



# The role of communication among project stakeholders in the implementation of buildings construction projects in Arusha city, Tanzania

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Date of Submission: 08-03-2024

Date of Acceptance: 21-03-2024

## ABSTRACT

The purpose of this study aimed to determine the role of communication among project stakeholders in the implementation of buildings construction projects in Arusha City. The study focuses on analyzing the extent to which project stakeholders consider communication as an important component in the project implementation and factors that influence effective communication among stakeholders in projects. Along with a cross-sectional study design, a multistage sampling technique was applied to select 100 stakeholders. The questionnaire focused on the project stakeholders of a construction project in terms of communication importance to the successful implementation of projects. The results of the survey were compiled and analyzed. Descriptive statistics was applied were percentages, frequency was used to analyze data for the aid SPSS Version 20.

The study findings reveal that Stakeholders Communication was influenced by simplicity and quick feedback from phone calls and meeting and conversation, which are the results of the communication channels ranked as most used in construction projects. Communication was an important component for the project stakeholder as there was strong evidence that the project stakeholders value communication and Feedback enabled effective implementation of project activities in the study area. The study concludes that, having these results is a great step to understanding the impact and challenges facing communication on management and implementation of buildings construction projects. Increasing the communication skills and conducive environment for effective communication has been effectively leading to the efficiency and effectiveness of the construction projects also.

**Keywords:** *Project implementation, communication skills, stakeholders, feedback, construction projects*

## I. Introduction

It is globally recognized that the construction industry has a positive role to accelerate the wheel of economic growth in any country. The construction industry in developing countries plays an important role in the economy, and the activities of the industry are also vital to the achievement of national socio-economic development goals of providing shelter, infrastructure and employment (Anaman & Osei-Amponsah, 2007). The role of construction in the national economy has been addressed by several researchers. According to Khan (2008), the construction sector and construction activities are considered to be one of the major sources of economic growth, development and economic activities. The construction and engineering services industry play an important role in the economic uplift and development of the country. The construction industry is also a prime source of employment generation offering job opportunities to millions of unskilled, semi-skilled and skilled work forces.

Park (2019) asserted that the construction industry generates one of the highest multiplier effects through its extensive backward and forward linkages with other sectors of the economy. Ofori (1990) noted the importance of construction in the national economy and attributed it to the high linkages with the rest of the economy. The construction industry is regarded as an essential and highly visible contributor to the process of growth (Ofori, 2018). World Bank, (2014) stated that the importance of the construction industry stems from its strong linkages with other sectors of the



economy. The success of the construction industry is dependent on effectively and efficiently integrating the resources of labor, material, plant and equipment. Resource integration requires the effective communication of performance objectives for completing a project within budget, time and the required standard (Crawford, 2016).

Numerous studies have associated communication with project success (Garbharran et al., 2004; Ogwaueleka, 2011; Govender et al., 2012; Ofori, 2013 and Meid, 2015). The role of communication has been recognized as a stimulus to project success in developing and developed countries. Its management, therefore, is perceived as a strategic tool amongst the stakeholders at all levels of a project that could yield possible success. Aiyewalehinmi (2013) reveals that communication directly relates to the amount and quality of information that flows between management and workers. Communication builds relationships, changes negative perceptions, improves morale, and heightens the commitment of the workforce, thereby enhancing productivity.

Communication effectiveness is dependent on the key stakeholders responsible for the project. Osman (2011) reveals how communication is critical to project success especially amongst the stakeholders; because it often hinges on cross-team communication. Communication boundaries, for example, could result in possible failures. Adedapo, (2009) reveals that poor communication causes poor build ability, poor management of resources, and low productivity. A Holmes report (Grossman, 2011) elucidates how failure to convey clear and understandable strategies and processes that engage employees in shared goals, such as procedures and practices may result in cost uncertainties, escalated budgets, and possible project cancellation.

