

PROCEEDING 23

ASSESSMENT OF COMMUNICATION CHANNELS IN USE BY PROFESSIONALS ON CONSTRUCTION PROJECTS IN ABUJA, NIGERIA

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ABSTRACT

Poor communication management has been traced to be a major reason for project failure. This research assessed the communication channels in use by professionals in construction projects in Abuja, with a view to proposing strategies for improving communication management on projects. The main objectives were to identify communication channels in use by professionals on projects and propose strategies to improve communication management on projects. The quantitative research method (questionnaire) was adopted for the study. Results and findings indicated that the most important communication channels in use by professionals on construction projects are face to face/oral conversations, general meetings, written letters and memos, team discussion, formal written documents and maintenance training with RII values of 0.95, 0.92, 0.89, 0.87 and 0.85 respectively. Based on these findings it was concluded that the strategies outlined in this paper are relevant in improving communication management on projects. It was recommended that the use of the most effective communication channels is needed to minimize potential dispute and misunderstanding on the construction site and also, designing an appropriate communication channel for effective project execution should be considered by the project managers.

Keywords: Communication, communication channels, communication management, construction industry, construction projects.

INTRODUCTION

The construction industry plays an important role towards the social and economic development of countries worldwide (Abdullateef *et al.*, 2017). However, it is riddled with complexities and challenges. People from different cultures and professions collaborate in different manners to reach the main goal of project success (Yaser and Abdulrahman, 2018). One of the major challenges of a construction project is the poor communication management and project failure is directly linked to poor communication as it is considered as one the main challenges in the construction industry (Peter, 2016). Communication is a vital process that entails the transfer of information between the sender and the receiver through a medium, this process is considered successful when the receiver understands the message and supplies the sender with a timely and appropriate feedback (Fred, 2017). The process is dynamic, complex and comprised of multiple organizations and shareholders involvement. Effective communication management is sought throughout the project life cycle as its role in project success cannot be understated. Communication management skills are vital in order to achieve effective communication as technical skills and experience alone, are not sufficient process (Gunhan, 2012).

Communication management is the systematic planning, implementing, monitoring and revision of all the channels of communication within an organization and between organizations (Wikipedia, 2015). Communication management is a dynamic and continuous process that runs throughout the project lifecycle and involves many stakeholders. Effective

communication must be sought and attained due to its vital role which affects the project's outcome directly and which is a main pillar that leads a project to produce a successful outcome (Alberto, 2017). Its effectiveness during the project's lifecycle aids in achieving multiple objectives and targets successfully. Communication management plays fundamental role in the effectiveness of this process, because if a project participant lacks communication skills, he/she is likely to conduct an ineffective communication management process (Gunhan, 2012).

Communication management includes the processes that are required to ensure timely and appropriate planning, collection, creation, distribution, storage, retrieval, management, control, monitoring, and the ultimate disposition of project information. Project Management Institute (PMI) investigated communication management in organisation specifically in construction projects and found that by adopting effective communication during the construction of the project, it can help in meeting the stipulated goals and objective of the projects. Statistics have shown that over 50% of projects in Nigeria are unsuccessful due to inappropriate communication management system (Kasimu and Usman, 2013).

Some professionals may not be able to understand some aspects of a project if little information is available thus leading to project failure. Ineffective communication system leads to de-motivated workforce, design errors, slowdown in the entire job and failure in production (Tipli and Ojeba, 2014).

Previous researches have been done in the area of communication and communication management such as: role of communication (Olaniran, 2015); issue of communication in the construction industry (Justus *et al.*,2016); an overview of project communication management in construction industry projects (Hala *et al.*,2017); challenges of communication (Ishaq, 2018); identification of causes and effects of poor communication in construction industry (Ismail *et al.*,2018);; causes and impact of poor communication in the construction industry (Ayman and Mamoud, 2018) role of communication in leading a successful international project (Le Bui, 2019) but their failure to propose improvement strategies to poor communication management considering the various communication channels in use by professionals in Nigeria is the noticeable gap that this research seeks to fill in order to address the research problem.

