



The Relationship between Effective Communication with Quality and Timely Delivery of Project Activities

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ABSTRACT

The concept of time and quality management is highly connected to project performance and success. The importance of adopting appropriate tools and techniques of managing effective communication in projects can be understood through the delivery of high-quality services. This study aimed to evaluate the relationship between effective communication with quality and timely delivery of project activities. The study's aim was achieved through the assessment of the relationships between effective communication with project quality outcomes and management of project timescales. To attain the research objectives, both primary and secondary data were collected using semi-structured questionnaires and interview guides consisting of closed-ended questions. The study employed a sequential explanatory research design where respondents involved in Bank of Zambia projects and other projects were meant to provide answers from questionnaires and interviews which were later analyzed by the researcher. The study results from regression analysis revealed the presence of a strong and positive correlation between effective communication and project success with the coefficient of determination of 82.4% which was explained by the effective communication effect on project success. The hypothesis test results showed that effective communication was significantly related to quality and timely delivery of project activities, with 4.24 as the average and 0.69438 as the standard deviation obtained from the sample size of 75. It was found that effective communication in projects should effectively be applied to maximize the quality of project outcomes and timely delivery. Thus it was recommended that a model developed for implementing effective communication in projects be adopted with room for other researchers to develop it further. The findings from this study, the proposed solutions, conclusions and recommendations are expected to improve the performance of projects. Furthermore, there are situations where the use of project management tools in the book of PMPBOK has not maintained achievement of the project success, therefore, this study will also contribute to the body of knowledge on the communication methods to use in achieving the project objectives efficiently and effectively.

Keywords: Effective Communication, Model, Quality, Stakeholders and Time

Introduction

Effective communication in a project plays a significant role in the quality and timely delivery of project activities in an organization (Nsefu et al., 2020; Mwanaumo, et al., 2018). Developing a robust infrastructure system that can successfully contribute to economic development and poverty reduction, project managers must focus on delivering their projects on time,



within budget and to specifications (Mambwe et al., 2020). Furthermore, it reduces the cost and wastage of time to deliver and receive the message among project team members at different levels of the project (Mahmood et al, 2019). In a study conducted by Muneer (2016) it was observed that there is a positive relationship between effective communication and effective delivery of projects. Abdullah, (2006) supported Muneer (2016) by noticing that communication plays an important role to complete the project activities on time and consequently, the quality of the project is also affected by project communication. It, therefore, means that a relationship exists between effective communication with quality and timely delivery of project activities.

Fred (2010) defines communication as the process of transmitting information and common understanding from one person to another. It's further defined as the art of passing information from one person to another so that it can be received in the manner they were meant (Lovlyn, 2017). Ksenija and Vladimir (2010) illustrated the basic communication model as shown in figure 1.

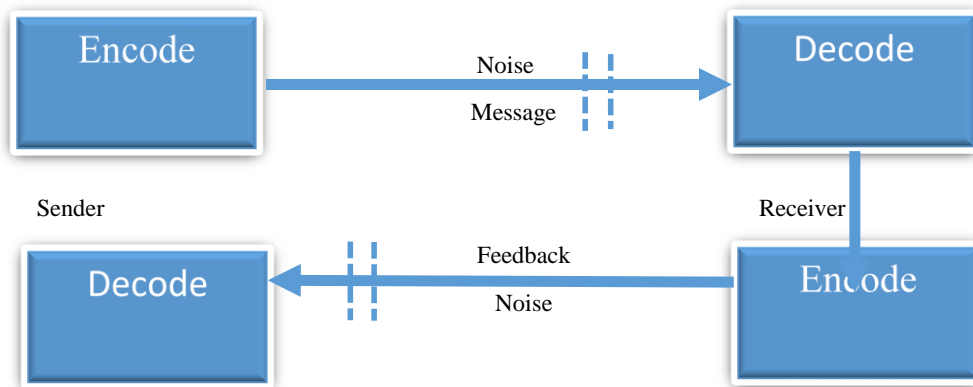


Figure 1: Basic communication model (Ksenija & Vladimir, 2010)

The basic communication model in figure 1 shows how information is sent and received between two parties. The components involved are (Ksenija and Vladimir, 2010);

- Encode: translates ideas into language that's understood by others.
- Message and feedback: the output of the encoding
- Medium: the method used to convey the message
- Noise: anything that distorts transmission or understanding.
- Decode: translate the message back into meaningful thoughts or ideas.

Effective communication is therefore defined as a process of exchanging ideas, thoughts, knowledge, and information such that the purpose or intention is fulfilled in the best possible manner or the presentation of views by the sender in a way best understood by the receiver (Prachi, 2018). According to market business news (2020) quality is defined as a degree of excellence. Performance upon expectations and fit for functions (Tech quality pedia, 2020). Timely is defined as something being finished quickly or on time, well-timed, or doing something at the most appropriate moment (vocabulary.com dictionary, 2020). The study addresses the stakeholders and project team members involved in the quality and timely delivery of project activities by focusing on the relationship with effective project communication which can reduce budget overruns, time overruns, poor quality, reworks, project failures and risks of the project.