The construction industry is among those industries that face the plague of project failures in terms of project delivery. According to Smith and Jaggar, (2007) it has been argued that the diverse kinds of construction projects including their multifaceted nature make planning, forecasting, managing and controlling projects more difficult. Consequently, decisions that are taken at the initial stages of the management aspect of the project process become critical to the success of the project (Miller et al., 2000). The construction industry is one of the industries that cannot run from problems or challenges. One of the challenges faced by the industry is project delay. The industry of construction has a poor standing as in the industry coping with delays and thus, several major projects fail in meeting the scheduled deadline.

The study of communication management influence on the success of projects is increasing in Tanzania like in other parts of the African region. A study in Ghana encouraged more understanding and more practice of good communication in the construction industry (Perumal, 2011).

Communication is the heart of implemented projects of the construction industry, where project managers consume 90% of their time communicating with project participants. However, some barriers occur during this significant process of transferring project information. The Dutch industry highlights factors that influence communication in construction projects, focusing on problems in communication (Hoezen, 2017).

Even though construction projects are implemented in still there is effective implementation of the project which considers the triple views of the project implementation which considers cost, time and performance. Project implementation can impact both project sustainability and project relevance. There is many strategies, tactics and stratagems that are made to ensure the project implementation reduces the cost of implementation (does not disturb budget in term of increase the financial commitment instead reduce the financial commitment), implemented within the intended timeline (does not increase the time estimated for the completion of the project) and increase the uses of the resources and relevant activities are undertaken (does not lead to the lag of activities). Several innovations have been made to help the project stakeholders effectively implement the construction (Jiménez & Pérez-Foguet, 2010).

Though in the management of construction projects including its management impact and generation of possible solutions for a different circumstance that's lead to unsuccessful project implementation. Many researchers have been focused on results-based project outcomes that are to check and assess the impact of the project in the community. The client and other stakeholders in the industry of construction continue to criticize bitterly concerning the assessment of the project by considering the project results and not project implementation which involves executing projects just within the set time frame, acceptable quality, and budgeted cost. A significant factor that contributes to this implementation of the project is effective communication approaches and strategies which helps to tackle different project managerial challenges.

PMI (2013) indicated that project stakeholders identify effective communication skills they have as the main pivotal factor for project



success. Müller & Turner, (2010) highlight that communications among the stakeholders play an important role in the success of any project. The problem of communication management among the stakeholders involved in the project is not unique to Tanzania's construction industry. The construction sector in Tanzania experiences challenges that facing the project stakeholders in communication that hinder successful project implementation. It is therefore the aim of this study was to examine the role of communication among project stakeholders in the implementation of buildings construction projects in Arusha City.

## II. Research Methodology

### 2.1.1 Area of study

The study was conducted in Arusha city which is in the Northern zone of Tanzania. The city is bordered by the Kilimanjaro region on the east, Manyara and Singida region to the south, Mara and Simiyu region to the west and Kajiado and Narok county in Kenya to the north.

Arusha is one of the most developed regions in Tanzania which is rapidly growing not just in terms of its demography but also in its infrastructural facilities. It is because of this rapid expansion of Arusha city that we deemed it important to get into the details of the construction industry which is an important section of the city due to its massive contribution to the city's growth and development.

### 2.1.2 Research Design

This study used a cross-sectional research design in Arusha City Council, here the data was collected at a single point of the study area, the study took two weeks for data to be collected. The study design covered the geographical distribution of respondents according to their location, of the study in the project at the different levels, Current Status of the project, sex, age, marital status, the level of education, their occupation on the project that enabled the study being investigated about the role of communication among project stakeholders in the implementation of buildings construction projects in Arusha City.

### 2.1.3 Study Population

The study involved working in the construction sector at different levels of projects in Arusha city. These included different project stakeholders like Project Managers, Construction Managers, Construction Engineers, District and Ward Executive Officers, And the Project Workers in the sector who was clearly and concisely gave

relevant data related to the study. The number and size of the study population were determined through sampling procedures.

