

Challenges Associated with Communication Management Practices in Public Building Construction Projects in Tanzania

Masangia Gloria Steven*, Kimata Malekela

School of Architecture and Construction Economics (SACEM), Department of Building Economics, ARDHI University (ARU), Dar es Salaam, Tanzania

Abstract In building construction industry, there are a number of factors that could pose a challenge to the success of the project and one of them being communication management of the project. Tanzania, like other countries is experiencing major growth in construction sector but encounters challenges in the areas of construction project delays, cost overruns, conflicts among other issues that impact on project delivery which are caused by different factors and some of those critical factors falls under communication management. In the light of that, this study aimed at assessing the communication management challenges in the public building construction industry in Tanzania so as to help in project success. The study used the qualitative approach with the selection of multiple case studies. A number of four case studies were selected. The multiple case studies approach was selected for the purpose of attaining rich information and for triangulation of data through the use of research instruments tools namely; document reviews, semi structured interviews and observation. The study found that the challenges encountered included lack of communication management requirements plans, lack of communication management plan, lack of budget allocated for communication purposes, poor technology communication tools, feedback delays, political interruptions, client with vested authority not included in the loop, insufficient information flow and conflicts amongst team members. In recommendations, the study recommends on the importance of prioritizing communication management in building construction projects and improvement on policies on government projects to set out specific budget for communication purposes in projects for better building construction project performance.

Keywords Communication, Communication Management, Practices, Challenges, Project Success, Tanzania

1. Introduction

The construction sector is a key enabler for social and economic development worldwide. Construction projects are now more complex than ever before due to multiple stakeholders involved from a number of disciplines, having tighter schedules, limited resources amongst other things [3].

This complexity give rise to the need for communication and cooperation for project success and for proper coordination of all activities [18]. Globally, communication management has been identified as an important element for any project success [5]; [11]; [24] & [25] and hence the construction industry greatly depends on communication management for success. Communication is so important to project success and it has been identified as the backbone for projects [7]; [48] & [49]. It is also said that, in projects, the project manager spends almost 90% of his/her time communicating [19].

and hence, the development of effective communication systems throughout the construction process will ensure the flow of quality and reliable information [2] & [15] & [43].

It is also noted that failure to manage the communication contributes to problem such as delay, cost overruns, misinterpretation, conflicts, that affect the cost, quality and time of a project [45]; [33]; [16] & [32]. Given its importance, many authors have explored different areas in this topic and agreed that projects could benefit from improved project communication management [19]; [20] & [36].

Nevertheless, the communication management practices vary with the locality of the construction project. [38] reported that ineffective communication is the number one reason why projects fail. In fact, [38] states that ineffective communication management is a contributing factor in 56% of the projects that failed in the US. [40] in his exploration on causes for delays and cost overrun in construction projects in Australia, Malaysia and Ghana mentioned many causes and one being improper communication management. According to PMI's Pulse research, 55 % of project managers agree that effective communication management is a basis for

* Corresponding author:

gloriamasangia@yahoo.com (Masangia Gloria Steven)

Received: May 8, 2025; Accepted: Jun. 2, 2025; Published: Jun. 13, 2025

Published online at <http://journal.sapub.org/ijcem>

project success but still the importance of this knowledge area is taken for granted by many stakeholders involved. [17] mentions that majority of the problems in construction industry are a result of ineffective communication management system.

The setting for this study is the Tanzania construction industry and the study was conducted between June and September 2022. Tanzania's construction sector generated "USD 6.7 billion (14% of GDP) in 2018 compared to USD 4 billion in 2014, representing an increase of 68%" [44]. Despite its growth, studies done in Tanzania indicate that the construction industry is still plagued with frequent cost increases, delays, disputes, and other negative impacts in the delivery of projects [28]; [23] & [21]. [23] identified the most critical factors causing delays and cost overrun to include delays in decision making (caused by internal bureaucracy or sometimes wrong channel of communication), late giving instruction, delay of materials approval and lack of coordination and communication between parties of which all are associated with communication Management. They then recommended on effective communication as one of the solutions to avoid such effects.

It has also been pointed in addition to delays and other problems in construction, there is also insufficient application of communication management practices in construction projects in Tanzania despite of the parties' awareness of communication issues [29] which in turn cause a lot of disruptions in projects.

Given its importance, this study aimed at exploring the project communication management challenges facing stakeholders in project communication management in Tanzania and come up with solutions so as to avoid delays and other negative effects for improved performance. This paper can

also serve as a reference for all the players in the construction industry namely the government as the main client, contractors, consultants and all other stakeholders on understanding the challenges involved regarding communication management and how best to improve the practice.

2. Literature Review

2.1. Project Communication

According to [37], Project communication is "the exchange of project-specific information with the emphasis on creating understanding between the sender and the receiver". [27] defined communication as the means to keep all stakeholders involved in a project informed of the project status, progress and as a means to keep track of the project. Communication process has two important parts that is encoding and decoding a message through a medium. The communicator encodes a message (initiate the communication) and sends it to the receiver who decodes a message, interprets it and respond to it through sending feedback.

2.2. Project Communication Management

Project Communications Management is defined by [36] as a process that ensure the information for all the project participants and the information needs of the project are met through various set artifacts with the aim of ensuring timely implementation of activities for effective information transfer.

