. The study examined how trust and genuine leadership mediated the connection between project communication and positive outcomes. The investigation used the survey method, a process, instrument, or technique for collecting data in research by asking questions to a specified sample. Questionnaires were sent to the building sector in Pakistan's twin cities to gather data. There had a 350 of questionnaires sent out, and 245 were brought back for examination. The results showed a favorable correlation between project communication and the final outcome; this correlation was mediated by trust. Correlation study showed a good and substantial association among two variables (project communication and trust), and the results suggest the moderating function of genuine leadership in enhancing this relationship (r=0.621). All of the factors are shown to be significantly correlated with one another.

2.2 Effect of Daily Stand-up Meeting on Project Performance

Alex (2021) had conducted a study on effective communication and successful consortia engagements in Uganda. This research analyzed the interplay among project consortia, project status reports, project information dissemination plans, and communication planning. The research also looked at the best practices for Consortia participation across various types of enterprises. Using Krejci and Morgan (1970), we randomly chose 70 of the 86 NGOs in Central, South West, and West Nile Uganda. In order to determine the connection among the research variables, a cross-sectional survey and a quantitative and explanatory method were utilized. Consortia engagements showed moderate positive correlations with project communication planning (r = 0.552) and project information (r = 0.709). Additionally, it exhibited strong positive correlations with project progress reporting (r = 0.829) and project communication planning (r = 0.829). According to the study's findings, implementing proper channels of communication is crucial to making the most of consortium efforts.

2.3 Effect of Weekly Status Report on Project Performance

The impact of effective communication on the output of Nigerian construction companies was studied by Mohammed (2019). The study's major goal was to examine how an organization's ability to effectively communicate influences its efficiency and output. Focusing on the viewpoints of construction contractors and consultants, this study aims to (1) identify the impacts of effective communication and (2) evaluate how much influence effective communication has on construction organization. Both qualitative and quantitative approaches were employed to gather information for this study. With a total of 200 construction contractors and consultants in the Bureau of Public Procurement (BPP) database, the poll received responses from 160 (or 80%) of those who were invited to participate. Experts in the construction industry generally agreed on the importance of excellent communication to project success, with a Kendall's coefficient of concordance equal to 0.638. The findings suggest that clear channels of communication can make sure that everyone on a construction site is on the same page. Organizational performance in the construction industry was cited as a reason why stakeholders should embrace the usage of successful communication methods and instruments.

2.4 Effect of a Document Repository on Project Performance

Mugeni (2018) investigated the linkage among effective communication management methods and the completion of projects in Rwanda. Using the Right to protection and participation project as a case study, this investigation identify the function that effective communication management plays in the success of such endeavors in Rwanda. The goals of this study were to investigate Right to protection and participation project communication management strategies; evaluate the degree to which the project was successful; and identify the nature of the interaction among the project's achievement and communication management techniques. The survey done with descriptive and inferential study designs taking into account quantitative and multiple regression approaches. The target population was 1654 Right to protection and participation project stakeholders including Children Voice Toda employees working in departments closely related to the area of research, sponsors and beneficiaries of Right to Protection and Participation in Rwanda. Purposive sampling using Slovin's technique yielded a sample size of 94 participants. Data was gathered in two ways: first, by self-administered surveys; and second, through an examination of relevant documents. The study analyzed the data quantitatively, making use of methods like multiple

regression. SPSS 20 was used to analyze the data, which allowed for a concise summary of the coded data and easy understanding of the outcomes. Based on the research conducted, a significant linear relationship was observed between communication management strategies and project success, with a correlation coefficient of 0.755. This indicates that approximately 75.5% of the variation in project success can be attributed to this linear relationship.

2.5 Research Gap

Previous researchers have highlighted different factors related to project communication that affect the project performance in different construction industry areas where, Haleema investigated on the impact of project communication on project success in Pakistan, the study focused on the mediating role of trust and moderating role of authentic leadership. The outcomes given a favorable correlation among project communication and the final outcome; this correlation was mediated by trust. Furthermore, the results show that genuine leadership has a moderating effect in enhancing the connection between project communication and trust.