### 2.1.4 Sample size and Sampling Procedure

The study employed probability sampling scheme so as to give all units in the population under study an equal chance of being selected. In this scheme, specifically used two of its sampling techniques namely; the multistage sampling technique and random sampling technique. The multistage sampling techniques enabled us to study units in the construction industry at different stages or levels starting from the district level to ward level, village level and finally street level. From each of these levels.

The choice of sampling procedure guided by the sense that all individual units in the sample had an equal chance of being included in the sample since the whole study population cannot be entirely studied; it necessitates the calculation of the sample size suitable and sufficient for the study. Hence, the following formula was applied (Yamane, 1967):

$$n = \frac{N}{1+N(e)^2}$$

Where:

'n' is a Sample Size

'N' is the Total Population in the city council,

N= Total population is 7000

'e' is 5%

The sample of 100 respondents used as 25% of samples obtained from formula where Top-level who are District Community Development Officer 1, Ward Community Development Officer 1, District Engineer 1, and Construction Managers 13 and another level is a worker who was Project Construction Workers 84.

### 2.1.5 Data collection Methods

Information used in this study was collected from both primary and secondary data sources. To gather primary data, questionnaires were directly administered to the sample population understudies such as District Community Development Officer, Ward Community Development Officer, Project Construction Managers, District Engineer and Project construction workers. In gathering secondary data review of documents and publications as well as non-published information both physically and online was conducted.

### 2.1.6 Methods of data analysis

The collected data was analyzed using Statistical Packages for Social sciences (SPSS) software. Also, editing, coding and tabulation were



used in this study. The researchers used these processing mechanisms to make the research more accurate and effective.

### III. Results and Discussion f Findings

The study involved 100 respondents who are a stakeholder of the construction's projects of our study in Arusha city. The number and size of the study population were determined through random sampling procedures. The researcher used descriptive statistics like frequency and percentage for nominal variables. Therefore, the findings and discussion are based on the feedback from the field and the results of the data analysis tools used. The response rate to questionnaires was 100% and all the questionnaires were recorded and confirmed as usable for analysis.

#### 3.1.1 Demographic analysis of survey subject

The demographic presentation of data for the survey subject provides an overview of the stakeholders and the project itself composition. This presentation includes the geographical distribution of respondents according to their location, of the study in the project at the different levels, Current Status of the project, sex, age, marital status, the level of education, their occupation on the project, the presentation helps describe the profile of stakeholders. It is glue that was used to establish facts that were helpful in further steps of data analysis, presentation and discussion of findings.

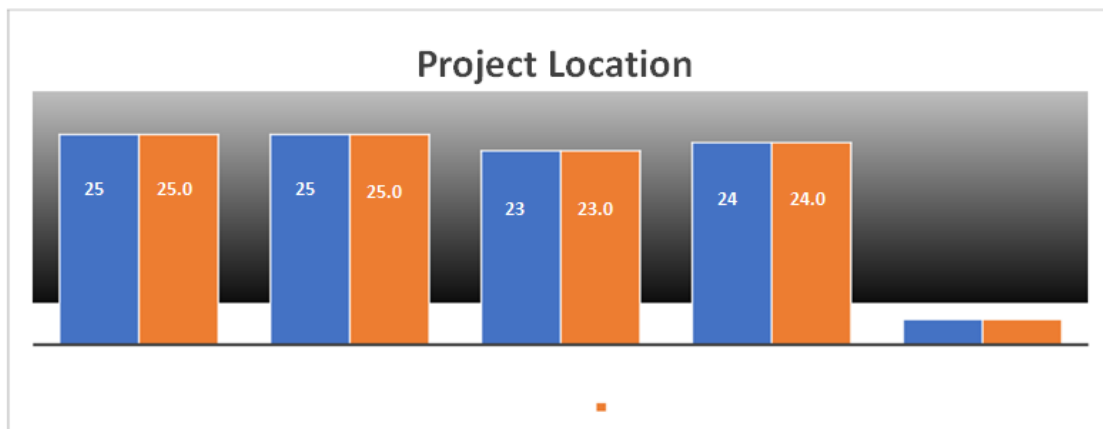
#### 3.1.2 The geographical location of the respondents by the project