[36] identified the three main processes for effective project communication management namely; Plan communications management, manage communications and Monitor communications which have different tools, techniques, methods, structures and systems involved as seen in figure 1.

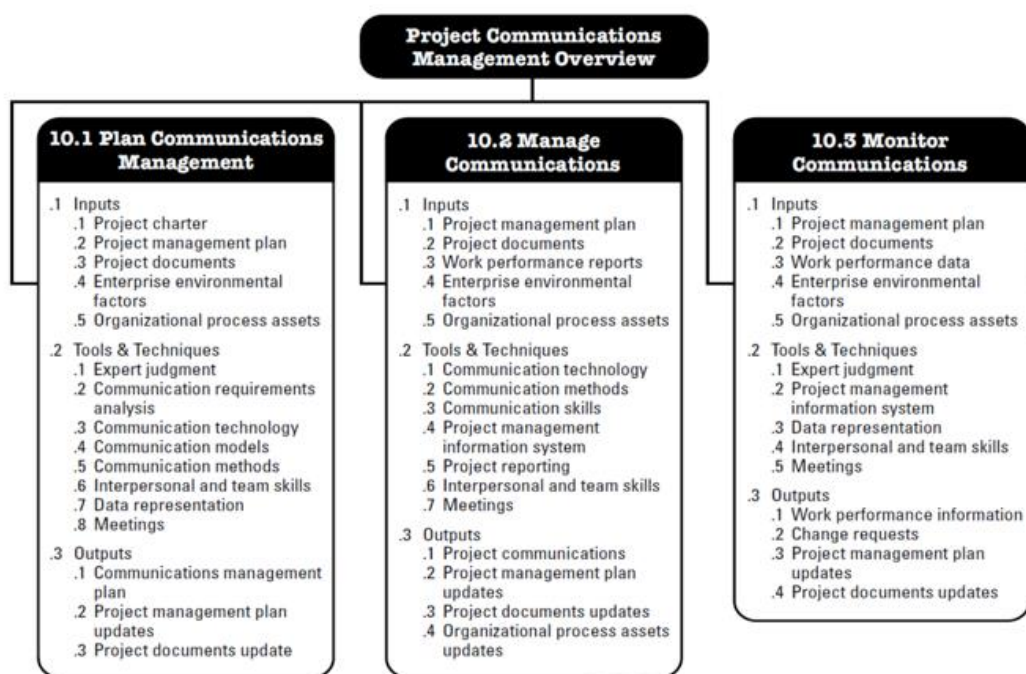


Figure 1. Communication Management Processes (Source: [36])

Plan communications Management should be conducted during the early planning stage of a project lifecycle [14] & [36]. It involves developing a proper plan with all the stakeholders' requirements by understanding and defining the type of information that is required depending on the needs of the project and stakeholders, defining the frequency and format of information, the selection of communication methods of information transfer, employing communication technology and systems so as to ensure effective communication throughout the project [36].

The second process is to manage the communications which involves the timely and appropriate creation, collection, distribution and storage of the project information which in turn helps in efficient and effective information flow between different participants of the project [36]. Information distribution should adhere to the communication plan set. The goal here is to guarantee efficient and effective communication.

The third process for project communication management is to monitor the communication. This is when the process of ensuring the needs of the project and the project participants are met via various methods like observing the team, collection of lessons learned or checking the stakeholder engagement assessment matrix [14] & [36]. The goal here is to certain the optimal flow of information.

2.3. Challenges Associated with Communication Management in Building Projects

There is a link between the project's final results with communication [24] and this is why there is a major need to plan, monitor and manage the system of information exchange in a project [26]. It is also evidently that improper project communication system can lead to delays and cost overruns, conflicts, claims and disputes [31] & [24]. According to a study by [13] in the US, the construction industry loses \$ 177 billion every year due to improper communication management and the reason being poor communication among project stakeholders and poor project information.

Due to its importance, many authors have researched on the communication management challenges in construction industry. [39] in their study found that the factors for ineffective communication management to include feedback delays to changes, lack of stakeholder's experience, fear to communicate, poor communication skills among participants, individual factors and contractual barriers. [42], found the reasons for communication management problems in China's construction industry to include lack of effective communication mechanisms, lack of uniform standards for construction information, weak organizational structure of the construction team, and lack of support systems for advanced communication technologies.

In Ghana, [6] found the communication problems in construction to include lack of access to information, cultural challenges, delay in information delivery, technical language challenge, lack of feedback, and lack of teamwork. [12] in his study on barriers to effective communication in Nigeria

construction Industry concluded on unclear objectives, ineffective reporting system and poor leadership as the main reasons.

[19] mentioned that communication management challenge can be caused by project managers holding too much information of the project unlike the project team, team players late or refusal to making decisions and unrealistic meeting agendas whereby meetings become long and boring with a lot of issues that cannot be discussed thoroughly. [41] in his discussion on why communication fail in projects explained reasons to include miscommunication caused by having no clear chain of command understood by all members, lack of involvement of stakeholders and confusion among project team members when there is no understanding of each member responsibility in the project.