Effective communication is often the foundation of successful projects (Villanova University, 2020). For this reason, global organizations that initiate steps to improve project communication can reap the benefits of more successful projects. In a study conducted by PMI (2019), it was observed that in companies with highly effective communication, 80% of projects met their goals compared to a 52% success rate for those with minimally effective communication. This is supported by (Mwanaumo et al., 2020; Nsefu et al., 2020) who postulated that infrastructure quality is very important and the most critical factor that determines attraction and retains investment, and a high-quality workforce. According to Gina (2013), it was observed that nowadays many projects are done virtually and work is done with individuals across the globe, thereby, making communications becoming even more complex and challenging. Therefore, the use of technology enables more effective communications in such situations along with an understanding of cultural differences and their impact on how received communication is processed. Further, it was noted that the goal of communication is to communicate effectively and efficiently, but not constantly and without taking time away from having a project delivered on time. For this reason, it is clear not to ignore how related effective communication is to the quality and timely delivery of project activities. In a study conducted by PMI (2013) it was observed that the biggest problem to achieving effective communication in projects was a gap in understanding the business benefits and challenges surrounding the language used to deliver project related information, which is often unclear and scattered with project management jargon. Furthermore, everyone needs to understand the long-term goal so that they can know how they are contributing and making an impact on the project, this way effective communication will be achieved (Jennifer, 2013).

In Malaysia, Mei (2014) research suggested that one out of five projects is unsuccessful due to ineffective communication; it has to be applied throughout a project lifecycle, from start to end. Further notes that it is recognized as a key element in the project management book of knowledge (PMBOK). Furthermore, noted that to achieve effective communication in projects, communication planning is essential, using tools and putting processes in place to ensure daily effective communication during project execution which will overcome challenges and contribute to more successful projects. In Kenya, Muritti's (2018) research revealed that communication roles in a project's lifecycle should be assigned from the work breakdown structure (WBS) or organization work breakdown structure (OBS) to avoid overlapping roles and ineffective communication, thereby, avoid project failure. Also noted is that clear communication lines should be provided to support all subordinates to facilitate effective information sharing and cohesion. Further, it revealed that effective communication is achieved if most forms of communication are adopted. In a similar study conducted in South Africa to determine if communication is the foundation of project management, it was revealed that communication is needed to effectively communicate the areas of cost, scope, time, and quality. It was noted that effective communication and time, cost, scope, and quality are related. It also concluded that effective communication intergrades cost, scope, and time to achieve a quality product or service (Zulch, 2014). Institutions face several project challenges in terms of quality and timely delivery of project activities despite having adopted the project management policy to help in managing the projects in the organization. According to the Document status and delivery reports (2019), on most projects, there is evidence that most of the implemented projects have either been delayed in completion or have failed to be completed. In Zambia, two industrial regulatory and statutory bodies address matters related to the quality and timely delivery of projects. These are the National Council for Construction (NCC) and the Zambia Environmental Management Agency (ZEMA). The research carried out by Mukuka and Thwala (2014) suggested that the extension of project time and cost overruns due to poor communication, ineffective planning, and scheduling of projects were

the major effects of project delays or abandonments in Lusaka, Zambia. Further, it revealed that effective strategic planning, clear information, and communication channels should be used as measures to make projects to be delivered on time. Thus, effective communication results in a project being delivered successfully (Mahmoud et al, 2018).

Statement of the problem

Most of the projects are delayed or not completed because there is a lot of design changes, delays in payments, poor project management, disagreements on the value of work, cost overruns, time overruns, and most importantly, delay in effective communication to the stakeholders (Geraldine, 2012). To address some of the problems highlighted above, Silas et al (2017) established that most of the unsuccessful projects do not implement effective communication despite having a project plan. Poor communication has been linked to negatively affecting important particular parts of the project's success such as timeframe, budget, and agreement among shareholders (Emuze & James, 2013). A study conducted in Nigeria by Leje et al (2019) revealed that effective communication is what facilitates understanding among all the stakeholders in a project. Furthermore, effective tools and instruments should be adopted to achieve quality, cost efficiency, and timely delivery of projects. Despite recommendations on how to manage projects (The World Bank, 2018) using PMBOK guidelines, poor quality and delay in project completions have been increasing from time to time (BOZ project status & closure reports, 2019). However, what is not known is the connection and the extent to which effective communication may have on the quality and timely delivery of project activities.

Literature Review

It has been noted that the major causes of poor communication are the absence of a shared language between superiors and workers, workplace stress, superiors, and colleagues' attitude towards site workers, misinterpreting of instructions, and poor communication skills among workers. On the other hand, communication problems on-site can be minimized by taking into account noise reduction measures, honesty among workers and supervisors, reduction in on-site bullying, and encouragement of communication and creativity among workers (Seong et al, 2017). Thus communication on a project is a key factor in achieving good results which include the processes of planning, collecting, creating, storing, controlling and distributing information promptly. Additionally, stresses the point that the management of communications ensures a better distribution of information at all levels of the institution and the design of the communications plan allows the information to be transmitted efficiently and assertively (Hernandez et al, 2014). The high volumes of success rates across all participants show the impact that communication has on project outcomes. On the other hand, project managers need to realize how critical good communication is to project management and how ineffective communication can impact the chances of a project's success otherwise project failure will continuously be a top priority on management agendas (Maralise and Kwete, 2012).