This study was conducted in four (04) wards of Arusha City Council as well as Municipal project stakeholders. The stakeholders from the municipal level were not included in the wards level since they operate in the whole district. There are three stakeholders from the Municipal level,

This comprised 3.0% of the whole sample. The respondents in the respective wards were randomly selected provided that they were ready and available during the data collection process. Among the respondents, 25 respondents which are 25.0 % of all respondents were from Kaloleni Ward, 25 respondents which are 25.0 % of all respondents were from Kati Ward, 24 respondents which are 24.0 % of all respondents were from Levulosi Ward and 23 respondents which is 23.0 % of all respondents were from Olasiti Ward. This does not imply that Kati and Kaloleni have too many construction projects people but it is the profile of the respondents comprising the places randomly chosen and questioned. On the other hand, Kati and Kaloleni had too more projects than the other wards (Figure 4.1).

From figure 1, it is shown that there was almost equal selection and availability of the project stakeholders from different project locations that were intended by the survey subject. This implies that accurate and balanced data were recorded from the different project locations which provide certainty of the obtained information have a common understanding and to the respective respondents.

Figure 1 Geographical locations of respondents by Projects.





**Table 1 Operational Status of respondents by Projects.**

Status	Frequency	Percentage
Incomplete	35	35.0
Complete	65	65.0
Total	100	100.0

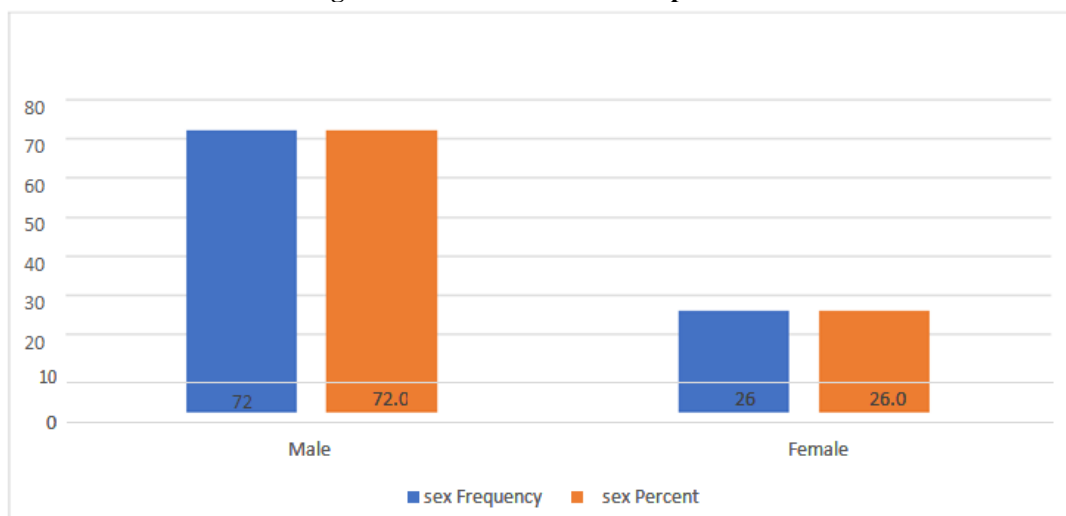
From Table 1, it is evidenced that the most questioned respondent' was at the finishing stage of the project and it implies that these respondents are well aware of communication components on how they applied throughout the project until the current status.

### 3.1.3 Sex distribution of the respondents

When examining the role of communication among project stakeholders in the implementation of buildings construction projects in Arusha City. Both male and female respondents were involved. Stakeholders of the project consist of both males and females since they are included in implementation according to their abilities and potentials. The researchers intended to have equal representation of both male and female gender, thus the researchers believed to have involved equally all sex categories in this study and the information obtained were not gender biased for that matter.