[33] in their study of effects of Communication Management on infrastructure projects in Jamaica narrated the reasons for ineffective communication to include lack of good leadership, unclear channels of communication, ineffective reporting system, stereotyping, Language barriers and ineffective communication among team members. Lack of communication skills among project participants has been identified as another root cause factor for ineffective communication management [49] & [33].

Communication management also encounters some challenges in the construction industry like unclear communication objectives, ineffective reporting system, undefined channels of communication, stereotyping, language barriers and lack of coordination between parties [4] & [46]. Research on effective communication for construction project managers by [8] explained that one challenge to communication management is to find proper project communication plan which is of utmost importance which in turn cause delays and loss of profit for contractors.

2.4. Duties of a Project Manager in Relation to Communication Challenges

A project manager is a person who is responsible to make sure that the project objectives are met [36]. His role is making sure that the project is delivered within the specified quality, time and specified budget. A project involves a lot of stakeholders who need to communicate and collaborate so as to execute the project smoothly [19]. [19] & [35] explain that the project manager spends almost ninety percent of his time communicating and hence communication is the most important part of project management.

[36] mentioned that the project managers have a role to plan, manage and monitor communication throughout lifecycle of the project so as to ensure the right information is distributed to all team members and that there is no breach of information or delayed feedback. If the project manager does not play his role properly, there will occur a lot of communication challenges and in turn cause the project not to meet its objectives.

[35] & [36] further explained that a project manager is responsible to make sure the project communication

requirements are set and understood by all stakeholders, planning for communication strategies for the project, prepare a communication plan document, execute the said plan and review it whenever necessary, controlling communication flow within the specified channels and monitor the communication effectiveness throughout the lifecycle of a project.

Project managers are directly responsible for their project success and hence in order to do so, they need to minimize the communication challenges by prioritizing communication in their projects [48] and equipping themselves with communication skills so as to enable the project to succeed. A good project manager is the one who makes sure that the project run smoothly and that there is avoidance of the overruns.

3. Methodology

3.1. Research Design, Approach

The aim of research design is to give an outline structure of the study [22] This study adopted a qualitative approach with the use of case study technique. A case study is qualitative research [9] which aims at looking at a certain phenomenon in details so as to have a great deal of information of the study. The multiple case studies approach was selected for the purpose of attaining rich information from the multiple cases. The cases selected were four (A, B, C and D).

The case study approach was preferred so as to obtain data from multiple sources of evidence including the practitioners to uncover the communication management challenges in the public building construction industry. Multiple sources of evidence allow triangulation of data for construct validity [47]. It is also explained that, in doing qualitative researches, case studies have been identified as the most viable approach [10].

3.2. Unit of Analysis

The sampling unit included public building construction projects executed by Class I contractors in Tanzania and the reason for selecting class I contractors only is to have an in-depth study of the challenges at hand. In Tanzania, Class I contractors can perform projects with unlimited value but it is required by the Contractors' Registration Board (CRB) for building projects, to perform projects above three billion Tanzania shillings to unlimited amount.

3.3. Selection Criteria for the Case Studies

The Four cases of public building projects were selected based on the following criteria; First, public building construction projects executed under building class I Contractors with the value of 10 billion and above since large projects face a lot of communication management paradigms. In this case, only those contractors who performed projects above 10 billion were selected, with an understanding that, this group has executed well-structured projects, big projects and have the means and capacity to communicate effectively.

Second criterion included those buildings where the researcher is a participant observer so as to make it easier to access the project information and get testimony from the first-hand observer.

Another criterion involved those projects with delays at least 6 months with some major/minor reasons being communication management. Moreover, another criterion was for public building projects in Tanzania and the reason being that, the government of Tanzania is the main employer and it is also evidently that delays have been identified in major public construction projects [21] & [30].

The last criterion was for public building projects with adequate data accessibility for the reason that the case study approach requires the use of multiple sources of evidence to triangulate the results so as to draw conclusion of the study at hand [47]. The cases selected are summarized in table 1 below;

Table 1. Cases Selected for the Study on Public Building Construction Projects

Case	Project	Status	Schedule Overrun
A	Bus and Truck Terminal (27.1 billion)	Completed	1 year (60%)
B	Data Centre (193 billion)	Completed	9 months (22.2%)
C	Market Building (20.7 billion)	Ongoing	8 months (33.3%)
D	Administrative Building (10.3 billion)	Ongoing	6 months (42.9%)

3.4. Research Design Process

For the case of this study, the research design process followed these sequential paths which was divided into two parts 1 and 2. Part 1 involved problem identification, literature review and preliminary interview survey. In Part 2; the researcher employed the multiple cases study in which all the cases were discussed individually (i.e., Cases A, B, C and D) and later on a cross case analysis was conducted to triangulate the information from all cases followed by conclusion and recommendation as shown in figure 2 below.