A study conducted by Karolina (2015) in Poland stresses the point that effective communication is only achieved by strictly following the fundamental rules of clear and positive communication and developing positive relationships. A study by Ismail et al (2014) in Malaysia pointed out that fear to communicate in project space and high-stress levels in projects is the two dominant factors that lead to poor communication in most projects. It was also observed that the introduction of strategies and

plans in project execution will enhance effective communication. On the other hand, in Finland, Awangzeab et al (2016) carried out research which suggested that lack of communication in a project usually created later change needs and confusion, however, focus on communication effectiveness created a clear group culture that supported innovative solutions for problems faced during the project execution. In South Africa, Benita (2016) conducted a study that suggested that ineffective communication and poor application of communication skills in project management leads to outcomes that do not support or meet the intended project objectives. Furthermore, observed that a lack of a proper communication skills model for project management contribute to poor project communication and ultimately affects the project outcomes. Zita (2020), in South Africa also, provided support to Benita (2016) study by suggesting that project success and effective communication are related, hence, the need to have strong and effective communication techniques and models in project management. Furthermore, communication strategy has to be consistent with the project or organization's communication framework to meet the set objectives (Mwale, 2012). Additionally, Silungwe (2020) study revealed that only 37.9% of project communication management is applied in the management of the projects and only 31.4% of project teams understand the importance of project communication management. Furthermore, revealed that only 41.4% of project communication management is applied in the projects that have been implemented in the communities despite most of the project failures being associated with lack of project communication management.

Quality and Timely delivery of projects

Project quality, project risk and timely delivery have a positive important impact on project performance (Saif, 2016). A study by Giriraj (2020) revealed that maximizing the quality of project deliverables and completing the project within the scheduled period can only be achieved successfully if communication is used as a tool in project management. Furthermore, it concluded that improving the project success rate and understanding of project information can only be achieved if appropriate and strong tools of formal and informal communication are made mandatory in project management.

Quality delivery of projects

Project quality management is defined as the process through which quality is managed and maintained throughout a project (Globalknowledge, 2020). Additionally, Stephanie (2018) defined project quality management as the process and activities that are used to figure out and achieve the quality of the deliverables of a project. Furthermore, noted that without customer satisfaction there can be no quality control. Quality project management is driven by quality plan, quality, assurance and quality control. Consider below for a comprehensive understanding of the concept of project quality management process;

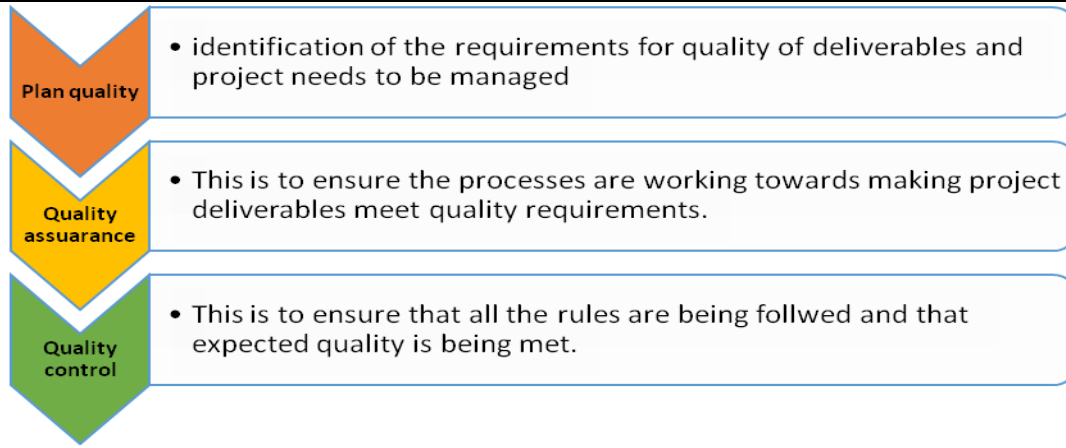


Figure 2: project quality management trilogy (Stephanie, 2018)

Total quality management is defined as a project management technique or strategy that is implemented to assure that awareness of quality is emended in all the phases of the project from conception to completion (PMK, 2020). Additionally, Juran.com (2020) research suggested that Total Quality Management (TQM) has several key principles which when all are implemented can achieve TQM. Below is the figure illustrating the key principles to TQM:



Figure 3: key principles of TQM (Juran.com, 2020)

In Canada, Attalla et al (2014) carried out research that suggested that understanding the quality control process is very important to improving the overall quality of any project delivery. Further noted that usage of the checklist as a tool to inspect the quality and assess the adequacy of the project components improves quality delivery of projects. On the contrary, in Serbia Dusan and Jelica (2008) argued that Project quality is important only if the project outcomes meet the expectations of the consumers and also it was noted that quality can be achieved through planning and management of the project activities. Conventionally, In the USA, the research revealed that to achieve quality delivery in projects it is important to make sure communication is done to every project team member, communicate the importance of their tasks, the importance of their roles to the project and how each contribution affects the successful project quality outcome. Additionally, it also revealed that excellence and quality must be integral to every task and every project team member performing the task. All stakeholders and project team members have to focus on the quality of the tasks by ensuring that all the details are followed (Janet, 2020). However, PMI (2012) study supported Dusan and Jelica (2008) research, the study revealed that to achieve quality various processes and activities have to be included to establish quality objectives, policies, and responsibilities so that the project satisfies the requirements for which it was undertaken.