Findings indicate that the number of male respondents whom the researcher managed to get information concerning the role of communication among project stakeholders in the implementation of buildings construction projects is 72.0% while the number of female respondents was 28.0%.

**Figure 2 Sex distributions of respondents**



The findings from Figure 2 shows that the researcher's intention to collect information without inclining to one source although it implies that men are more sex group who are engaging in construction activities than women. Due to the high gender stereotype to the construction activities, the

project stakeholders are highly considered to be male than female.





### 3.1.4 Marital status distribution of the respondents

The marital status of the sample was determined to acquire an overview of how was the status of the respondent's relationship within their families and also to know the status of the respondents compared to their engagement level.

The group of the married respondents dominated the sample by 54.0% while the single respondents were 25.0% of all respondents, Divorced respondents was 17.0% and the respondents who were Widowed formed the least group by 4.0%. Figure 4.2 provides the details.

Figure 3 Marital status distributions of respondents

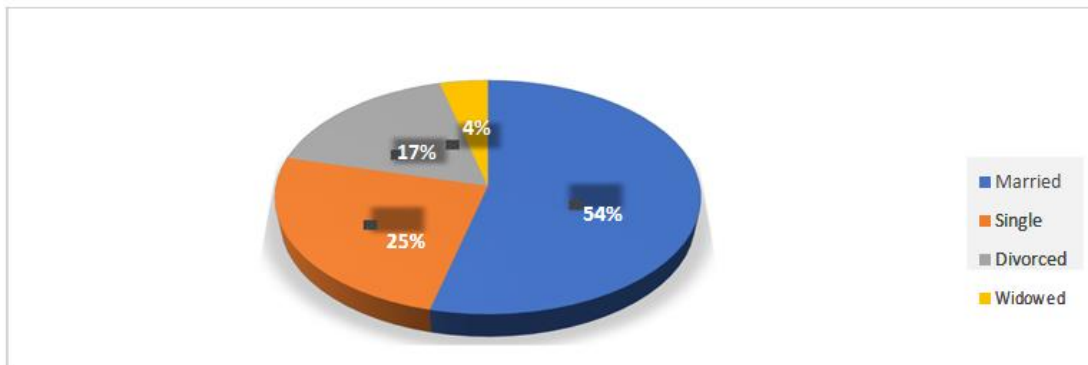


Figure 3. Provides the details imply that a stable family can engage itself in construction and hardworking activities for its livelihood than an unstable one.

From the findings, it can be concluded that the majority of respondents who participated in the study were married. This implies that most people engage in different activities to gain the financial ability to support the family they have.

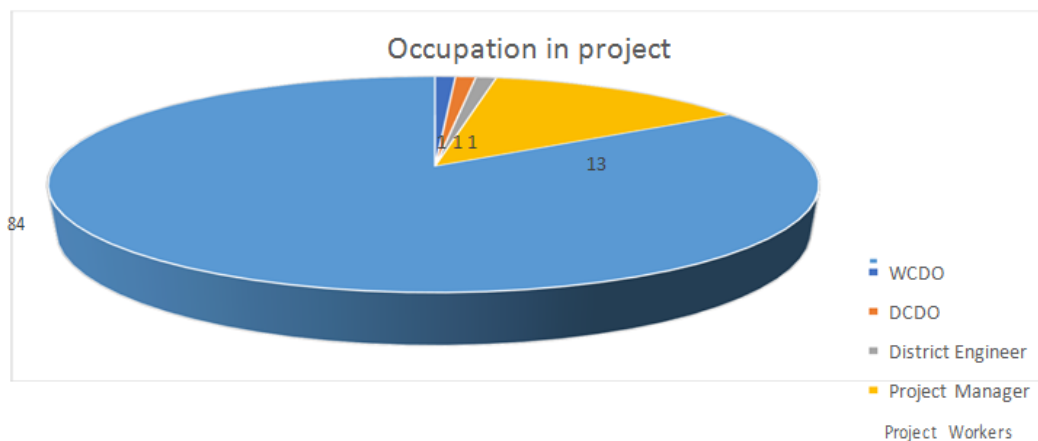
### 3.1.5 Respondent's Occupation in Project

Respondents were asked to point out the type of occupation which individual possess that enabled them to show their potential in project

management. Findings show that 1.0% of all respondents were District community development officers, 1.0% of all respondents were Ward community development officers, 1.0% of all respondents were District engineers, 13.0% of all respondents were Project managers and the last group and which was the highest frequency was Project workers who were 84% of the total respondent's population.