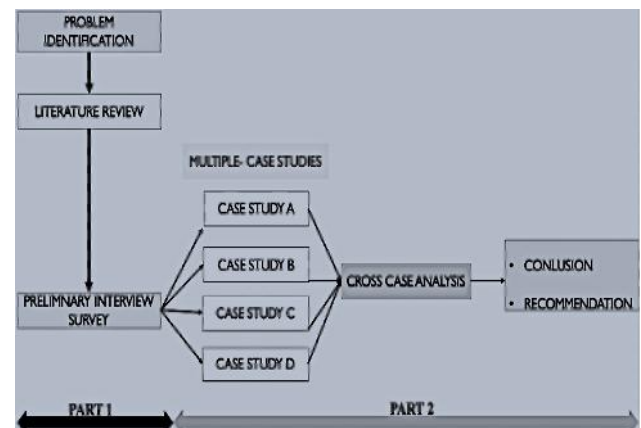


Figure 2. Research Design Process

3.5. Data Collection and Analysis

Data was collected from three sources of data namely Interviews, document review and participant observation. This study used the semi- structured interviews by selecting the cases respondents and have them answer some questions set so as to get their opinion under the topic of challenges associated with communication management in their projects. The semi-structured interviews involved a number of set questions but still, the interviewer had flexibility to clarify the set questions for more understanding of the respondent whenever needed [1].

3.5.1. Interviews

The semi-structured interviews were conducted between August and September 2022 with reference to the prepared interview questions set. The interviews took 30 -60 minutes. A total of **23 interviews** were scheduled. but only **17 respondents (73.4%)** were interviewed and this was due to the reason that some of the interviewees accepted an initial call for interview but later on proved difficult to give out information as they gave excuses for each time set for interview. The interviews were carried out through face-to face (physical meeting) (4 respondents), telephone that is through calls (10 respondents) and the use of an application known as WhatsApp for audio calls (3 respondents). The response rate is presented in Table 2 below

Table 2. Response Rate in all Cases Selected

CASE	Targeted respondents	(%)	Actual Respondents	(%)	Response rate
A	5	21.7	4	23.5	80.0%
B	7	30.4	5	29.4	71.4%
C	5	21.7	3	17.6	60.0%
D	6	26.1	5	29.4	83.33%
Total	23	100	17	100	73.9%

3.5.2. Demographic Characteristics of Study Participants

Table 3. Experience of the Respondents

S/N	Years	Frequency	Percentage (%)	Cumulative %
01.	Less than 5	0	0	0
02.	5-10	2	11.76	11.76
03.	11-15	10	58.82	70.58
04.	16-20	4	23.53	94.11
05.	21& above	1	5.89	100
Total		17	100	

The respondents' designations, years of experience, education level and profession background are presented on table 3 with the largest group of respondents falling within the "11-15" years (**10 respondents 58.82%**), "16-20" category had **4 respondents (23.53%)** respondents, the "5-10" category had **2 respondents (11.76%)** and those above 21 years had **1 respondent** which is equivalent to **5.89%**. The respondents' profiles included project manager (in some

projects referred as architects), Architects, Structural engineers, Quantity surveyors and contractors as shown in table 4. This was important because it showed that the data was collected from experienced members in the industry.

Table 4. Interviewee Profiles

Interviewee (CODE)	Case	Professional Background	Experience
A	A	Architect	11-15
B	A	Structural Engineer	16-20
C	A	Quantity Surveyor	11-15
D	A	contractor	16-20
E	B	Quantity Surveyor	11-15
F	B	Architect	16-20
G	B	Structural Engineer	11-15
H	B	Quantity Surveyor	5-10
I	B	Contractor	11-15
J	C	Architect	>21 years
K	C	Quantity Surveyor	11-15
L	C	Contractor	11-15
M	D	Architect	11-15
N	D	Structural Engineer	16-20
O	D	Quantity surveyor	11-15
P	D	Contractor	11-15
Q	D	Contractor	5-10

3.5.3. Document Review

Table 5 provides a summary of the documents reviewed for this study from all the cases selected and then the documents were scrutinized by the researcher to grasp an understanding of the communication parameters of the project in cases selected.

3.5.4. Observation

For Case D selected, the researcher was a **participant observer**. The researcher participated in four site meetings and was included in day-to-day activities of the project including Letters drafting, drawings, issuing detailed drawings, technical meetings, site visits and inspections, additional works, negotiation meetings. Through this, the researcher got hold of some documents for the project and was able to note some important aspects of communication management for this project.

Table 5. Documents Reviewed

Cases	Documents	Source
A, B, C&D	Contract documents	Contractor, Consultants
	Meeting minutes	
	Emails	
	Instruction books	
	Program of works	
	Progress reports	
	Letter, Drawings	
	Progress photos	

4. Findings and Discussion

4.1. Case Study A

Interviewees were asked on the challenges associated with communication management experienced in their project and how did they occur. Interviewee A and Interviewee D explained that the challenge to communication in this project was due to verbal issuing of instructions despite the contract agreement of issuing instruction through writing and if it happens there is verbal instruction then it should be confirmed in writing. Most of these instructions were by politicians who would visit the project and issue instructions basing on their views.

Interviewee D also said that; *“The project experienced delays in terms of delayed feedback in issuing instructions and other requests sent like clarification and detailed drawings. It took a lot of time to some details drawings from the consultants to be sent despite of efforts made to follow up through calls, constant reminders and even physical visits to the consultants’ office.”*

More so to that, Interviewee A mentioned that; *“The project was lucky to have the client representative often at site but this representative had no fully authority to make all decisions for the project and hence it took more time to get quick client responses to some of the crucial items which needed approvals”*

Interviewee B stated that; *“Political interruptions made by politicians at site caused disturbance to the execution of the project despite having the clear communication channel flow acceptable in the contract. This posed challenges during execution of the project.....”*

Despite the efforts made, there were insufficient flow of information during some stages of the project regarding issuing of instructions to the contractor. Evidence to that it is noted in table 6 below showing that the contractor sent request for confirmation of verbal instructions issued at site regarding changes in specification for water plumbing materials in which the contract had quoted the IPS system and the verbal instruction by the consultant was to change to PPR system. The letter was sent to the consultant on 13/7/2021 and received answers by 13/8/2021 which amounted 30 days with no response regarding the matter.