The study also noted that the processes related to Quality Management involve Plan Quality, Perform Quality Assurance and Perform Quality Control. In Hong Kong, a study conducted by Albert (2012) about the factors affecting the quality of projects revealed that project management action by the project team is the most powerful predictor of client's satisfaction with quality. It links project quality with the satisfaction of the customer and it noted that other factors included the effectiveness of the team leader, the client's emphasis on quality and the client's emphasis on time. The study looks at quality from the customer point of view and which is mostly the best way as identified in total quality management to focus on the customer from inception. In Nigeria, a study by Adenuga (2013) disclosed that the aims and objectives of quality assurance rely upon individual contribution to implementation from designer, contractor, supplier and subcontractor. All of these play a major role in ensuring quality work in projects. Furthermore, it was noted that quality in project delivery standards can be enforced by government and professional bodies which include quality assurance departments and statutory requirements. On the contrary Orji et al (2019) argued that effective communication with the project team/client is the major factor that influences quality positively in building construction work. It fosters an open and trusting environment for effective, efficient and quality construction works. It noted that Other factors include a commitment to quality, good attitude towards quality, effective/efficient quality planning, adequacy/completeness of design and documentation, effective/efficient construction method, engaging qualified persons for construction work, effective/efficient teamwork, use of quality construction material, supervision of construction workers, motivation, training and seminar on quality management, use of proper equipment for construction work, and adherence to statutory regulations.

In Zambia, a study by Lungu (2016) revealed that quality delivery of projects encompasses the examination of the entire process, from inception to commissioning and through the entire project life cycle. Furthermore, noted that the absence of qualified professionals in the design and implementation process, inadequate supervision and corruption could lead to poor workmanship, hence, poor quality delivery. It was concluded that total quality management (TQM) is required throughout all phases of the project.

Relationship between effective communication with quality and timely delivery of projects

In Malaysia, a study probing factors leading to time overruns in projects established that project delays beyond contract dates are predominantly caused by contractors and are usually associated with financial factors which contribute to project delays (Zayyana et al, 2014). Further Tahir et al (2019) argues that delay and cost overrun are caused by delay in preparation of the design document, poor schedule and control of time, delay in delivery of the material to the site, lack of knowledge about different defined execution methods, shortage of labour and material in market and changes in the scope of work. In Kuwaiti, changing orders, owner's financial constraints, owners lack experience in projects was established to cause time delay. Further, contractor related problems, material related problems and owner's financial constraint caused cost overruns. Thus, reduction of time delays and cost overruns on projects require availability of adequate funds, allocation of sufficient time, money at the design phase, selection of a competent consultant and a reliable contractor to carry out the work (Koushki, 2011). Furthermore, a study conducted in India on the delays of projects disclosed that lack of commitment, inefficient site management, poor site coordination, improper planning, lack of clarity in project scope, lack of effective communication and substandard contract caused the project delays. Despite all the factors from the analysis, it was concluded, using the regression model, that slow decision from the owner, poor labor productivity, architects reluctance for change and rework due to mistakes in projects are the reasons that affect the overall delay of the projects significantly (Hemanta et al, 2012).

according to Owolabi et al (2014), projects not delivered on time are caused by lack of funds to finance the project to completion, changes in drawings, lack of effective communication among parties involved, lack of adequate information from the consultants, slow decision making and contractors bankruptcy, variations. Also project management problems, mistakes and discrepancies in the contract document, equipment availability and failure, mistakes during construction, bad weather, and fluctuation price of building materials, inappropriate overall organizational structure linking to the project and labour strike. Kiradoo (2017) opines that communication is very important for use as a tool in maximizing the quality of the project deliverables and completing it within the required time frame. In the same vein, Mahmood, Kadhim and Safaa (2019) study stated that the role communication plays in any project is vital for the quality of the projects. When communication is effectively applied in the management of projects, costs and time overruns are reduced positively. Communication has a great effect on the realization of quality management and quality assurance. Anca et al (2009) asserts that communication plays a significant role in connecting with quality issues and has a major part to play in quality assurance and quality management. Ibrahim et al (2014) observed that communication predicts quality service delivery in projects directly and also indirectly through total quality management. Additionally, factors which affect service quality mainly involve communication and control processes implemented in organizations to manage employees. Thus is vital in coordination or integration of department's for an organization to achieve the strategic objectives, (Valarie et al, n.d.). In Zambia, Mukuka (2014) opined that most projects that are delayed or not delivered on time as expected are due to poor communication, poor coordination, ineffective planning and scheduling of projects. Additionally, Mushiba (2016) revealed that applying effective communication on benchmarking, customer focus, people management, process management and leadership appear to be of primary importance and exhibited a significant impact on the quality of productivity. Communication in quality management practices demonstrates its importance for the manufacturing industry in Zambia in enhancing its productivity and profitability and leveraging the international competitiveness of the Zambian economy.