This study therefore assessed the channels of communication and their effect on communication management in the delivery of construction projects in Abuja, Nigeria with a view to proposing strategies for improving communication management on projects. The main objectives set to achieve the aim were to identify communication channels in use by professionals on projects; to examine causes of poor communication management on construction projects; and to propose strategies to improve communication management on projects.

LITERATURE REVIEW

This section gives a detailed review on the themes of the research based on the aim and objectives of the study.

Channels of Communication in the Construction Industry

The classic definition of a communication channel characterizes it as the technical (or formal) side of the communication process that allows us to transfer information from sender to receiver and vice versa (Reinsch *et al.*, 2016). A communication channel includes all the means for the creation and acceptance of a message, i.e. signs, language (including body language), codes, technical devices etc. A channel is a means of communication that an organization can either select to use or can decide not to use. A particular channel could be a preferred option in certain situations or totally ignored in other circumstances. Channels can be used separately or combined with each other. During a project, communication can occur in various directions depending on who is communicating. There is upward communication to management from your own organization and the customer's organization. Lateral communication takes place with customers and within project teams. Machinery needs to be put in place for further communication to take place, either down ward communication (from superior to subordinate), horizontal communication (between colleagues) or upward communication (from sub-ordinates to superior).

Communication Channels in use by Professionals in Construction Projects

There are various ways and methods of communicating information in the construction industry. Although a vast majority of information is exchanged verbally and most data is exchanged in written format either as hard copy or electronically. Even if information is exchanged verbally such as through project meetings and instructions, this information is well documented and stored by means of drawings, contract documents addenda and specification (Maslej, 2006). Contracts are commonly issued when one entity passes down work to another: for example, when a client hires a consultant or designer, they form a contractual relationship by means of signed contract. Same is true when a consultant on behalf of the client (building owner) hires a general contractor to execute the work designed by the consultant. The contractor may wish to sub-contract some of his work to subcontractors in which case, again a contractual relationship is formed. Unfortunately, miscommunication is a common occurrence in construction where work is passed down from one entity to another (Maslej, 2006).

Amami and Beghini (2015) stated that although email is regarded by Weinstock (2013) as a useful communication technology, the ability to convey the meaning via body language, cadence and tone are lost, with the potential for content to be misconstrued. For these reasons, Cheng *et al.* (2014) and Hua *et al.* (2014) prefer face to face communication both at project award phase and construction phase. Reinsch *et al.* (2016) also made an Observation that most construction projects have been using some spectacular channels of communication to pass information on site, and the most used communication channel according to him was said to be the face to face or oral communication.

For ease of further classification, the channels of communication in the construction industry are grouped and outlined below (Mehra, 2009).

- i. **Formal Writing:** This takes the form of project plan, project charter, specifications, reports, and metrics.

- ii. **Formal Verbal:** Face to Face/ oral conversations, Presentation and speeches fall under this category.
- iii. **Informal Writing:** Examples of informal written methods of communication include memos, email, notes, etc.
- iv. **Informal Verbal:** Meetings stakeholders and conversations are categorized under informal verbal method.
- v. **Non-Verbal Messages:** These are conveyed through our facial expressions as well as our postures and gestures and account for about 55% of what is perceived and understood by others.
- vi. **Para Verbal Messages:** These include the tone, pitch, and pacing of our voice and account for about 38% of what is perceived and understood by others.

Causes of Poor Communication on Construction Projects

It was found that lack of communication and coordination between design participants of different background recorded higher relative impact to cost overrun in design phase of Egyptian construction industry. According to Yaser and Abdulrahman (2018), most construction projects have been affected by poor communication as a result of linguistic barriers, poor coordination and lack of training. Other causes of poor communication were outlined to be cultural barriers, use of an ineffective communication channel, lack of honesty, poor feedback, work pressure, difference in objectives, lack of knowledge, different level of education, difference in experience amongst others.