Table 6. Summary on letter response time delay for case study A

Issue	Letter date sent	Response date	Days Elapsed
Confirmation of Verbal Instruction issued at site	13/7/2021	13/8/2021	30

Source: Project Document

Delays in issuing detailed drawings despite of the contractor requesting via letters for detail drawings and constant reminders. This was observed in letters written to the consultant requesting on steel structure roof details on which the contractor wrote three letters on the same issue as well as it was quoted in site meeting minutes reminding on sending the detailed drawings to the contractor. Moreover,

going through minutes you would notice that the client representative was always present in the site meetings but on responses would respond to not having a final say and would ask for the consultant to send in letters to his office to get some approvals but in the next site meetings such matters would be read as still pending and waiting for client responses.

4.2. Case Study B

Interviewee F and Interviewee G explained that the challenge to communication in this project was due to delayed information flow/delayed feedback on issuing local custom drawings by the local consultants on changes made to the original drawings on some parts of the project. This hindered progress and was one of the main issues which caused delays.

In addition to that, Interviewee I mentioned that instructions took time to approval and this was on part of IT drawings which was also due to the delay of the custom-made drawings by the local consultants and hence made it difficult for the Information Technology (IT) specialist to work on them on time and since IT was one of the major works for this project then this contributed to the delays.

Going through the documents, the researcher found that there were negligence/inconsistencies on project regarding attendance to meetings and especially the weekly meetings as the prior agreement, by the client and the local consultants with no clear reasons. This caused some decisions to remain pending and proved difficult since there were matters that required collaborative responses and decisions. Evidence to this is a number of times where the project manager kept reminding the client and the local consultant to attend weekly meeting and acknowledge receipt of emails sent to them as well as kept on insisting of them making and submitting the drawings for the changes that were discussed.

In addition to that there was client lack of feedback to some of the decisions needed from his end. This caused some delays to the schedule made as with no feedback for some approvals in variation orders made hence some elements could not be executed on time. Moreover, there were conflicts amongst local team members which made the client to replace the local team with a new team (consultants) and hence during the transfer period there was a lot of delays whereby the contractor could not execute some works as he was awaiting approved instructions from the new team.

4.3. Case Study C

Interviewee J mentioned that; *“In this project COVID 19 posed a challenge in monitoring this project. This is because it limited the time for site meetings. The project started in early 2020 and In Tanzania COVID 19 presence had already been identified hence with that there were some team members who were reluctant to meet physically despite all the precautions set at site. This made unequal representation of members at site which posed challenges in decision making.”*

Interviewee K stated that; *“there was a lot of public interruptions regarding this project. Politicians would visit the site and give verbal instructions to the contractor without following the communication hierarchy set for the project.”*

More so to this, Interviewee L explained that; *“There were lack of feedback and delay of feedback from the consultants to the contractor. There were claims regarding payment into which the contractor needed immediate attention and despite the early warning letters sent by the contractor, there was no response from the consultants. On part of delayed feedback was when the consultants took more than a month to give out instructions or approving the additional works despite the constant reminders by the contractor.”*

In addition to that, Interviewee J added that; *“the challenge also occurred when the client failed to honor his contractual obligations. There was delayed feedback from the client regarding payments and any changes that were made which required client’s consent.”*

Moreover, documents revealed that, a lot of time was spent in writing letters by the contractor to the consultants and feel that there could be better ways of communicating to speed up the communication and not waiting for letter replies only. These delays in replies were also used as evidence for the contractor to ask for extension of time later on in the project. Evidence to this is on the five letters regarding different issues on the project and reminders by the contractor in a period of 1 month only as shown in table 7 below.

Table 7. Summary Letters from Case Study C Showing Insufficient Flow of Information in Execution of the Project

Issue	Letter date sent	Response date	Days elapsed
Request for detail drawings for Grills design	1/10/2021	29/10/2021	28
Request for approval of tiles samples	7/10/2021	10/11/2021	32
Reminder letter on request for details drawings for grills design	13/10/2021	29/10/2021	Reminder letter
Reminder: Request for approval of tiles samples	22/10/2021	10/11/2021	Reminder letter
Request for approval of additional works and instructions issued at site on 8th October 2021	26/10/2021	22/11/2021	27

Source: project documents

In addition to that there were a number of 3 meetings into which there was no satisfactory representation of team members attendance into meetings with no concrete explanation as to why the members did not attend. These included the client, quantity surveyor and the structural engineer in which the client did not attend two meetings, the quantity surveyor did not attend one meeting and the structural engineer did not attend two meetings. This could be evidently in the site meeting minutes attendance sheet. More so, the researcher noticed inconsistencies in issuing site minutes. Reading from the minutes of a consecutive month meetings, in any other business section, there was a reminder to ask that the site meetings minutes be sent early to all members and not wait till another site meeting is scheduled.