Alex, (2021) had conducted a study on effective communication and successful consortia engagements in Uganda. This research analyzed the interplay among project consortia, project status reports, project information dissemination plans, and communication planning. The research also looked at the best practices for Consortia participation across various types of enterprises. Due to the study's narrow emphasis on productive consortium interactions, the authors call for further research into the effects of project communication on the efficacy of entities as a whole. Mohammed (2019) conducted research on the topic of "Impacts of Effective Communication towards Performance of Construction Organization in Nigeria." The survey aimed to determine the effects of effective communication on the construction industry in Nigeria from the perspectives of both contractors and specialists.

Mugeni (2018) was investigated the linkage among effective communication management and the completion of projects in Rwanda. The survey aimed to give the linkage among communication management strategies and the efficacy of the Right to Protection and Participation project, as well as examine the communication management strategies employed by the project and evaluate its level of achievement. The researcher recommended that future research should extend the study in different framework in order to increase communication strategies applicability because the research was conducted from a single project in Rwanda. Unfortunately, none of all above researchers have particularly conducted research on the project communication practices and performance of Sonatubes-Gahanga-Akagera bridge road project.

Mugeni (2018) observed the gap in this area of research, the researcher decided to conduct the research on project communication practices and performance of Sonatubes-Gahanga-Akagera Bridge Road Project by evaluating the effects of project board in achieving the performance of Sonatubes-Gahanga-Akagera Bridge Road Project, identifying how Daily stand up meeting affecting the performance of Sonatubes-Gahanga-Akagera Bridge Road Project, finding out how weekly status report provides the useful information on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project and demonstrate how a document repository, play an important role on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Stratford Peer Reviewed Journals and Book Publishing
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Volume 7||Issue 8||Page 94-113 ||August||2023|
Email: info@stratfordjournals.org ISSN: 2616-8464

3. Materials and Methods

The study adopted a descriptive research design, aiming to provide a comprehensive description of the phenomena under investigation, specifically exploring the efficacy of communication as a technique to improve project success. Both qualitative and quantitative methodologies were employed to gather data related to effective communication practices (independent variable) and program success (dependent variable).

The target population for the study comprised staff from Rwanda Transport Development Agency (RTDA) as clients and China Road and Bridge Corporation (CRBC) as constructors, with a total population of 140 individuals. The sample size was determined using Yamane's simple proportion method, resulting in a sample size of 103 participants. The simple-random sampling technique was used to ensure that every potential participant had an equal chance of being included in the final sample.

Data collection instruments included questionnaires and interviews. Questionnaires consisted of closed questions to gather both qualitative and quantitative responses relevant to the study's objectives. Interviews allowed the researcher to obtain first-hand accounts and more in-depth insights from the participants. Data collected underwent editing, coding, and tabulation to ensure accuracy, consistency, and ease of interpretation. To ensure the reliability and validity of the data, the study employed the Cronbach Alpha coefficient to determine the precision of the research instruments. Content validity was assessed using the Content Validity Index (CVI), which indicated that the questionnaire was valid.

For data analysis, the study used descriptive statistics such as mean, standard deviation, frequency, and percentage to summarize and present the data. The mean interpretation table was used to evaluate the mean scores. Inferential statistics, such as regression analysis, were used to analyze the relationship between the independent variables (project board, daily stand-up meeting, weekly status report, and document repository) and the dependent variable (performance of Sonatubes-Gahanga-Akagera Bridge Road Project).

Ethical considerations were of utmost importance throughout the research process. Informed consent was sought from the participants, ensuring their willingness to participate in the study. Confidentiality and privacy were maintained, and participants were not coerced into participation. The study also acquired a recommendation letter from the university to access the necessary data.

4. Presentation of findings

Table 1: Descriptive statistics on effects of project board on achieving the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Statements	N	Minimum	Maximum	Mean
Project board helps in making the right processes to the communication practices	103	1.00	4.00	1.5728
Project board facilitates the stakeholders to share the information	103	1.00	4.00	1.7961
Project board contributes in management of organization structure	103	1.00	4.00	1.8058
Valid N	**103**			

Source: Primary data, 2023

https://doi.org/10.53819/81018102t2184

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Journal of Entrepreneurship & Project Management
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Email: info@stratfordjournals.org ISSN: 2616-8464

The table 1 showed the effects of project board on achieving the performance of Sonatubes-Gahanga-Akagera Bridge Road Project showed that Project board helps in making the right processes to the communication practices with mean of 1.5728 which is high, The project board serves as a valuable platform for stakeholders to exchange information, scoring a moderate mean of 1.7961. It also plays a significant role in managing the organization's structure, achieving a moderate mean of 1.8058. The overall average mean of 1.7249 is high and requires careful maintenance. According to Kanbanchi (2021), a project board is a dynamic tool that aids in monitoring progress, identifying areas for improvement, and centralizing essential information. It fosters collaboration among different departments within the organization, ensuring they remain focused and work together to attain their objectives. A noteworthy aspect of project boards is their ability to not only reflect the current status of the project but also promote real-time updates.

