

Full Length Research Paper

Evaluating the effects of communication in construction project delivery in Nigeria

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All construction project execution requires communication between professionals in all the various stages of construction. These professionals transfer appropriate and relevant information to develop a buildable design that meets the client's requirements. As the project unfolds and the design is realized, information in the form of drawings, specifications and construction methods must be communicated from one expert to another. Therefore, using an appropriate communication method and communication medium to resolve construction and design problems is essential. The research sampled 40 professionals working in the construction industry in Bauchi, Nigeria. The study established that within the Nigeria construction industry, there is a strong appreciation of the importance of project communication and its effects within the industry. In spite of that, there have been many hindrances to effective communication on construction projects in Nigeria. These include; unclear communication objectives, unclear channels of communication, ineffective reporting system, ineffective communication between the parties on the project, stereotyping and language difficulties. Finally, the research established that poor communication had resulted in project delays, project cost overrun and project abandonment. Project communications/communication management was also shown to strongly affect the performance of professionals within the construction industry.

Keywords: Effective Communication, Nigeria Construction industry, Communication Channel, Construction Project Delivery

INTRODUCTION

Although managers in different industries and sectors undertake diverse tasks and activities, it has long been recognized that they spend most of their time involved in communication (Baguley, 1994). If viewed as a fundamentally social activity, communication activities can include engaging in conversations, listening to colleagues, networking, collecting information, directing subordinates, writing letters or transferring information through electronic devices such as telephones or computers. Hence, in many ways the communication affectivity of managers defines their performances as managers; superior performance demands superior communication. This introductory chapter defines the concept of communication and its importance in the context of the contemporary construction industry. It outlines the role and importance of the project manager in the communication process and discusses the way in

which the issues central to effective communication are explored within this text. Thus, it provides a contextual backdrop to the ways in which communication will be explored in relation to the construction industry in the remaining section (Carlsson, B.).

Communication plays a vital role in all stages of construction such as design, production, organization and management. Statistics show that over fifty percent of projects are unsuccessful. One of the many factors that contribute to the failure of these projects is poor or insufficient communication. Information must be properly managed, transferred and understood so that the various aspects of the project can be assembled to realize the design. In Nigeria, the construction professionals who are regularly engaged in the industry are Architects, Quantity Surveyors (QS), Geodetic Engineers (GE), Structural Engineers (St.E), Electrical

Engineers (EE) and Services Engineers (SE).

Statement of the problem

Ineffective communication management system in construction project delivery in Nigeria is the major cause of failures associated with construction projects. The role of communication in construction projects cannot be over emphasized as various professionals in the construction industry must communicate effectively in any given project for it to be successful. As such, the problems of communication in construction project delivery in Nigeria are enormous. As the project unfolds and the design is realized, information in the form of drawings, specifications and construction methods must be communicated from one expert to another.(Foley, 2005), and communication poorly managed will lead to de-motivated workforce, design errors, slowdown in the entire job and failure in production. Therefore, using an appropriate communication management system to resolve construction and design problems is essential.

LITERATURE REVIEW

Construction industry

Construction is the physical act of carrying out designs created by engineers or architects. The construction industry is important to the public, as business owners need buildings and offices from which to work, people need homes to live, children need schools to attend. Construction workers are responsible for erecting structures that offer safety protection and convenience.

The need for construction professionals to communicate throughout all the stages of construction is inevitable. A successful project demand that professionals involved are experienced, appropriate, have the same mindset, are team players with complimentary skill sets and are managed to bring out their best work to meet the vision and goals of the project. Furthermore, communication between these professionals is an integral part of the construction process in any successful project. Given that construction is such a fragmented, dynamic and disparate sector, effective communication becomes essential "for the successful delivery of performance goals (productivity, profitability and repeat working opportunities" (Dainty et.al, 2006). Scope of work and details of construction are communicated by means of drawings, contract documents, addenda and specifications (Mehra, 2009). Therefore, the need for professionals within the construction industry to effectively communicate with each other in order to

accomplish their production and social functions within the organizations cannot be overemphasized and the effects of communication and communication management has a great impact on any project delivery .

Nigerian constructions industry

Organized construction contracting in Nigeria began in the 1940s with few foreign companies coming into operation (Gorse, 2002). The major source of capital formation in the construction industry is from the public sector, with the traditional approach in the major infrastructure procurement process of funding through annual capital budgetary provision. However, with the rising emphasis and growing interest of stakeholders in bridging Nigeria infrastructure gap, the future growth of construction as a tool for sustainable economy is somewhat optimistic.