4.4. Case Study D

Going through the documents, the researcher observed that there was insufficient flow of information amongst project team members whereby there were delays in responding to contractor’s requests and letters with some items amounting to 2 months delays which led a contractor to send several numbers of letters to the lead consultant and later on used this evidence to ask for extension of time.

In addition to that, this project suffered from external political interference whereby there are times the contractor would get political visitors and they would come and give out instructions at site without jotting down in the instruction books and so this is to say they were verbal instructions. This posed a challenge especially to the contractor as the contractor would seek clarification from the consultants but the response rate would be too slow. Most of the politicians would come as part of the client’s team and hence challenge to the contractor.

Moreover, in this project Interviewee P and Interviewee N narrated that there were conflicts amongst project team members and these internal conflicts created a lot of problems to the general management of the project and stated that there were a number of times a team member would delay to give out information just because he or she is in conflict with another team member and this led to the general delay of flow of information in the project.

In this case, the researcher was a participant observer. The researcher participated in four site meetings and was involved in the day-to-day activities of the project as part of the consultant team member and got hold of some documents for the project. The researcher observed that through documents that there were a number of six early warning letters sent by the contractor to the lead consultant regarding late payment /late feedback, additional works approval, variation orders late approval of which the consultants did not answer via letters but mentioned during site meetings that they will work on them.

The researcher also noted that there was absence of client representative in the two out of four site meetings set monthly (these were those meetings in which the researcher participated). In these site meeting there was no client representative and during discussion there were some decisions and clarifications which needed client’s attention but could not be answered. These were regarding the additional works and contractor’s payment. It was noted that the client had confirmed attendance as mentioned by the lead consultant; but on both days no representative came from the client side. More so to this, the researcher noted that the contractor spent a lot of time writing letters of which in the researcher’s opinion this time could have been saved by both teams.

4.5. Cross Case Analysis

The Cross-case analysis is a technique used for the analysis of multiple case studies [47]. Data obtained from interview, observation, document review for all cases were triangulated

to show convergence of data for this study. For the purposes of this study, the multiple case studies approach was selected for the purpose of attaining rich information from the multiple cases. The cases selected were four (A, B, C and D).

The common communication management challenges observed in building construction projects for the four cases selected were;

- i. **Lack of communication requirements plan document;** All cases had no communication requirement plan of the project as recommended in the books of knowledge which would give a clear picture of the communication needs of the project and help the teams to plan well and adjust whenever they see there is a communication breach.
- ii. **Absence of communication management plan document (CMP);** It was observed that in all these sources there was no evidence of having communication management plan document in all the four cases as opposed to what is required by [36]. It was also noted that despite of not having this document, all the four cases employed some components of the plan in their projects as recommended by [36] during project execution like; setting language of communication, setting timeframe and frequency for information distribution, having a lead coordinator for information distribution and chain of command to information distribution, methods and technology to be used in communication, list of reports, meeting plans and technology to be used.
- iii. **Feedback delays/late approvals;** cases A, C and D at some point experienced feedback delays regarding the information flow especially on feedback delays from consultants to the contractors regarding different issues like approval of materials, late issuing instructions just to mention a few. Case B experienced the same but minimized the situation because they met frequently via various communication methods.
- iv. **Insufficient communication technologies;** All cases used meetings (technical meetings, site meetings), progress reports, progress photos, site visits as tools to monitor their projects. Intensive Project Management Information System (PMIS) was employed for Case B and this helped in real time visibility in project performance and helped in record keeping for project purposes.
- v. **Political Interruptions;** Cases A, C and D experienced political interruptions made by external parties on issuing verbal instructions contrary to what is explained in the contract.
- vi. **Client with vested authority not included in the loop (delayed feedback);** All cases had clients included in site meetings and day to day operations of the project through reports sent but these clients who were in most cases attending the site meetings could not offer pronto solutions on issues raised which in turn caused delayed feedback whereby if those with vested authority were present and decision

was required, they could offer one and allow activities to continue without delay.

- vii. **Poor flow of information;** Cases A, C and D experienced poor flow of information caused by different team members which hindered smooth project operation. There were delays in issuing instructions, delays in responding to letters, delays in approval of materials just to mention a few. Case B experienced the same but this was minimized because of constant communication between parties.
- viii. **Lack of a proper communication management budget;** There was no evidence of clear allocated project communication budget for communication purposes in all cases but rather it was left as part of individual company overhead cost.

5. Conclusions and Recommendations

5.1. Conclusions

This study revealed the challenges associated with project communication management in public building projects in Tanzania to include; Lack of communication requirements plan document, absence of communication management plan document, feedback delays/late approvals, Insufficient communication technologies, political interruptions, client with vested authority not included in the loop (delayed feedback). This was concluded after the cross-case analysis was made and the researcher looked on recurring challenges in all cases.

5.2. Recommendation

This study has highlighted the challenges associated with communication management in building construction projects in Tanzania. The study recommends that the team members should understand the importance of communication in their project, prioritize it and treat it uniquely as an important element for project success.

In addition to that the researcher recommends on improving policies in government projects to emphasis the importance of communication in project management and prioritize it and set specific budget for it unlike now where it is embedded in team members individual contracts overhead for their consideration. More so to this, since the government is the main employer then the study recommends on emphasis on client representative with vested authority in the construction projects.