Strategies for Improving Communication/Communication Management in Construction Projects

According to Mehra (2009), overcoming communication issues require a vigilant observation and thoughts of potential barriers in a particular instance of communication. Strategies to overcome barriers will be different in different situations depending upon the type of barriers present. Following are some of the important general strategies that will be commonly useful in all the situations to overcome the barriers of communication: Taking the receiver more seriously, Crystal clear message, delivering messages skillfully, focusing on the receiver, using multiple channels to communicate instead of relying on one channel, ensuring appropriate feedback and be aware of your own state of mind/emotions/attitude.

The following are strategies for improving communication management in construction projects: Daily meetings with team members, engaging in active listening, providing a good feedback system, having a standard method of communicating, ensuring that drawings are devoid of ambiguities, standardizing methods of exchanging project information, maximizing use of modern communication technology, roles of parties being clear and distinct, using procurement methods such as construction management as against the traditional method, offering technical communication training, avoiding communication in a noisy environment, the increased awareness of the potential for improving communication, making communication

goal oriented, experimenting with communication alternatives, using diverse communication channels, listening and feedback techniques. Shut (1992) stated that communication network has to be developed within members of the project team by having a standard method of communication to ensure that the information necessary for decision making gets to where it may be wanted.

METHODOLOGY

The study adopted a survey design approach using quantitative data. Structured questionnaires were employed for data collection. The closed ended questionnaire format was adopted because the questions are basically short, requiring the respondent to provide 'yes' or 'no' response, or based on a five-point Likert's scale. Therefore, for the purpose of this work, the questionnaire was designed on a five-point Likert's scale format. The questionnaire contains four sections. The first section of the questionnaire covered the profile of respondents while the three other sections dealt with the research objectives respectively. The data for the study were obtained from questionnaires administered to the professionals of the construction firms considered for this study. The research population constitutes the Twenty-five firms (25) construction firms registered with the Federation of Construction Industry (FOCI) with Abuja's business address. Due to the fact that the population size was not large, this study took a census of the whole 25 construction firms registered with FOCI for data collection. This is in line with the assertion of Watson (2001) that if the population size is small (200 or less), then it is preferable to take a census of the total population. For this purpose, Architects, Builders and Quantity Surveyors of each of these firms were considered making a total of 75. Therefore 75 copies of questionnaire were administered.

In order to achieve the aim of this research the descriptive method of analyzing data was employed and this included the use of percentile, Relative Importance Index (RII) and Mean Item Score (MIS). The decision rules that were used for the RII and MIS in this study are given in this section and summarized in Table 1.

Table.1: Decision Rule for RII and MIS Analyses

Scale	Cut-Off Point		Interpretation	
	RII	MIS	Level of Importance	Level of Effectiveness
5	0.81 - 1.00	4.51 - 5.00	Very Important	Very Effective
4	0.61 - 0.80	3.51 - 4.50	Important	Effective
3	0.41 - 0.60	2.51 - 3.50	Fairly Important	Fairly Effective
2	0.21 - 0.40	1.51 - 2.50	Less Important	Less Effective
1	0.00 - 0.20	1.00 - 1.50	Not Important	Not Effective

Source: Adapted and Modified from Shittu *et al.* (2015)

Relative Importance Index

Relative Importance Index is being ranked from 0.00 to 1.00 and they all have their decision rule as shown in Table 1. The formula for Relative Importance Index (RII) is given as equation 1.

$$RII = \frac{W}{A \times N} \dots \dots \dots (1)$$

Where: Σ = Summation, W = the weights of every one of the factors given by respondents and it was in the range of (1 - 5), (A=5) the largest value of weight (i.e. Highest factor) and finally N refers to the Total number respondents.

Mean Item Score

Mean Item Score is being ranked from 1.00 to 5.00 and they all have their decision rule as shown in Table 1. The formula for Mean item score (MIS) is presented as equation 2.

$$MIS = \frac{W}{N} \dots \dots \dots (2)$$

Where: Σ = Summation, W = Weight, and N = Total number respondents

RESULTS AND DISCUSSION

This section presents and discusses the results of this study by linking the results to existing findings in the literature.

Respondents' Profile

This section presents the profile of respondents considered for data collection. These are presented in Figures 1-3. Figure 1 presents the profession of respondents.