In Malaysia, according to Kuen (2012) study, it was observed that the critical factors that affect the timely or successful delivery of projects are top management support, clear project mission, the competence of the project team and project plan

monitoring. On the contrary with the aforementioned findings, in the USA, klouddata.com (2020) study argued that communicating with all stakeholders in a project is the single most important factor for successful project management and completion. It was also clearly noted that poor communication is too often a cause of other problems that make a project collapse. It was concluded from the study that the top three problem areas that prevent a project from being successful are changes in scope, ineffective estimation in the planning phase and poorly defined goals and objectives. It was also concluded that during the project, it is really important that the project manager is fully aware of every task and what the status of that task is. In Dubai, according to Shahatit (2016), the study revealed that there is a positive relationship between effective communication and effective delivery of projects. The study observed that to ensure effective communication in projects information has to be aligned between different teams and the project management team, good communication among team members and project manager and the project team has to be committed to effective communication. . On another hand, the research argued that trust and diversity of knowledge have limited impact on effective communication in projects. It was concluded that the project team members and project managers have to adopt different communication practices to encourage communication enhancement and maintain proper coordination. In line with the aforementioned findings, In Iraq, a study by Ali (2019) revealed that communication plays an important role to complete the project activities on time. The study used regression analysis and targeted project team members and project managers of selected projects. The research disclosed that communication is more significant for the quality of projects. Furthermore, it was concluded that effective communication will be able to deliver projects within the schedule.

In Nigeria, a study by Amusan et al (2014), revealed that many factors induce delay on projects, however, most of the delays were attributed to lack of effective communication among the parties involved and lack of adequate information from consultants. It was also pointed out that change in design, lack of finance and indecision contributed to the failure in completing projects on time. It was thus established that a linkage of communication to timely delivery existed because poor communication and coordination lead to time being exceeded, hence, more money is spent and increases the budget and resources which are wasted. In the same vein, a study by Mohammed et al (2019), stresses the point that the most significant impact of effective communication is common in organizational efficiency. Furthermore, the study also revealed that construction organizations were influenced by effective communication in terms of improving productivity and completion of projects on time. In conclusion, it was thus established that stakeholders in organization projects should adopt the use of effective communication tools and instruments for organizational performance in terms of quality, time and cost. Nevertheless, a study by Charles et al (2016) in Kenya suggested that implementing agencies in projects should commit to embracing the top management support related factors as very critical in the successful delivery of the projects promptly. Furthermore, emphasized that top management should provide the necessary support to both technical and operational staff in activities to achieve timely delivery. In comparison, a research study conducted in Uganda argued that over 70% of the citizenship projects fall short of the expected quality, experience cost overrun and are completed behind the schedule. The research targeted data from citizenship projects conducted by commercial banks in Uganda. The study revealed that project communication is key to achieving the quality of projects and also clearly noted that individual commitment and social networks are significant predictors of the perceived timely completion of projects and project performance (Arthur and Sudi, 2012).

In Malawi, the study by Chirwa et al (2012) noted that out of 184 contracts administered, most of them have plagued by delays and other project management and delivery problems, and less than a third of them achieved timely completion and leaving two-thirds of the contractors to complete at their own time. It was found that lack of seriousness and coordination in project

management by the contractors lead to delays and poor project management despite clients' efforts to put up measures to assist contractors to complete projects on time. In contrary to the aforementioned, research by Mavuso et al (2016) in South Africa suggested that eight communication management factors affected project delivery and the variables included technology and systems, communication skills or competence, communication plans, teamwork and partnering, organizational structure, stakeholders framework of reference, project briefing and the context of an environment. In the same vein, a study conducted by Nokulunga et al (2019) In Swaziland stresses the point that communication management practices are linked to project outcomes in terms of timely delivery and performance. It was concluded from the study that the significance of communication management in projects is worth focusing on for projects delivery improvements because failure to recognize that will lead to poor project delivery and failure to complete projects within a schedule or worse lead to project abandonment. In Zambia, a research study conducted by Chaali (2017) aimed at identifying the most important causes of delay and their effects in projects in Zambia. The study revealed that the most important causes of delays in projects in Zambia are: rain effect on construction activities, type of project bidding and award, difficulties in financing project by client or owner, delay in approving major changes in the scope by the client, and delays in progress payments by owner. It was concluded that there is a need for adequate planning and scheduling, engaging of fully dedicated project implementation units (PIUs) which should accelerate the approval processes, and to make adjustments to the criteria for a contract award to focus less on price (lowest bidder) and more on the contractor's capabilities and past performances.