More so to this, it is recommended that the team members should understand the importance of planning for communication, quick feedbacks, frequent monitoring of the project, effective management as well as improving their communication skills for the benefit of the project. This also includes improving the areas of scheduling of projects (having realistic schedules), setting for communication requirements of the project, planning for communication in the project as well as embracing the use of more technological means for communication for execution of the project that

is to say improvement of project management information system of the project.

ACKNOWLEDGEMENTS

This research was conducted with the support of building design practitioners selected in Tanzania, in collaboration with Ardhi University Tanzania.

REFERENCES

- [1] Abawi, K. (2017), Data Collection methods (Questionnaire & Interview) Geneva Workshop 2017.
- [2] Abudi, G. (2013), "Managing communications effectively and efficiently", Paper presented at PMI® Global Congress 2013, North America, New Orleans, LA. Newtown Square, PA: Project Management Institute.
- [3] Adeyemi, I. (2013), "Effects of Project Management on the Performance of a Construction Firm in Nigeria", *American International Journal of Contemporary Research*, Vol.3 No.6, pp 54-58.
- [4] Affare, W.A.M. (2012), An assessment of project communication management on construction projects in Ghana. Published Master Dissertation, Kwame Nkurumah University, Institute of distance learning.
- [5] Aiyewalehinmi, E.O. (2013), "Factor Analysis of Communication in the Construction Industry", *The International Journal of Engineering and Science*.
- [6] Akunyumu, S., Adjei-Kumi, T., Danku, J.C. and Kissi, E. (2019), "Communication problems in projects-a research study for construction site projects: a case study of Ghana", *Int. J. Project Organization and Management*, Vol. 11, No. 4, pp. 343-361.
- [7] Awati, K. (2010) Obstacles to project communication. [online]. Available from: <http://www.projectsmart.co.uk/obstacles-to-project-communication.html>. [Accessed 16 Jan 2022].
- [8] Bandulahewa, B.K. (2013), "Effective project communication for construction project managers in Sri Lanka", Dissertation (published), University of Moratuwa, Sri Lanka.
- [9] Baskarada, S. (2014). Qualitative case study guidelines. *The Qualitative Report*, 19, 1–25.
- [10] Creswell, J. W., & Poth, C.N. (2017). *Qualitative inquiry & research design: Choosing among five approaches*. (4th ed.). Thousand Oaks, CA: Sage.
- [11] Culo, K, and Skendrovic, V. (2010), "Communication management is critical for project success", J.J.S University, Osijek, Croatia.
- [12] Ejohwomu, O., Oshodi, O. and lam, K. C. (2017), "Nigeria's construction industry: barriers to effective communication", *Engineering Construction and Architectural Management*, Vol.24 No.4.
- [13] FMI and PlanGrid. (2018) Factors costing the construction industry, Available from <https://www.prnewswire.com/news-releases/new-research-from-plangrid-and-fmi-identifies-factors-costing-the-construction-industry-more-than-177-billion-annually-300689826.html>, [Accessed 24 Feb 2022].
- [14] Heldman, K. (2013) PMP: Project Management Professional Exam Study Guide. 9th ed. Sybex Publishers.
- [15] Ibrahim, C.K.C., Costello, S.B. and Wilkinson, S. (2011), *Key Practice Indicators of Team Integration in Construction Projects: A Review*. IACSIT Press, Singapore.
- [16] Jaffar, N., Tharim, A. A., and Shuib, M. N. (2011), "Factors of conflict in construction industry: a literature review". *Procedia Engineering*, Vol.20, pp.193-202.
- [17] Kazi, A. S. (2005) "Knowledge management in the construction industry: A socio-technical perspective". IGI Global. Technology & Engineering.
- [18] Kerzner, H. and Belack, C., (2010) *Communications Management in Managing Complex Projects*. New Jersey: John Wiley & Sons, pp. 295-388.
- [19] Kerzner, H., (2013) *Project Management: A Systems Approach to Planning, Scheduling, and Controlling*. New Jersey: John Wiley & Sons.
- [20] Khanyile, M.S.N., Musonda, I. and Agumba, N.J. (2019), "Evaluating the relationship between communication management practices and project outcomes: a case of Eswatini (Swaziland) construction industry", *UTS e Press*, Vol. 19 No. 2.
- [21] Kikwasi, G.J. (2012), "Causes and effects of delays and disruptions in construction projects in Tanzania", *Australasian Journal of Construction Economics and Building*, Vol. 1 No. 2, pp. 52-59.
- [22] Kombo, K. D. and Tromp, L. A. D. (2018). *Proposal and thesis writing: an introduction*. Nairobi: Pauline Publications Africa.
- [23] Luvara, G.M., Phoya, S., Tesha, D. and Lyimo, S.K. (2018), "critical factors causing delay and cost overrun in public building projects in Dar-es-salaam, Tanzania", *Paripex - Indian journal of research*, vol.7, issue 7 print issn no 2250-1991, pp 16.
- [24] Malik, S., Taqi, M., Martins, J.M., Mata, M.N., Pereira, J.M. and Abreu, A. (2021), "Exploring the Relationship between Communication and Success of Construction Projects: The Mediating Role of Conflict" *Sustainability MDPI*, 13, 4513 <https://doi.org/10.3390/su13084513>.
- [25] Mavuso, N.M. and Agumba, J.N. (2016), "factors of communication management for successful project delivery in the Swaziland construction industry", Core-UK, university of Johannesburg Institutional Repository.
- [26] Melzner, J., Feine, I., Hollermann, S., Rütz, J and Bargstädt, H. (2015), "The influence of building information modelling on the communication management of construction projects." *The 15th International Conference on Construction Applications of Virtual Reality*, At Banff, Banff, Canada.
- [27] Muszynska, K. (2015), "Communication Management in Project Teams-practices and Patterns", *Joint International Conference in Bari-Italy*, University of Szczecin, Poland.
- [28] Ndunguru, D., Niyonyungu, F. and Yang, X. (2020), "Quantification of the Influence of Factors Causing Time and Cost Overruns in Tanzanian Construction Projects". *Open*