Table 2: Effect of a daily stand-up meeting on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Answer	Frequency	Percent
Yes	80	77.7
No	23	22.3
Total	**103**	**100.0**

Source: Primary data, 2023

Table 2 indicated, 80 respondents with 77.7% of total participants agreed that there is the effect of a daily stand-up meeting on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project and 23 participants with 22.3% of total participants disagreed that there is the effect of a daily stand-up meeting on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project. The majority of respondents agreed that there is there is the effect of a daily stand-up meeting on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project with 77.7% of total number of respondents.

Table 3: The Daily stand-up meeting affects the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Statements	N	Minimum	Maximum	Mean
Stand up meeting affect team coordination in project performance of Sonatubes-Gahanga-Akagera Bridge Road Project	103	1.00	4.00	1.7282
Stand up meeting affect team alignment in project performance of Sonatubes-Gahanga-Akagera Bridge Road Project	103	1.00	4.00	1.6505
Stand up meeting helps the project to stay on track and ensures the effective performance of project	103	1.00	4.00	1.6893
Valid N	**103**			

Source: Primary data, 2023

Table 3 showed the in daily stand-up meeting that affects the performance of Sonatubes-Gahanga-Akagera Bridge Road Project showed that stand up meeting affect team

coordination in project performance of Sonatubes-Gahanga-Akagera Bridge Road Project with mean of 1.7282 which is high, stand up meeting affect team alignment in project performance of Sonatubes-Gahanga-Akagera Bridge Road Project with mean of 1.6505 which is high and stand up meeting helps the project to stay on track and ensures the effective performance of project with mean of 1.6893 which is huge. The average mean is 1.6893 which is huge and required to be sustained. The concept presented by Rajkumar (2010) focuses on the strategies used by successful project teams to maintain synchronization among team members, identify and resolve problems collaboratively, and ensure continuous progress towards achieving the project's ultimate objective. Stand-up meetings differ significantly from weekly status meetings. The primary purpose of a stand-up meeting is to ensure that each team member's tasks are harmonized to advance the project efficiently and reach its successful completion.

Table 4: Effect of weekly status report on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Answer		Frequency	Percent
Valid	Yes	88	85.4
	No	15	14.6
	Total	**103**	**100.0**

Source: Primary data, 2023

According to Table 4, 85.4% of the total respondents (88 individuals) agreed that the weekly status report has an impact on the performance of the Sonatubes-Gahanga-Akagera Bridge Road Project. To the contrary, 14.6% of the total participants (15 individuals) disagreed with the notion that the weekly status report affects the performance of the mentioned project. The majority of respondents agreed that an effect of weekly status report on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project with 85.4% of total number of respondents.

Table 5: Weekly status report provides the useful information on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Statements	N	Minimum	Maximum	Mean
Weekly status report provides transparency in working place and promotes a clear communication among project team members	103	1.00	4.00	1.7476
Weekly status report provides alignment in working place by encouraging collaboration and a mutual pursuit of project goals	103	1.00	4.00	1.6796
Weekly status report provides team communication and allows everyone team member to be informed on any topic that may affect the project	103	1.00	4.00	1.6505
Valid N	103			

Source: Primary data, 2023

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Table 5 showed in weekly status report that provides the useful information on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project, weekly status report provides transparency in working place and promotes a clear communication among project team members with mean of 1.7476 which is high, weekly status report provides alignment in working place by encouraging collaboration and a mutual pursuit of project goals with mean of 1.6796 which is high and weekly status report provides team communication and allows everyone team member to be informed on any topic that may affect the project with mean of 1.6505 which is huge. The average mean is 1.6925 which is huge and needs to be sustained. Pikkarainen (2018) explains that a Weekly status report serves as a comprehensive document detailing the program's progress during a specific time-frame and comparing it to the original program plan. Its primary purpose is to keep stakeholders well-informed about the project's advancement while closely monitoring various aspects, such as costs, risks, time, and work. Through charts and graphs, project managers and stakeholders gain visual insights into project data. Weekly status reports are regularly conducted throughout all project phases, ensuring adherence to the schedule and promoting effective communication among team members and stakeholders.