The construction industry in Nigeria is a multibillion dollar industry with hardly any year befalling successful contractors who bid for construction projects, the last few years has witnessed increasing patronage and profits for most construction companies in Nigeria.

Challenges facing the Nigeria construction industry

Major milestones over the decade which includes self sufficiency in cement production which guarantees material price stability, procurements, health and safety, access to credit, project abandonment, escalating cost of projects cost and projects failing to meet client's expectations are major challenges facing the Nigeria construction industry amongst other factors. While Some specialists will be able to visualize aspects of the building with a high degree of accuracy, possibly with little information, other aspects of the building will hold little relevance unless the information is conveyed in a way which allows them to develop an understanding (mental model), hence, communication is extremely relevant in the management of projects.

Communication channels

During a project, communication can occur in various directions depending on who is communicating. There is upward communication to management from ones 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 downward communication (from superior to sub-ordinate), horizontal communication (between colleagues) or upward communication (from sub-ordinates to superior).

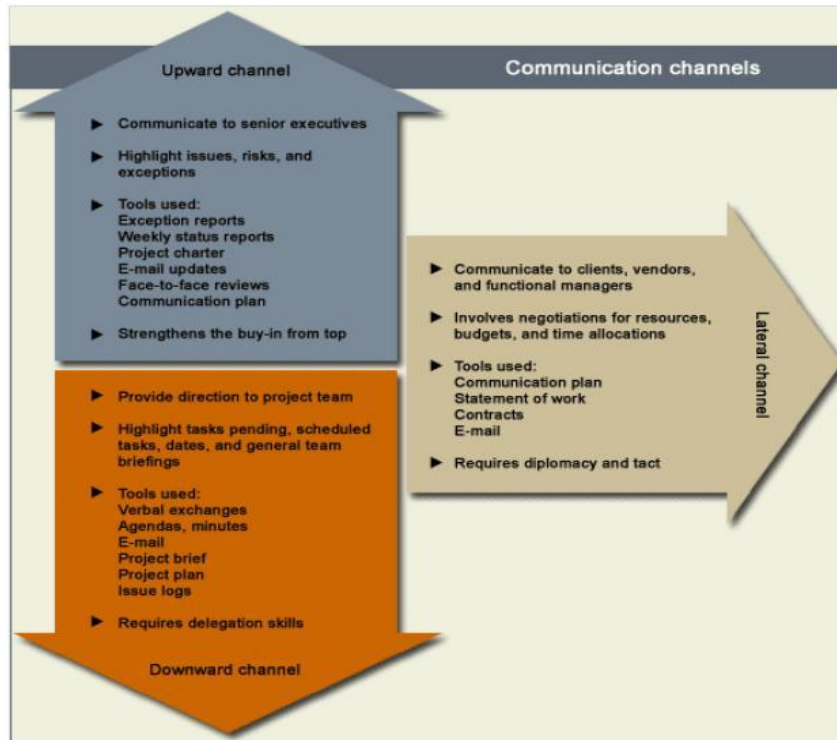


Figure 1: The Three Communication Channel of the Project Manager (Adopted from Keyton , 2011)

Table 1: Designation of respondents

DESIGNATION	FREQUENCY	PERCENTAGE%	CUMMULATIVE PERCENTAGE%
Quantity Surveyor	13	0.33	0.33
Project Manager	7	0.18	0.51
Architect	9	0.23	0.74
Others	11	0.28	1.00
Total	40	1	

(Mehra, 2009) stated that communication will always involve more than one person. In the figure 1, the number of communication channels required to communicate with five other team members in a team of six is shown.

RESEARCH METHODOLOGY

This research covers project participants in construction projects, primarily Quantity surveyor, Architects, Project Managers and others who are part of construction projects team. The study collected data from construction professionals with an experience from 5-year and 15 years above. Data collection was done through a questionnaires self administered on 50 project participant, 40 were returned. The research results can be generalized to a larger population within acceptable

error limits. The question which this research sorts to explore was how much effect communication/ communication management has on construction project delivery in Nigeria, and how professionals in the industry communicate.

A 3-point ranking system low, moderate, and high were utilized where the respondents were asked to indicate from the list of how communication is achieved currently on site, how much effect each has and how frequent those occurs.