Journal of Business and Management, 8, 2133-2147.

- [29] Ngirwa, C. C. (2014), Assessment of project communications management (the case of Construction Projects in Tanzania. Master dissertation, University of Dar es Salaam, Dar es Salaam.
- [30] Ntiyakunze, S. K. (2011) "Conflicts in Building Projects in Tanzania: Analysis of Causes and Management Approaches," Department of Real Estate and Construction Management, Royal Institute of Technology, Stockholm, Sweden.
- [31] Obonadhuze, B.I., Eze, C.E., Siunoje, L.U. and Sofolahan, O. (2021), "Causes and Effects of Ineffective Communication on Construction Projects", Borneo Journal of Sciences & Technology, Vol. 3 No. 1, pp. 77-92.
- [32] Ong'ondo, B.C. (2016), "Communication Management Practice for better project controls in the Construction Industry of Kenya: Industry Players Perspective", International Journal of Innovative Technology and Exploring Engineering (IJITEE), ISSN: 2278-3075, Vol.5 Issue 10, pp 1-26.
- [33] Parham, S. and Li, Y. (2018), "Study of the effects of communication management on infrastructure projects in Jamaica", Atlantis Press, Vol 58.
- [34] PMI. (2004). A guide of project management book of knowledge. 3rd ed. Newtown square, Pennsylvania 19073-3299 USA: Project Management Institute.
- [35] PMI. (2013). A guide to the Project Management Body of Knowledge (PMBOK guide). 5th ed. Newton Square: Project Management Institute.
- [36] PMI. (2017). A guide to the Project Management Body of Knowledge (PMBOK guide). 6th ed. Newton Square: Project Management Institute.
- [37] Project communication handbook (2007), 2nd ed. Office of project management process improvement, 1120 N Street, Mail Station 28, Sacramento, CA 95814.
- [38] PMI's Pulse of the Profession In-Depth (2013a), "The Essential Role of Communications Causes and Effects of Ineffective Communication on Construction Projects", PMBOK Guide, Project Management Institute.
- [39] Rahman, I.A., and Gamil, Y. (2019), "Assessment of Cause-and-Effect Factors of Poor Communication in Construction Industry", IOP Conf. Series: Materials Science and Engineering, doi:10.1088/1757-899X/601/1/012014, pp. 1-8.
- [40] Shar, R.K. (2016), "An exploration of causes for delay and cost overruns in construction projects: case study of Australia, Malaysia, and Ghana", Journal of Advanced College of Engineering and Management, Vol. 2, No. 1, pp. 41-55.
- [41] Shaw, A (2022) Importance of communication in project management [online] Available from <https://www.smarttask.io/blog/author/aastha-shaw>, [Accessed 26 March, 2022].
- [42] Tai, S., Wang, Y. and Anumba, C. (2009) "A survey on communications in large-scale construction projects in China", Engineering, Construction and Architectural Management, Vol. 16 No. 2, pp. 136-149.
- [43] Taleb, H., Ismail, S., Wahab, M.H., Rani, W.N.M.W.M. and Amat, R.C. (2017), "An overview of project communication management in construction industry", Journal of Management, Economics, and Industrial Organization, Vol. 1 No. 1, pp. 1-8.
- [44] Tanzania Investment Centre (2018) Tanzania GDP. Available from <https://www.tanzaniainvest.com/construction> [Accessed 10 Jan 2022].
- [45] Tariq, J. and Gardezi, S.S.S. (2022), "Study the delays and conflicts for construction projects and their mutual relationship: A review", Ain Shams Engineering Journal, <https://doi.org/10.1016/j.asej.2022.101815>.
- [46] Tipili, L. G., Ojeba, P.O. and Ilyasu, M.S. (2014), "Evaluating the effects of communication in construction project delivery in Nigeria", Global Journal of Environmental Science and Technology, Vol.2 No.5, pp 48-54.
- [47] Yin, R. K. (2018). Case Study Research and Applications: Design and Methods (6th ed.). Thousand Oaks, CA: Sage.
- [48] Zulch, B.G. (2014), "Communication: The foundation of project management", Procedia Technology, 16:1000-1009.
- [49] Zulch, B.G. (2016), "A proposed model for construction project management in the South African Counstruction Industry", Acta Structilia, Vol. 23 No. 1.