Table 6: Role that document repository plays on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Answer	Frequency	Percent
Yes	90	87.4
No	13	12.6
Total	**103**	**100.0**

Source: Primary data, 2023

Based on Table 6, data reveals, 87.4% of the total respondents (90 individuals) agreed on the significance of a document repository in influencing the performance of the Sonatubes-Gahanga-Akagera Bridge Road Project. Conversely, 12.6% of the total respondents (13 individuals) disagreed with the notion that a document repository plays a role in the project's performance. The majority of respondents acknowledged the importance of a document repository in impacting the Sonatubes-Gahanga-Akagera Bridge Road Project's outcomes.

Table 7: The important role of document repository on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Statements	N	Minimum	Maximum	Mean
Document repository, play an important role in fulfilment of document requirement by setting a direction for project team to navigate through a project life cycle	103	1.00	4.00	1.8932
Document repository, play an important role in establishment of traceability by keeping project in a speedy step	103	1.00	4.00	1.7184
Document repository, play an important role in document personalization and it makes relevant content more visible	103	1.00	4.00	1.6990
Valid N	**103**			

Source: Primary data, 2023

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The table 7 showed the important role on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project showed that document repository, play an important role in fulfilment of document requirement by setting a direction for project team to navigate through a project life cycle with mean of 1.8932 which is moderate, document repository, play an important role in establishment of traceability by keeping project in a speedy step with mean of 1.7184 which is high and document repository, play an important role in document personalization and it makes relevant content more visible with mean 1.6990 which is high. The average mean, standing at 1.7702, is considered moderate and calls for improvement to attain a higher level. This aligns with Bryde's (2018) theory, which highlights the distinctions between project management performance and the quality of the end product delivered by the project, particularly in terms of quality. In project management, the quality of the management process holds paramount importance, while the quality of the final product reflects the program's performance. These two aspects are closely interconnected. According to the Business dictionary, performance refers to accomplishing designated tasks, measured against established standards of accuracy, completeness, cost, and speed.

1.1 Table 8: The indicators of communication practices on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Statements	N	Minimum	Maximum	Mean
Through a good collaboration among project members, communication practices influence construction all costs related to ongoing project	103	1.00	4.00	1.7476
Through a good collaboration among project members, communication practices influence the effective use of timeline of the project	103	1.00	4.00	1.7573
Through a good collaboration among project members, communication practices influence client satisfaction in terms of quality of project deliverables	103	1.00	4.00	1.6408
Through effective use of communication practices, project members focus more on their work and less on work place issues which influence the positive results	103	1.00	4.00	1.6117
Valid N	**103**			

Source: Primary data, 2023

Table 8 showed through a good collaboration among project members, communication practices influence construction all costs related to ongoing project is indicator of communication practices on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project with mean of 1.7476 which is high, through a good collaboration among project members, communication practices influence the effective use of timeline of the project is an indicator of communication practices on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project with mean of 1.7573 which is moderate, through a good collaboration among project members, communication practices influence client satisfaction in terms of

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quality of project deliverables is an indicator of communication practices on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project with mean of 1.6408 which is high and through effective use of communication practices, project members focus more on their work and less on work place issues which influence the positive results is an indicator of communication practices on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project with mean, 1.6117 which is huge. The average mean 1.6893 which is huge and needs to be sustained. This alludes to the work of Rajkumar (2010), who proposed many channels of communication between a project manager and their team. Hallway meetings or more formal project status meetings are great ways for teams to stay in touch. There are a variety of channels for stakeholders to exchange information, from the simplest handwritten note to the most complex online database and monitoring system. Meetings, reports, memoranda, emails, etc., are all examples of possible modes of communication. The project manager's mode of communication should match the context of the message being conveyed.