Figure 4. Provides the details imply that there was a great division of responsibilities which was supported by effective communication in the operations of the project. Through this functionalism approach, it helps to effectively deliver and management of the project.

Figure 4 Occupation of respondents





### 3.1.5 Communication Channels of survey subject.

This was the first objective of the study. This objective determined the communication channels employed by the construction project stakeholders for effective management and implementation of the constructions project they undertake. From the already determined channel, the research team seeks to determine the frequency of application from each channel. Communication channels are not only meant for transferring

information from one source to another. Construction project stakeholders may require using of certain kinds of a communication channels to ensure there is effectively feedback for the effectiveness of the project management. This tendency may lead construction project stakeholders to ensure effective communication by ensuring using the proper channel. Table 4.2, 4.3, 4.4 and 4.5 provides the details as follows.

**Table 2 SMS as Communication Channel used in work Place**

SMS as Communication Channel	Frequency	Percentages
Very High	13	13.0
High	39	39.0
Medium	29	29.0
Low	13	13.0
Very Low	6	6.0
Total	100	100.0

The results in Table 2 indicate that the application of construction project stakeholders towards SMS as the channel for the construction project communication tool was a bit high. They are using it but not to a higher extent. This was by 39.0 % of all the respondents. This was enough to know that since the stakeholders is busy with work, they

are not frequently using SMS as the tool for communication but they are regularly using it when it is needed to. And also, there are strict policies regarding the frequent usage of mobile devices in the workplace. Workers may not be allowed to have their devices within reach to receive the message.

**Table 3 Meetings/Conversation as Communication Channel used in work Place**

Meetings/Conversation as Communication Channel	Frequency	Percentages
Very High	55	55.0
High	17	17.0
Medium	11	11.0
Low	9	9.0
Very Low	8	8.0



Total	100	100.0
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The results in Table 3 indicate that the application of construction project stakeholders towards Meetings/Conversation as the channel for the construction project communication tool was very high. This was by 55.0 % of all the respondents. This was enough to know that since the stakeholders are competent with work, they are

frequently using Meetings/Conversation Workplace meetings as an important element of management. It also implies that Meetings enable them to communicate and share information, solve problems or resolve disputes, improve performance, build teamwork and move projects forward. They are using to a higher extent.

**Table 4 Documentations as Communication Channel used in work Place**

Documentations as Channel	Communication Frequency	Percentages
Very High	23	23.0
High	34	34.0
Medium	43	43.0
Low	0	00.0
Very Low	0	00.0
Total	100	100.0

The results in Table 4 indicate that the application of construction project stakeholders towards Documentations as the channel for the construction project communication tool was normal. They are using it but not to a higher extent. This was by 43.0 % of all the respondents. This was enough to know that since the stakeholders are busy with work, they are not frequently using Documentation instead they are using it to properly

evaluate employees and avoid liability connected with disciplining and terminating employees and also documentation allows companies to be more consistent in their decision making, thereby reducing the risk of perceptions of favoritism or discrimination so that documentation used as the tool communication but they are regularly using it when it is needed to.

**Table 5 Phone Calls as Communication Channel used in work Place**

Phone Calls as Communication Channel	Frequency	Percentages
Very High	75	75.0
High	17	17.0
Medium	8	8.0





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Total	100	100.0
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The results in Table 5 indicate that the application of construction project stakeholders towards SMS as the most-used channel for construction project communication. They are using it to the higher extent of proper management of the project. This was shown by 75.0 % of all the respondents. This was enough to know that Phone calls are a great alternative when you need to communicate a sense of urgency and get answers quickly. Calls are a real-time, two-way communication channel that still let a person get quick feedback. Plus, as long as no visuals are needed to convey a message, this channel also allows for a lengthy discussion.