A successful project affects organizations, local communities, the economy and the country at large in a positive way. The studies have shown that project management, in any project, is very important because it ensures that there is a proper plan for executing strategic objectives and goals, furthermore, effective communication was identified by most researchers as a vital tool in projects, it unites the team members and stakeholders, bonds the project objectives and budget, enables everyone involved in the project to understand their roles and ultimately, ensures project success. Nevertheless, that was not the case with the other researchers, who argued that the success of the project was heavily dependent on the complete support from the top management of an organization and the other hand, others concluded that the capabilities of a contractor affected the success of the project. From most the literature review, it has clearly shown that there is a relationship between effective communication with quality and timely delivery of projects and also it has revealed that projects are characterized by high levels of interdependencies and for that, they require a proper and well-established approach to effective communication to manage coordination and implementation efficiently.

Methodology

This study selected a mixed-methods approach using the sequential explanatory design. The motivating factors for choosing mixed methods were the significance of the study and the nature of the research topic. To evaluate the relationship between independent and dependent variables that is effective communication with quality and timely delivery of project activities, it was easy for this researcher to apply statistics in the analysis of the problems and incorporating the findings from the interviews helped to explain the findings from quantitative data. A sequential explanatory research design was employed to evaluate the relationship between effective communication with quality and timely delivery of project activities. According to Berman (2017), it was revealed that the exploratory sequential mixed methods design is characterized by an initial qualitative

or quantitative phase of data collection and analysis, followed by a phase of quantitative or qualitative data collection and analysis, with a final phase of integration or linking of data from the two separate strands of data.

Study Population

The study respondents involved project managers, contractors, consultants and project team members who were involved in the projects done at various projects and other stakeholders. The study population also included; Project Managers eighteen (18), Consultants three (3), Contractors twenty (20), project team members twenty (20), engineering professionals (5), consultants (5) and Ministry of Housing and Infrastructure Development (MHID) six (6). Questionnaires and Interview guide questions were used to target a population of 77 respondents from the seven strands. The Slovincs' formula was used to determine this study sample size as shown below;

$$n = N / [1 + N(e)^2]$$

Where n = Sample size, N = Population size, e = Margin of error or Error of Tolerance. In this study, the population (N) size was 77, Margin of error (e) 5%, with a 95% confidence level.

$$\begin{aligned} \text{Therefore, sample size of the research study using Slovincs formula was thus computed as follows: } n &= N / [1 + N(e)^2] \\ &= 77 / [1 + 77(0.05)^2] \\ &= 77 / [1 + 77(0.0025)] \\ &= 77 / 1.1925 = 66 \end{aligned}$$

The study employed a stratified random sampling technique to determine both the sample size and respondents who were a representation of the entire population.

Finding

Relationship between effective communication with quality and timely execution of work

As stated in Table 1, 40 responses representing 53.3% were in support that effective communication is related to quality and timely delivery of project activities to a great extent and 37.3% indicated to a very great extent. Furthermore, 6.7% expressed moderate extent. On the other hand, 0% indicated to not at all. This implies that most of the respondents were in agreement that effective communication is related to the quality and timely delivery of project activities.

Table 1: Extent of effective communication being related to timely and quality execution of works

S/n	Details	Frequency	Percentage	Cumulative Percentage
1	Not at all	0	0	0
2	Low extent	2	2.7	2.7
3	Moderate extent	5	6.7	9.4
4	Great extent	40	53.3	62.7
5	Very great extent	28	37.3	100
	Total	75	100	

By using the SPSS application, Pearson Correlation Coefficient was computed as 0.908 indicating the presence of a very strong linear relationship between effective communication with quality and timely delivery of project activities. The Pearson Correlation Coefficient positive sign indicates that the two variables were directly related as the stipulated correlation was significant at the 0.01 level (2-tailed) and $p < 0.05$. This implies that an increase in effective communication practice increases quality in projects and timely delivery of project activities consequently ensuring that projects are executed within the set budget as intended. Table 2 shows the results.

Table 2: Correlation between effective communication and project success (quality and timely delivery)

Correlations		Effective communication	Project success
Effective communication	Pearson Correlation	1	.908**
	Sig. (2-tailed)		.000
	N	75	75
Project success	Pearson Correlation	.908**	1
	Sig. (2-tailed)	.000	
	N	75	75

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

Source: From SPSS computation by Author (2021)

Table 3 coefficient of determination (R) square value of 0.824 or 82.4% was computed. This R square value of 82.4% meant that only 82.4% of the variations independent variable (Performance of project success) were explained by an independent variable (effective communication) whereas the remaining 17.6% variations were explained by other factors other than the one mentioned in the project. This implies that effective communication significantly predicted the outcome of the project success. Furthermore, the study further applied simple regression analysis and Table 3 shows the results.

Table 3: Regression analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.908 ^a	.824	.822	.25357

a. Predictors: (Constant), Effective communication with project success

Source: From SPSS computation by Author (2021).