Table 9: Model summary on the effect of project board to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.880[a]	.774	.771	.16948

a. Predictors: (Constant), Model summary on the effect of project board to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

From this table 9, the percentage of variation explained by the regression summary in the effect project board and performance on sonatubes-gahanga-akagera bridge road project. From this table, it is shown that 0.880 of the total variances of the effect project communication practices and performance was accounted. This means that the analyzed the effect project board to the performance of sonatubes-gahanga-akagera bridge road project represents 88% of the total variance.

Table 10: ANOVA[b] on the effect of project board to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.914	2	9.914	345.165	.000[a]
	Residual	2.901	101	.029		
	Total	12.816	103			

a. Predictors: (Constant), Model summary on the effect of project board to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

b. Dependent Variable: performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

Table 10 displays the analysis of variance, and upon examining the significance level (which is .000 and less than .05), it becomes evident that the regression model holds high

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significance. This confirmation enabled the researcher to establish a significant effect of the project board and performance on the Sonatubes-Gahanga-Akagera Bridge Road Project.

Table 11: Coefficients[a] on the effect of project board to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.066	.060		1.090	.278
	Model summary on the effect of project board to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project	.967	.052	.880	18.579	.000

a. Dependent Variable: performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

In Table 11, the outcomes regarding the impact of the project board and performance on the Sonatubes-Gahanga-Akagera Bridge Road Project are presented. The standardized coefficients for each response from the participants indicate that a one standard unit change in the effect of project communication practices and performance corresponds to a 0.880 standard unit change.

All of this is in reference to Kanbanchi's (2021) philosophy, which describes a project board as a dynamic tool for monitoring development, drawing attention to areas for improvement, and centralizing relevant data. It facilitates collaboration and focus across teams within a company.

Table 12: Regression model on the effect of daily stand-up meeting to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.703[a]	.494	.489	.25338

a. Predictors: (Constant), Regression model on the effect of project board to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

In table 12, the regression summary representing the proportion of variance on the effect daily stand-up meeting and performance on Sonatubes-Gahanga-Akagera bridge road project. From this table, it is shown that 0.703 of the total variances of the effect project daily stand-up meeting and performance was accounted. This means that the analyzed the effect daily stand-up meeting and performance on sonatubes-gahanga-akagera bridge road project represents 70.3% of the total variance.

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Table 13: ANOVA[b] on the effect of daily stand-up meeting to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.331	2	6.331	98.619	.000[a]
	Residual	6.484	101	.064		
	Total	12.816	103			

a. Predictors: (Constant), Regression model on the effect of project board to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

b. Dependent Variable: Performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

Table 13 presents the analysis of variance, and upon examining the significance level (which is .000 and less than .05), it becomes evident that the regression model holds high significance. This confirmation enabled the researcher to establish a significant effect of the daily stand-up meeting on the performance of the Sonatubes-Gahanga-Akagera Bridge Road Project.

Table 14: Coefficients[a] on the effect of daily stand-up meeting to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.147	.104		1.423	.158
	Regression model on the effect of project board to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project	.926	.093	.703	9.931	.000

a. Dependent Variable: performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

In Table 15, the outcomes regarding the effect of the daily stand-up meeting and performance on the Sonatubes-Gahanga-Akagera Bridge Road Project are presented. The standardized coefficients from respondents' reports indicate that a one standard unit change in the effect of project communication practices and performance corresponds to a change of 0.703 standard units.

This is in reference to Rajkumar's (2010) argument that a stand-up meeting is distinct from a weekly status meeting. The primary purpose of a stand-up meeting is to guarantee that everyone's efforts are geared toward achieving the project's end result. In other words, the stand-up meeting is where everyone in the team checks in to make sure they're spending their time wisely.

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Table 16: Model Summary on the effect of weekly status report to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.765[a]	.585	.581	.23574

a. Predictors: (Constant), Regression model on the effect of weekly status report to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

Table 16 presents the regression summary, indicating the proportion of variance in the effect of the weekly status report and performance on the Sonatubes-Gahanga-Akagera Bridge Road Project. According to the table, 0.765 of the total variances in the effect of the weekly status report and performance were accounted for. In other words, the analyzed impact of the weekly status report and performance on the project represents 76.5% of the total variance.