From the findings derived from tables 4.2,4.3, 4.4 and table 4.5. The communication channel with the highest ranking is phone calls. Meetings/conversation is ranked second, documentation is ranked third and SMS least applied. The channels of communication indicate the skills that a project manager needs to communicate effectively. The purpose of the question was to determine the level of effectiveness of the communication channels used by stakeholders in the construction project. The channels are all used during the implementation of a project, but some of the channels are more effective when used during the implementation of a project. phone calls and Meetings/conversation channels of communication have the advantage that a message can be transferred, received and corrected before

finalized, while documentation and SMS communication do not have the advantage of being able to correct the message. A project stakeholder, therefore, needs skills and strategies to increase his/her communication effectiveness in meetings and phone calls to ensure project effective implementation.

### 3.1.6 Construction stakeholders value project communication

This was the second objective of the study. This objective determined the extent to which construction stakeholders value construction project communication in the study area. the questionnaire provided to the respondents revealed that most stakeholders respond Positively to the project communication.

### 3.1.7 Importance of communication in the implementation of the project

Respondents were asked if communication plays any important role in the implementation of the construction project to ensure implementation and managing of the construction project in the study area. Findings show that 100.0% of all respondents which is equal to all populations of the study argued and agreed that communication is very important in the implementation of the project. and no respondent said that he/she don't know if the communication is important or not. Table 4.6 provides the details.

**Table 6 Importance of communication in implementation of the project**

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Important	Frequency	Percentages
Yes	100	100.0
No	00	00.0
I don't Know	00	00.0
Total	100	100.0

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The results imply that the construction project stakeholders are well aware of the importance of project communication as well as the application of different tools and techniques to ensure effective communication. And also, this does not imply that people are not making mistakes in the efficacy of communication but there is proper management of the communication impact to ensure reaching goals. Findings also revealed that good relationship behaviour developed among the workers contributed by effective communication imposed by the construction project management leaders.

### 3.1.7 The extent of communication is important in the professional project implementation

Without strong communication skills, construction project managers would find it

incredibly difficult, if not impossible, to effectively manage their teams and coordinate efforts to bring about a project's successful implementation. Respondents were asked about the importance of professional implementation of the project. In this question, the research team wanted to know if communication plays role in the professionalism of construction project managing in implementation and management of the project. majority of the respondents said communication is Important in the professional implementation of the construction projecting different values of agreeing. This implies that Communication is one of the most essential ingredients [in successful construction project management] and skills that a construction project manager has to have. Table 4.7 provides the details.

**Table 7 Importance of communication in implementation of the project**

Extent of communication importance	Frequency	Percentages
Very Important	63	63.0
Important	30	30.0
Less Important	7	7.0
Not Important	0	00.0
I don't know	0	00.0
Total	100	100.0

The results from Table 7 imply that the Good communications are fundamental to the construction process. Effective communication helps individuals to clarify ideas, correct misconceptions, share experiences, reduce stress and provide feedback for improvement. One needs to internalize this skill to be able to overcome his/her inhibitions and maintain healthy social relationship.

### 3.2 Factors that influence effective communication in construction projects

This objective determined the factors that influence effective communication in construction projects to the effective management and implementation of the constructions project they undertake.

#### 3.2.1 Feedback when communicating on project implementation issues

Feedback is about listening actively, taking the time to analyses, and then thinking of the best possible solution to perform better. It provides positive criticism and allows to see what everyone can change to improve their focus and results. It brings people together and creates a healthy communication flow.

Respondents were asked whether there is productive feedback when communicating for the construction project implementation related issues since Feedback is the final component and one of the important factors in the process of communication. Table 4.8 provides the details.