Contribution of effective communication

In Table 4, it is clearly shown that 73.3% of the respondents indicated to great extent, 17.3% showed very great extent whilst 6.7% indicated not at all, 2.7% indicated moderate extent and 0% indicated low extent. This suggests that more than 90% of the respondents were in agreement that effective communication contributes to the quality and timely delivery of project activities.

Table 4: Extent of effective communication contributing to the quality and timely delivery of project activities

S/n	Details	Frequency	Percentage	Cumulative Frequency
1	Not at all	5	6.7	6.7
2	Low extent	0	0	6.7

3	Moderate extent	2	2.7	9.4
4	Great extent	55	73.3	82.7
5	Very great extent	13	17.3	100
		75	100	

Source: Formulated by Author (2021)

Table 5 represents a strong positive linear relationship between effective communication contribution and performance on project success as demonstrated by the Pearson Correlation coefficient of $R = .862$. Furthermore, results showed the existence of a very strong and positive significant correlation between the independent variable (effective communication contribution) and dependent variable (project success) since $p < 0.05$ at 0.01(2-tailed). This implies that as levels of effective communication are contributed more, the project success increases in terms of quality and timely delivery of project activities within the budget.

Table 5: Correlation between effective communication contribution with performance on project success (quality and timely delivery)

Correlations		Effective communication contribution	Performance on project success
Effective communication contribution	Pearson Correlation	1	.862**
	Sig. (2-tailed)		.000
	N	75	75
Performance on project success	Pearson Correlation	.862**	1
	Sig. (2-tailed)	.000	
	N	75	75

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

Source: From SPSS computation by Author (2021)

Table 6 indicates that the two variables' Coefficient of Determination (R^2) was set at 0.743 thus 74.3%, this meant that 74.3% of the variations in the performance of project success were explained by the contribution effective communication made whereas the remaining 25.7% variations were explained by factors other than the one revealed in the project.

Table 6: Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.862 ^a	.743	.739	.42384

a. Predictors: (Constant), Effective communication contribution

Source: From SPSS computation by Author (2021).

The study also compared the relationship between communication methods engaged and performance on project success as well as its strength and direction as stipulated in Table 7. From the results, it was observed that there was a positive linear relationship between communication methods and project success as demonstrated by the Pearson Correlation coefficient of $R = .855$. Furthermore, results showed the existence of a significant correlation between the independent variable (communication methods) and dependent variable (project success) since $p < 0.05$ at 0.01(2-tailed). This implies that as good communication methods are engaged, the success of project completion on time is likely.

Table 7: Correlation between Communications methods engaged and project success

Correlations		Communication methods	project success
Communication methods	Pearson Correlation	1	.855**
	Sig. (2-tailed)		.000
	N	75	75
project success	Pearson Correlation	.855**	1
	Sig. (2-tailed)	.000	
	N	75	75

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

Source: From SPSS computation by Author (2021).

Table 8 indicated that the two variables' Coefficient of Determination (R^2) was set at 0.764 thus 76.4%, this meant that 76.4% of the variations in the performance of project success were explained by communication methods engaged whereas the remaining 23.6% variations were explained by factors other than the one revealed in the project.

Table 8: Regression Analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.874 ^a	.764	.761	.29331

a. Predictors: (Constant), Communication methods

Qualitative Data

The research conducted structured interviews with Project managers, Project team members and Contractors to try and establish in detail the relationship between effective communication with quality and timely delivery of project activities.

Effective communication relationship with timely and quality execution of the works

The majority of the interviewees reported that there is a strong, positive and significant relationship between effective communications with quality and timely execution of project activities. They also added that communication plays an important role in the timely delivery and maintaining the quality of the project.

“The good communication atmosphere reduces the cost and wastage of time to deliver and makes it easier to receive the message among team members at various stages of the project”.RP1

“We developed a clear, practical and high-quality communication plan with assigned persons responsible for communication management, description of communication and documentation tasks this was the only way we managed to achieve effective communication and consequently, attained the quality that was needed, avoided budget overruns and completed projects on time”. RP4

“Every project stakeholder was included in the communication plan and this helped us to realize that it positively affected the project success”. RP 3

Effective communications contribution to quality and timely delivery of the projects

The majority of the interviewees reported that effective communication greatly contributes to the timely completion of projects and in maintaining the quality of the project outcomes. Furthermore, they acknowledged that the tools of formal and informal communication are mandatory to the proper understanding of project information and improving the project success rate and that this method is responsible for the achievement of project objectives effectively and efficiently.