Table 17: ANOVA[b] on the effect of weekly status report to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	7.902	2	7.902	142.184	.000[a]
	Residual	5.613	101	.056		
	Total	13.515	103			

a. Predictors: (Constant), Regression model on the effect of weekly status report to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

b. Dependent Variable: Performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

Table 17 presents the analysis of variance, and upon examining the significance level (which is .000 and less than .05), it becomes evident that the regression model holds high significance. This confirmation aided the researcher in affirming that there is a significant effect of the weekly status report and performance on the Sonatubes-Gahanga-Akagera Bridge Road Project.

https://doi.org/10.53819/81018102t2184

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Table 18: Coefficients[a] on the effect of weekly status report to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.129	.089		1.447	.151
	Regression model on the effect of weekly status report to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project	.935	.078	.765	11.924	.000

a. Dependent Variable: Performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

The results in table 18 about the effect of project communication practices and performance on Sonatubes-Gahanga-Akagera bridge road project, The table displays the standardized coefficients for each response, indicating that a one standard unit change in the influence of the weekly status report and performance would correspond to a change of 0.765 standard units.

According to the framework proposed by Pikkarainen (2018), a project status report should include information on the work completed so far, the work planned for the future, a summary of the project's budget and schedule, a list of action items, and a description of any issues or risks that have arisen and what is being done to address them. A Weekly status report's value extends beyond its communication purpose. A comprehensive project history is also included.

Table 19: Model Summary on the influence of a document repository to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.806[a]	.650	.647	.18448

a. Predictors: (Constant), Regression model on the influence of a document repository to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

From this table 19, the regression summary representing the proportion of variance in the effect of document repository and performance on Sonatubes-Gahanga-Akagera bridge road project. From this table, it is shown that 0.806 of the total variances of the effect of document repository and performance on Sonatubes-Gahanga-Akagera bridge road project was

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accounted. This means that the analyzed the effect of document repository and performance on Sonatubes-Gahanga-Akagera bridge road project represents 80.6% of the total variance.

Table 20: ANOVA[b] on the influence of a document repository to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.388	2	6.388	187.683	.000[a]
	Residual	3.437	101	.034		
	Total	9.825	103			

a. Predictors: (Constant), Regression model on the influence of a document repository to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

b. Dependent Variable: Performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

Table 20 presents the analysis of variance, and upon inspecting the significance level (.000 and .05), it becomes evident that the regression model holds high significance. This confirmation aided the researcher in validating the impact of the document repository and performance on the Sonatubes-Gahanga-Akagera Bridge Road Project.

Table 21: Coefficients[a] on the influence of a document repository to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project

		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.312	.061		5.143	.000
	Regression model on the influence of a document repository to the performance of Sonatubes-Gahanga-Akagera Bridge Road Project	.688	.050	.806	13.700	.000

a. Dependent Variable: Performance of Sonatubes-Gahanga-Akagera Bridge Road Project

Source: Primary data, 2023

Table 21 displays the outcomes regarding the effect of the document repository and performance on the Sonatubes-Gahanga-Akagera Bridge Road Project. The standardized coefficients for each response from the participants indicate that a one standard unit change in the effect of the document repository and performance corresponds to a change of 0.806 standard units.

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The mentioned theory by Fred (2022) introduces a hierarchical system of permission levels for the company's database. It ensures that employees are granted specific permissions based on their pay grade, thereby securing access to restricted documents within the organization. Although it may seem unfair, from a management perspective, a document repository is a godsend. As the team works together, a document repository may help reduce the risk of accidental disclosure of sensitive information. With the help of a document repository, you can be certain that your document database will always be up-to-date and free of redundant or duplicate information. One of the most important aspects of a document repository is its ability to be moved, filed, and accessed as a whole.

4.2 Discussion

The project's primary objectives encompassed the implementation of government policies related to various transportation infrastructures, including roads, railways, cable cars, and waterways. Additionally, the project aimed to manage and control the national road network for safety and maintenance, enhance waterways transport infrastructure, develop Rwanda's railway and cable car systems, and improve the public transport service on roads. The success within the year enabled the firm to fulfill its responsibility of providing a competitive and reliable transport infrastructure that contributes to Rwanda's economic development. The strategic sector goals were aligned with short- and long-term goals like Vision 2050, NST-1, and the Transport Sector Strategic Plan (TSSP), forming the foundation for the FY 2020-2021 report. The effects of project board on achieving the performance of Sonatubes-Gahanga-Akagera Bridge Road Project is high and needs to be maintained, daily stand-up meeting that affects the performance of Sonatubes-Gahanga-Akagera Bridge Road Project is high and needs to be maintained, weekly status report that provides the useful information on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project is high and needs to be maintained, the important role on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project is low, with much room for improvement and indicator of communication practices on the performance of Sonatubes-Gahanga-Akagera Bridge Road Project is high and needs to be maintained.