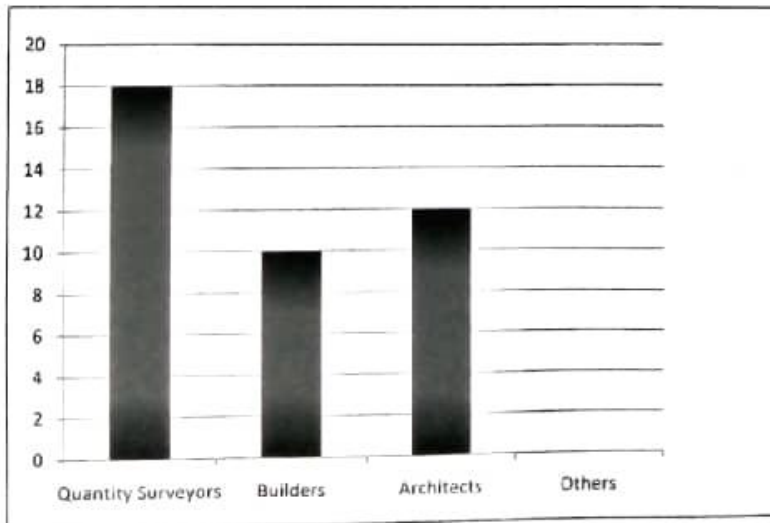


Figure 1: Profession of Respondents

Source: Research data, (2020)

Figure 1 shows the profession of the respondents that were administered the questionnaires. It is shown that majority of the professionals are Quantity Surveyors (18), while the next is Architects summing up to 12 in number. The least number of professionals are Builders totaling to ten (10) in number.

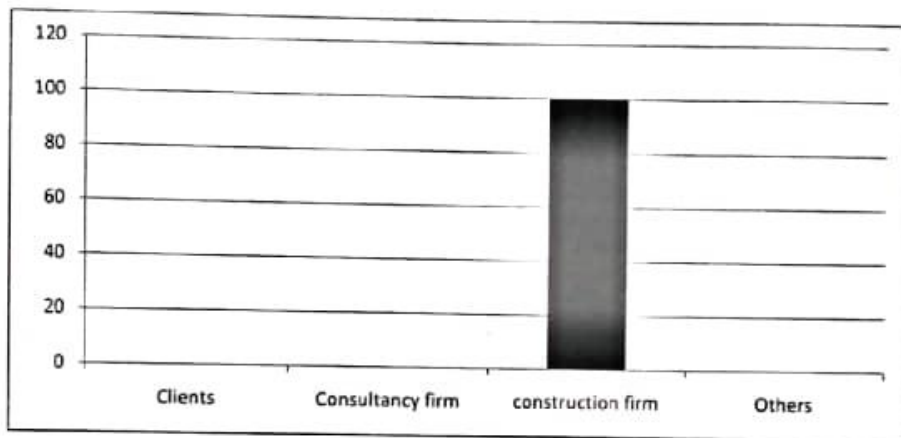


Figure 2: Type of Organisation

Source: Research data, (2020)

Figure 2 presents the type of organisation of respondents. It was indicated that all the respondents are from construction firms. This implies that the result will be useful for this study.

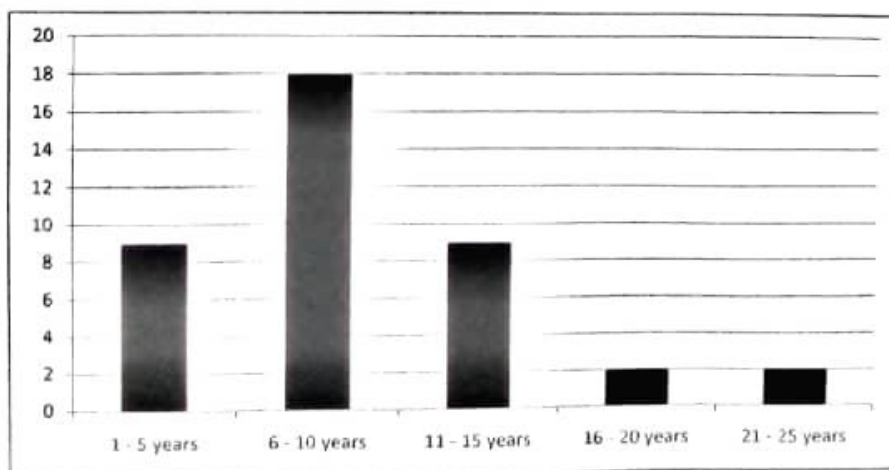


Figure 3: Years of Experience of Respondents

Source: Research data, (2020)