**Table 8 Feedback when communicate on project implementation issues**

Feedback	Frequency	Percentages
Yes	100	100.0
No	00	00.0
I don't Know	00	00.0
Total	100	100.0

Table 8 implies that Feedback enables effective coordination of the construction project activities. All concerned stakeholders can share the work-in-progress through the means of feedback. It supports the successful completion of a job or transaction. Also, it implies that Constructive feedback is a robust tool for creating a healthy environment for working, boosting productivity and engagement, and achieving better results. It positively influences communication, team members' interaction and teamwork result in different fields.

### **3.2.2 Impact of effective communication among project stakeholders in the implementation of buildings construction project**

This objective determined the impact of effective communication among project stakeholders in the implementation of buildings construction projects. When team members understand their roles, the roles of others and management expectations, they can focus more on work and less on workplace issues. With effective communication, conflicts are resolved quickly, employees can better manage their workload and distractions are minimized. These benefits contribute to greater productivity for the team.

### **3.2.3 Importance of communication in the management of this project**

The respondents were asked to identify the importance of communication in the management of the project. Whereby Total management is a management philosophy that focuses on the work process and people, with the major concern for satisfying customers and improving the construction

project performance. It involves the proper coordination of work processes which allows for continuous improvement in all business units with the aim of meeting or surpassing customer's expectations.

About 47.0% of all respondents argued that Monitoring and Evaluation, 21.0% of all respondents said that, communication helps in Activity Coordination, 14.0% of all respondents said that, communication is very important on Allocation of Resources in the management, 7.0% of all respondents said that, effective communication Build and Strength relationship, 7.0% of all respondents said that, effective communication Enhance leadership, 3.0% of all respondents argued that effective communication Increases Transparency and Accountability and 3.0% of all respondents argued that effective communication facilitates Rights and responsibility.

## **IV. Conclusion and Policy Implication**

### **4.1.1 Conclusion**

This scholarly work focused on analyzing the communication on management and implementation of buildings construction projects in Arusha City. This was driven by the inquiry of why project management students should learn communication skills. The purpose of this study was escorted by the analysis of the stakeholder's characteristics, the project characteristics, and the influence of communication on management and implementation of buildings construction projects. The study employed 100 respondents. These included 13 project managers, 1 construction engineer, 1 District community development



officer, 1 Ward community development officer and 84 Project construction workers. The number and size of the study population were determined through random sampling procedures. The methodology involved in the study was a cross-sectional design where data were collected only once for facilitating the study by the use of semi-structured questionnaires which were administered in Kaloleni Ward, Kati Ward, Olasiti Ward and Levulosi ward. The wards were proposed by the District Construction engineer according to the number of projects and the usefulness of the project for the research.

#### 4.1.2 Policy Implications

The communication methods are the most important to use during the implementation of a project. The construction project manager has to communicate effectively regarding cost, time and quality as three of the four cornerstone factors on which the success of a project depends, followed by scope. Time influences cost and cost is communicated to the client, functionaries and stakeholders to execute the project within the approved budget and in time, according to the request of the client– the scope. The project manager needs to be a leader to communicate effectively with all parties. The successful implementation of a construction project depends heavily on the construction project manager's abilities as a communicator to lead the team and manage a construction project successfully. It is important to ensure that the sustainability of the communication skills to the project management is ensured to increase its management and implementation of buildings construction projects through the following ways under which the government its people.

The government should ensure the field of project management and communication sector by Capacitating modernized communication systems, communication technologies and expose project stakeholders to better communication techniques. This will help project stakeholders to effectively increase communication strategies to the project management. The presence of network, reduction of mobile phones bundles and availability of equipment applicable means to increase the efficiency and effectiveness of communication skills.

Policymakers should review and enhance policies that can directly connect the project management field and field of communication by making communication skills the mandatory subject to the

community development field also for the project management field.

Project managers should be insisted when to prepare the communication report after the project to give details on how communication was applied, impact derived by communication skills as well as challenges they faced in communication but also how they alleviate those challenges and finally what they propose to be taken in consideration in communication skills field.

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