RESULTS AND DISCUSSIONS

From the table 1 above, 33% of the respondents representing thirteen (13) respondents were quantity surveyors, 18% Of the respondents were project managers which represent 9 respondents, while 23%

Designation of respondents



Figure 2: Pie- Chart for Designation of Respondent

Table 2: Working experience of the respondents

YEARS	FREQUENCY	PERCENTAGE%	CUMMULATIVE PERCENTAGE%
0- 5years	13	0.33	0.33
6 – 10 years	10	0.25	0.58
11 – 15 years	9	0.23	0.81
Above 15 years	8	0.20	1.0
Total	40	1	

Table 3: Amount of effects of communication in construction project delivery

Effects_of communication projects	in	Low 0%	Medium (50%)	High (100%)	Mean	Variance	standard deviation	Rank
Inexperience		0.00	0.10	0.80	0.90	0.22	0.47	1
Delay		0.03	0.14	0.70	0.87	0.17	0.41	2
Site meetings		0.05	0.20	0.55	0.80	0.12	0.34	3
Late dissemination		0.10	0.19	0.53	0.82	0.11	0.33	4
Unclear channel		0.18	0.17	0.50	0.85	0.10	0.32	5
Language problem		0.10	0.23	0.45	0.78	0.09	0.30	6
Training operatives		0.43	0.19	0.20	0.82	0.09	0.29	7

were Architects and 28% represents other professionals such as Builders, engineers, and clerk of works. Figure 2 above

From the table 2 above, it shows that;

- 13 respondents are below 5 years in working experience representing 33%
- 10 respondents are between 6-20 years in working experience representing 25%
- 9 respondents are between 11 - 15 years in working experience representing 23%
- Only 8 respondents are above 30 years in working experience representing

The following factors of communication that affect construction project has been ranked on the order of highest effect (7) to least effects (1) in Table 3.

Inexperience interpretation of working drawings can cause a failure in building components

With regards to inexperience interpretation of work drawing can cause a failure in building components. 80% of the respondents responded high for that statement, with 20% answering very medium for the

Table 4: Effects of communication management on construction project delivery.

Effects of communication projects	of in	Low (0%)	Medium (50%)	High (100%)	Mean	Variance	standard deviation	Rank
Plan & strategies		0.05	0.25	0.45	0.75	0.09	0.94	1
Plan reviewed		0.05	0.22	0.45	0.72	0.08	0.92	2
On-going communication		0.00	0.13	0.75	0.88	0.19	0.44	3
Meetings		0.25	0.13	0.65	1.03	0.17	0.41	4
Unclear objectives		0.00	0.15	0.70	0.85	0.17	0.41	4
Clarified roles		0.03	0.20	0.56	0.79	0.12	0.34	6
Communication media		0.04	0.22	0.53	0.79	0.11	0.33	7
Unclear channels		0.15	0.27	0.33	0.75	0.07	0.26	8

same statement. Ranking first (1) amongst other factors has the greatest effect on construction project delivery.

Poor and distorted information will affect the level of work done on site

Poor communication had often resulted in project delays, project cost overrun, project abandonment etc. however, 3% ticked low, 27% answered medium for that statement. An overwhelming majority of 70% ticked high, that poor and distorted information relayed do affect the level of work done onsite. It ranked second (2) which highly affect construction projects

Site meeting is important channel of communication between the consultants and contractor on site

From the table 1 above, 55% of all the respondents said that site meetings is of high importance in channels of communication between the consultants and contractors on site, while 40% said that site meetings is of medium importance in communication channels between the contractors and the consultants and 5% of the consultants ranked it low. Overall, amongst other factors of communication that affect construction project, site meetings ranked third (3).

Late dissemination of information will affect output on site negatively

Finally, 53% of the respondent also agreed that late dissemination of information will affect work output on site negatively, and 38% ticked medium on that same statement. Ranking fourth (4) amongst other factors of communication that affects construction project delivery.

Unclear channels of communication results in project.

Unclear channels of communications results in project delay. Also 50% of the respondents ticked high, while 33% ticked medium that the sort of language used among operatives is very essential for effective communication onsite. While 17% ticked low. It ranked fifth (5) amongst other factors which affects construction projects

Training of operatives is necessary for onsite communication

With regards to training of operatives being necessary for on-site communication, 20% answered high while, 38% answered medium and 43% said low. It ranked (1) as the least factor that affects construction projects.

Communication plans and strategies established at the outset of projects do improve project

From the Table 4 above, 45% respondents scored high (1) that communication plans and strategies established at the outset of projects do improve project communication, while 50% respondents ticked medium (0.5) and 5% respondent ticked low (0), and this communication management tool ranked first (1) on the 2 above having great effect on construction project delivery.