“The importance of adopting appropriate tools and techniques of managing project communication was understood through the delivery of high-quality services”. RP 5

“It was very important to realize and understand that using communication as a tool in maximizing the quality of project deliverables and completing them within the required time frame justified how greatly effective communication contributed to project quality and the timely completion”. RP 6

“Effective communication improved work quality and reduced work delay “. RP 8

Discussion

The study established that there was a significant relationship between effective communication with quality and timely delivery of project activities in BOZ projects. The two variables were also noted to be positively correlated with a very strong linear relationship. This means that as effective communication is practiced more in project activities then the chances of completing the project on time increase and the quality of the project outcomes also increases. Consequently, projects will be completed on time, with the intended project quality output and within the budget thus avoiding cost overruns. The findings are in line with Kiradoo (2017) that communication is very important to be used as a tool in maximizing the quality of the project deliverables and completing it within the required time frame. The finding stipulated that the tools of formal and informal communication are mandatory to the proper understanding of project information and improve the project success rate. The results are also in tandem with Mahmood, Kadhim and Safaa (2019) that the role communication plays in any project is vital for the quality of the projects and concluded that if communication is effectively applied in the management of projects then costs and time overruns are reduced positively and messages flow easily among project team members at various stages of the project. The findings were perceived to be in line with Shahatit (2016) that there is a positive relationship between effective communication and effective delivery of projects. The study observed that to ensure effective communication in projects information has to be aligned between different teams and project management team, good communication among team members and project manager and the project team has to be committed to effective communication. On the contrary, the findings are not in line with those of Fetaih et al (2019) who argued that understanding the mechanisms and the diverse relationships in the quality control process of projects is a crucial factor to improving the overall quality of any project and its successful delivery. The study concluded that the development of worksheets will enable professionals to inspect the quality and implement different project activities safely and that communication has to be exercised effectively. As such it was concluded that there was a strong positive correlation between effective communication with quality and timely delivery of project activities.

Furthermore, the study found out that, 82.4% variations in quality and timely delivery could be explained by effective communication leaving 17.6% to be explained by other factors apart from the one mentioned in the study. These findings concurred with Juhani (2012) who observed that communication has a great effect on the realization of quality management

and quality assurance. It was concluded in the study that communication provides excellent performance in quality management and quality assurance of any business or project. In line with the aforementioned findings, Ali (2019) revealed that communication plays an important role to complete the project activities on time and the research disclosed that effective communication will be able to deliver projects within the schedule. The findings were also perceived to be in line with Adenuga (2013) that the aim and objectives of project quality assurance are easily compromised and frequently lost due to reliance on individual contributions to implementation from each designer, contractor, supplier and subcontractor. The study concluded that all have major roles to play in projects if coordination and communication are effective; enforcement of quality standards by government agencies, setting up quality assurance departments in firms, and enforcing statutory requirements as well as providing training and seminars on quality standards. In the same vein, Nokulunga et al (2019) In Swaziland observed that communication management practices are linked to project outcomes in terms of timely delivery and performance. The study concluded that the significance of communication management in projects is worth focusing on for projects delivery improvements because failure to recognize that will lead to poor project delivery and failure to complete projects within a schedule or worse lead to project abandonment. Similarly to the above-mentioned findings, in Zambia, Mukuka (2014) revealed that most projects that are delayed or not delivered on time as expected are due to poor communication, poor coordination, ineffective planning and scheduling of projects. The study concluded that clear information and communication channels are part of the factors that affect project delivery. The findings were supported by Mushiba (2016) who established that applying effective communication on benchmarking, customer focus, people management, process management and leadership appear to be of primary importance and exhibited significant impact on the quality of productivity. It was concluded from the study that communication in quality management practices demonstrates its importance for the manufacturing industry in Zambia in enhancing its productivity and profitability and leveraging the international competitiveness of the Zambian economy.

The findings of the study are that there is a strong positive correlation between effective communication with quality and timely delivery of project activities. The findings are in line with most of the inferred literature review from chapter two of this research. It was important to note, from this study, that there is a strong and positive relationship between effective communication with quality and timely delivery of institution projects and from most of the literature; therefore, project success is affected by effective communication.

Conclusion

The study aimed at evaluating the relationship between effective communication with quality and timely delivery of project activities to understand the impact of effective communication on project success in terms of quality, schedule and cost, thereafter devise appropriate recommendations. The study concluded that effective communication was strongly and positively directly related to quality and timely execution of works in Institutions projects. The strong positive correlation value signifies the existence of a direct relationship between effective communication and project success whereas when one variable increases the other variable increases as well. The study further concluded that effective communication in Institutions projects was key if project success was to be achieved as shown from the research. Furthermore, the study concluded that effective communication needed to be engaged to a great extent throughout the project life cycle to avoid project delays, poor quality and cost overruns. It was also found that methods of effective communication engagement were significantly related to project success. It was concluded that effective communication engagement in projects will improve the quality of the project outcomes and ensure the timely completion of projects within the budget.

Recommendations

The study recommends that there is an urgent need to develop capacity for project development in Institutions. They should also make a deliberate approach to train and prepare all members of staff that are involved in project activities about the management of project communication barriers to ensure project success. The respondents indicated that unclear stated roles and responsibilities in work breakdown structure, lack of stakeholder engagement, ineffective feedback and poor lessons learned management were critical barriers to effective communication management of projects. Therefore, the research study concluded that an effective communication process is significant in ensuring time and quality management that supports deriving project success in terms of quality, time and cost. The implementation of time and quality tools requires effective communication to all the stakeholders and project team members participating in the project and also effective feedback and efficient project documentation. The development of proper channels of effective communication will contribute highly to the achievement of project success. Time and quality management is essential attribute of the process of project management. The availability of tools and techniques in project management allows proper analysis and measurement of project performance.

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