5.1 Conclusion

In conclusion, the research findings indicated that project communication strategies had a substantial influence on performance, accounting for 0.88 percent of the overall variation. This suggests that 88% of the variation in the success of the Sonatubes-Gahanga-Akagera Bridge Road Project can be attributed to the impact of the project board. The researcher confirmed this highly significant effect of the project board on performance by thoroughly examining the regression model and analyzing the variance, which showed high significance levels of (.000 and .05, respectively). The standardized coefficients for each response further demonstrated that a one standard unit change in the influence of project communication techniques and performance corresponded to a change of 0.880 standard units.

The result showed that 0.703 of the total variance of the effect of project daily stand-up meeting and performance was accounted. This means that the analyzed effect of daily stand-up meeting on the performance of sonatubes-gahanga-akagera bridge road program represents 70.3% of the total variance. This demonstrates the utilization of ANOVA, and by examining the significance levels (.000 and .05), it becomes evident that the regression model holds statistical significance, enabling the researcher to affirm the positive effect of the daily stand-up meeting on the success of the Sonatubes-Gahanga-Akagera Bridge Road Project. The standardized coefficients from each respondent indicate that a one-standard-unit

change in the influence of project communication practices and performance corresponds to a 0.703-standard-unit change in those variables.

The study revealed a significant correlation of 0.765% between the weekly status report and performance, suggesting that 76.5% of the total variation can be attributed to the impact of the weekly status report on the Sonatubes-Gahanga-Akagera Bridge Road Project's performance. Based on this data, the researcher confirmed the effect of the weekly status report on the project's performance through the analysis of variance, which was further supported by inspecting the significance level (0.000 and 0.05). The standardized coefficients for each response indicated that a one-standard-unit change in the influence of project communication practices and performance resulted in a 0.765 standard unit change in those variables.

The outcomes indicated 0.806 of the total variance of the effect of document repository and performance on sonatubes-gahanga-akagera bridge road project was accounted. This means that the analyzed effect of document repository on performance of sonatubes-gahanga-akagera bridge road project represents 80.6% of the total variance. The confirmation of the regression model's statistical significance provided evidence supporting the researcher's hypothesis regarding the impact of the document repository on the success of the Sonatubes-Gahanga-Akagera Bridge Road Project. The data indicated that changes of one standard unit in the document repository and performance resulted in a change of 0.806 standard units, as shown by the standardized coefficients for each response.

5.2 Recommendations

In light of these results, RTDA holds the responsibility of ensuring that all road construction and maintenance projects comply with relevant environmental laws and standards.The agency works with national and international partners to ensure that environmental policies and regulations established by development partners and donors such as the World Bank, the Africa Development Bank, Trade Mark East Africa, and the Japan International Cooperation Agency (JICA) are followed. This collaboration aims to achieve the objectives of developing transport infrastructure while promoting environmental sustainability.

Kicukiro district and the Rwandan government should work together to emphasize the efficient execution of the environmental and social management plan. In the future, comparable projects should undergo consistent monitoring, inspection, and environmental audits. Inspectors will work together with contractors, oversight companies, municipal officials, and other interested parties to ensure a thorough and comprehensive inspection.

5.3 Acknowledgement

First and foremost, I want to express my gratitude to the Almighty God, who watched over me during my studies and my whole life. The University of Mount Kenya deserves our gratitude in particular. In some manner, every one of them contributed to the completion of this research. Dr. Eugenia Nkechi Irechukwu (Ph.D.), despite her busy schedule, was my supervisor during this whole research project. Her support and guidance were invaluable to me, and I will be forever grateful to her. I owe it to my fellow students to express my gratitude for the invaluable learning opportunities and teamwork we enjoyed over the semester. Without the love, generosity, delicate care, and spiritual support of my family members, I would not have been able to do this task in a timely manner, thus I am really grateful to them all..

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