Communication plan reviewed regularly and adjusted is necessary for project success

Also, on the issue of communication plan reviewed regularly and adjusted is necessary for project success

Table 5: Importance of communication channels in construction project delivery?

Communication channels	very often 100%	often 50%	Not often 0%	mean	variance	standard deviation	Rank
Site Review Meetings	1.00	-	-	1.00	0.33	0.58	1
Notice board	0.7	0.15	-	0.85	0.17	0.41	2
Project Annual Report,	0.5	0.2	0.04	0.74	0.10	0.31	3
Formal Communication (emails, phone calls)	0.5	0.19	0.05	0.74	0.10	0.31	3
Work breakdown structure	0.5	0.16	0.07	0.73	0.09	0.31	3
Project Status Report	0.45	0.19	0.07	0.71	0.08	0.28	7
Customer Satisfaction Survey	0.38	0.19	0.1	0.67	0.06	0.25	8
Record management system	0.35	0.21	0.09	0.65	0.06	0.24	9
Social Gathering	0.35	0.2	0.1	0.65	0.06	0.24	9
Public Relations	0.33	0.13	0.17	0.63	0.052	0.23	11
Resource breakdown structure	0.23	0.3	0.07	0.6	0.05	0.22	12
Team Meetings Discussions	0.30	0.21	0.11	0.62	0.05	0.22	12
Organization breakdown structure	0.28	0.21	0.12	0.61	0.05	0.21	14
Employee suggestion Scheme	0.25	0.13	0.20	0.58	0.04	0.20	15
Performance evaluation scheme	0.25	0.19	0.10	0.54	0.04	0.19	16
Project Business Case	0.20	0.13	0.22	0.55	0.04	0.19	16
Meeting Suppliers / Customers	0.10	0.16	0.23	0.49	0.03	0.17	18

, 45% respondents scored high (1), 44% respondents scored medium (0.5) and 5% respondents scored low (0), and ranking second (2) has the highest effect on construction project.

On- going communication between project team members and its stakeholders improve project success

When asked how does on-going communication between project team members and its stakeholders improve project success? 75% people ticked high (1) and 25% people ticked medium (0.5) and it ranked third (3).

Meetings help overcome communication barriers and increase performance level

Meetings help overcome communication barriers and increase performance Level 65% people ticked high (1) and 10% people ticked medium (0.5) and 25% ticked low and it ranked fourth (4)

Unclear objectives between project proponents and its stakeholders leading to project failures and disputes

70% people ticked high (1), and 30% people ticked medium (3) on the issue of unclear objectives between project proponents and its stakeholders leading to project failures and disputes and it ranked fourth (4).

Clear communication clarifying roles of stakeholders drawn in the project plan improve successes in project delivery

When asked how clear communication clarifying roles of stakeholders drawn in the project plan improve successes in project delivery, 56% people scored it high (1), while 40% people agreed medium (0.5) and 3% persons said low and it ranked sixth (6).

Appropriate communication media for specific purposes/audiences are necessary

53% respondents ticked high (1), 43% respondents ticked medium (0.5), 4% respondent s ticked low (0) and 1 respondent ticked very low (1) when asked how appropriate communication media for specific purposes/audiences are necessary. It ranked seventh (7).

Unclear communication channel affect project objectives

33% people also scored high (1), 53% people scored medium (0.5), 15% people scored low (0), when asked how unclear communication channel affect project objectives and it ranked eight (8). From the responses gotten concerning the effects of communication management on construction project delivery, an overwhelming majority agreed that communication management has great significant effects on construction project delivery in Nigeria.

From the channels of communication responses as seen in Table 5 above, it shows that site review meeting

ranked first as an important factor in construction project delivery.

CONCLUSION

From the responses gathered from project professionals within the construction industry in Nigeria, there was a strong appreciation of project communication and its effects within the industry. With regards to the specific communication issues, there were unanimous agreements of the importance of each on communication on project site. For instance, many of the professional respondents agreed that site meetings are an important channel of communication between the consultants and contractors thus, has a significant effect on construction project delivery Nigeria.

Further, all the players within the industry agreed that lack of proper communication management has a great effects on construction project delivery. For instance communication plan reviewed regularly and adjusted becomes necessary for project successes.

Within the Nigerian construction industry, there is a strong appreciation of the significance of project communication/communication management and its effects within the industry. Indeed, various levels and channels of communications have been established within the construction industry, for example, communication between consultants and contractors. This research has shown that, project communication strongly affect the performance of professionals within the construction industry. Therefore, clearly establishing and managing the structures of communication on project must always be on the agenda of team leaders and management before the commencement of every project.

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