Figure 3 indicates the years of experience of respondents. It was revealed that majority of the respondents have between 6 and 10 years of experience (that is 18 professionals). Nine of the professionals have between 1 and 5 years and 11 – 15 years of experience respectively. Four of the respondents have years of experience ranging from 16 – 25 years. This implies that the respondents are experienced enough to provide reliable information required for the study.

Communication Channels in Use by Professionals on Construction Projects

Table 2 gives the RII results of the communication channels in use by professionals on construction projects

Table 2: Communication Channels in Use by Professionals on Construction Projects

S/No.	Communication Channels	RII	Rank	Decision
1	Face to face/Oral conversations	0.95	1st	Very important
2	General meetings	0.92	2nd	Very important
3	Written letters and memos	0.89	3rd	Very important
4	Team Discussion	0.87	4th	Very important
5	Formal Written documents	0.85	5th	Very important
6	Maintenance Training	0.83	6th	Very important
7	Public relations	0.79	7th	Important
8	Customer complaint system	0.76	8th	Important
9	Chats and messaging	0.75	9th	Important
10	Spread sheets	0.75	10th	Important
11	Notice board	0.72	11th	Important
12	Employee manual	0.72	12th	Important
13	Audio conferencing	0.69	13th	Important
14	Web site and blogs	0.69	13th	Important
15	Video conferencing	0.67	15th	Important
<i>Average RII</i>		<i>0.79</i>		<i>Important</i>

Source: Research's Analysis of Data (2020)

Table 2 shows that six of the 15 communication channels in use by professionals on construction projects identified are very important. These range from Face to face/Oral conversations (RII = 0.95) to Maintenance Training (RII = 0.83). The remaining nine communication channels in use by professionals on construction projects were revealed to be important. These range between Public Relations and Video Conferencing with RII of 0.79 and 0.67 respectively. On the average, all the identified communication channels in use by professionals on construction projects are important (Average RII = 0.79). These findings agree with earlier studies made by Amami and Beghini (2015) which stated that although email is regarded by Weinstock (2013) as a useful communication technology, the ability to convey the meaning via body language, cadence and tone are lost, with the potential for content to be misconstrued. For these reasons, Cheng *et al.* (2014) and Hua *et al.* (2014) prefer face to face communication both at project award phase and construction phase.

Causes of Poor Communication Management on Construction Projects

The results of the causes of poor communication management on construction projects is presented in Table 3.

Table 3: Causes of Poor Communication Management on Construction Projects

S/No.	Causes of Poor Communication	RII	Rank	Decision
1	Ineffective communication channel used	0.89	1 st	Very important
2	Poor feedback	0.89	2 nd	Very important
3	Poor coordination	0.88	3 rd	Very important
4	Linguistic barriers	0.82	4 th	Very important
5	Lack of training	0.82	5 th	Very important
6	Difference in objectives	0.79	6 th	Important
7	Lack of knowledge	0.79	7 th	Important
8	Unclear responsibilities	0.78	8 th	Important
9	Difference in experience	0.76	9 th	Important
10	Cultural barriers	0.74	10 th	Important
11	Different level of education	0.73	11 th	Important
12	Work pressure	0.72	12 th	Important
13	Unconscious message distortion	0.70	13 th	Important
14	Conscious message distortion	0.67	14 th	Important
15	The noise produced on site causing difficulty to hear each other clearly	0.61	15 th	Important
<i>Average RII</i>		<i>0.77</i>		<i>Important</i>

Source: Researcher's Analysis of Data (2020)

Table 3 indicates five very important causes of poor communication management on construction projects ranging from ineffective communication channel used (RII = 0.89) to Lack of training (RII = 0.82). The remaining ten causes of poor communication management on construction projects are shown to be important. These range from "Difference in objectives" and "The noise produced on site causing difficulty to hear each other clearly" with RII of 0.79 and 0.61 respectively. Averagely all the identified causes of poor communication management on construction projects are important with average RII of 0.77. This aligns with what was highlighted by Yaser and Abdulrahman (2018) who stated that the main causes of poor communication on construction projects were poor channel of communication, linguistic barriers, poor coordination and lack of training.

Strategies for Improving Communication Management in Construction Projects

Table 4 presents the results of the strategies for improving communication management in construction projects.

Table 4: Strategies for Improving Communication Management in Construction Projects

S/No.	Strategies for Improving Communication	MIS	Rank	Decision
	Having a standard method of	4.35	1 st	Effective

2	communicating			
	Daily meetings with team members	4.20	2 nd	Effective
3	Roles of all parties to be clear and distinct	4.18	3 rd	Effective
4	Standardizing methods of exchanging project information	4.15	4 th	Effective
5	Ensuring that drawings are devoid of ambiguities	4.13	5 th	Effective
6	Engaging in active listening	4.08	6 th	Effective
7	Providing a good feedback system.	4.05	7 th	Effective
8	Maximizing use of modern communication technology	3.88	8 th	Effective
9	Avoid communication in a noisy environment	3.65	9 th	Effective
10	Making communication goal oriented	3.48	10 th	Fairly Effective
11	Offering technical communication training	3.45	11 th	Fairly Effective
12	Using diverse communication channels, listening and feedback techniques	3.40	12 th	Fairly Effective
13	The increased awareness of the potential for improving communication	3.20	13 th	Fairly Effective
14	Using procurement methods such as construction management as against the traditional method	3.08	14 th	Fairly Effective
15	Experiment with communication alternatives	3.08	15 th	Fairly Effective
<i>Average MIS</i>		<i>3.76</i>		<i>Effective</i>

Source: Research data, (2020)

Table 4 shows that 9 of the 15 identified strategies for improving communication management in construction projects are effective. These range from "Having a standard method of communicating" (MIS = 4.35) to "Avoid communication in a noisy environment" (MIS = 3.65). The nine strategies remaining are shown to be fairly effective with MIS ranging between 3.48 (Making communication goal oriented) and 3.08 (Experiment with communication alternatives). The average MIS observed was 3.76 which indicates that the identified strategies for improving communication management in construction projects are effective on the average. These findings align with the view of Shut (1992) that communication network has to be developed within members of the project team by having a standard method of communication to ensure that the information necessary for decision making gets to where it may be wanted.

CONCLUSION AND RECOMMENDATIONS

The study undertook an exploratory quantitative study which used structured questionnaire to collect data from professionals of construction firms registered with the Federation of Construction Industry (FOCI) in Abuja. The use of descriptive methods of analysis was employed to collect data from respondents. Findings from the study led to some vital conclusions towards addressing the problem of poor communication management in the delivery of construction projects in Abuja. These conclusions are stated in this section.

The most important communication channels in use by professionals on construction projects are Face to face/Oral conversations, General meetings, written letters and memos, Team Discussion, Formal Written documents and Maintenance Training. Ineffective communication

channel used, Poor feedback, Poor coordination, Lack of honesty, Linguistic barriers and Lack of training are the most important causes of poor communication management on construction projects in Abuja. The identified strategies for improving communication management in construction projects in Abuja are effective. It is thus concluded that the channels of communication by professionals at construction sites in Abuja is effective with room for improvement and the strategies outlined in this paper are relevant in improving communication management on construction projects.

Based on the findings and conclusions of this study, it is recommended that project managers should employ the use of the most effective communication channels to minimise potential dispute, misunderstanding and project failures as a result of poor management of communication on project sites. In addition, professionals should adopt a standardized method of communicating on projects sites which will enhance project delivery also upward, downward and lateral communication channel should be encouraged and used effectively on site.

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