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The Barriers to Knowledge Sharing Practice in Nigerian Construction Firms

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ABSTRACT

Knowledge is scattered in the construction organizations through various documents and individual brains without a platform to retrieving it for sharing among the employees due to barriers. Therefore, the aim of this paper is to establish the barriers to knowledge sharing practice in Nigerian construction firms. The questionnaire survey approach was adopted due to the nature and type of data required. 150 numbers of questionnaires were distributed to Engineers, Quantity Surveyors, Architects, and Builders. The descriptive method of analysis was adopted for data analysis. The result shows the followings as main barriers to knowledge sharing practice in Nigerian construction firms. These are (1) funding, (2) leadership commitment, (3) incentives and reward systems, (4) trust between colleagues, (5) organizational culture, (6) time factor and (7) awareness of benefits of knowledge sharing. The paper, therefore, suggests that the leaders of the construction firms should develop a proactive management strategy that will facilitate the practices of knowledge sharing by means of introducing incentive and rewards system, establish trust, create time and knowledge protection for the specialists.

Keywords: *Construction firms, Construction projects, Knowledge, Knowledge Management, Knowledge sharing.*

1. INTRODUCTION

Construction firms have no available platforms to support the professionals to exchange and share the knowledge during the construction phase of the projects. The failure to share the knowledge represents a main loss for contractors and employees in the construction firms. Knowledge is kept within the heads of professionals who develops it and hard to access by others. The amount of knowledge loss is high when the professionals move from one firm to another especially in the case of Nigerian construction firms were the professionals are discarded after completion of construction projects. When the professionals finished the execution of the construction projects or leave the company, they usually take their domain knowledge with them and leave little or nothing to be benefited for future projects. From the standpoint of knowledge management (KM), these professional experiences and knowledge are the most cherished resources for construction firms, since the buildup of this knowledge depends not only on manpower but also on the spending of plentiful money and time.

Knowledge is scattered in the construction phase of projects and the pool of knowledge is lost, if there is no proper channel of sharing the knowledge generated during the construction phase of projects to other employees for re-use. Knowledge sharing across a project is equally significant, since the knowledge transfer from a current to concurrent or subsequent projects to allow employees to use existing proven knowledge to solve problems as a substitute of creating a new knowledge, which can guzzle time [14,16 &27]. [33] asserted that when an organisation has deficiencies in a heightened degree of knowledge sharing, knowledge leaks are the consequences. Therefore, such leakage ultimately results in organizational inefficiency like repeated mistakes, depending on a few key individuals, duplicated work, lack of sharing of good ideas, and slows in the adoption of new ideas, techniques, and technical know-how and problems solutions. [35] further expressed that knowledge sharing is the heart of KM practice. If professionals do not share what they know, then there is generally a little knowledge to be managed. This was supported by [25] that, the concept of KM is to create a knowledge sharing atmosphere whereby "knowledge sharing is power," as opposed to the ancient belief that "knowledge is power. The construction firm in Nigeria is still being criticized of continuous mistakes and errors during the construction phase of the projects, dispute, poor planning and design, time and cost overruns and poor quality of workmanship [22]. This reflected that knowledge and professional experiences are not shared among the employees for re-use due to some impediment called barriers. These barriers for knowledge sharing practice in the construction firms have been a serious challenge in the developing countries like Nigeria. This is a gap for the study to fill through the establishment of barriers for knowledge sharing practices in Nigerian construction firms with a view to reduce the knowledge loss after the completion of construction projects.

2. CONCEPT OF KNOWLEDGE SHARING

According to [21] knowledge sharing is the character of human nature that involves the distribution of information or the provision of support to others. [10 & 11] further added that knowledge sharing is a means of distributing knowledge from an individual to group, or organisation to another. [17] further expressed that the perception of knowledge sharing means enabling learning, through sharing, into practical concepts, products, and processes. These explanations above indicate that there is a precise purpose behind knowledge sharing and "learning" as an artifact from the knowledge sharing process. [26] noted that knowledge sharing has gone beyond telling hoarders to play nice. It is now on capturing the tacit knowledge of the professionals. Since only 2% of information is documented in the databank; the rest is in professional's head [18 & 19]. The challenge is to capture and transform this knowledge into a shareable form. [31] discovered that the knowledge sharing have the power to influence the construction organizational performance. Since, generating knowledge and using knowledge to produce successful products and services are the main factors for an organisation to sustaining the competitive advantages. From the explanations and views of the above previous researchers, the knowledge sharing practices in the construction firms were deduced and demonstrated in Figure 1.

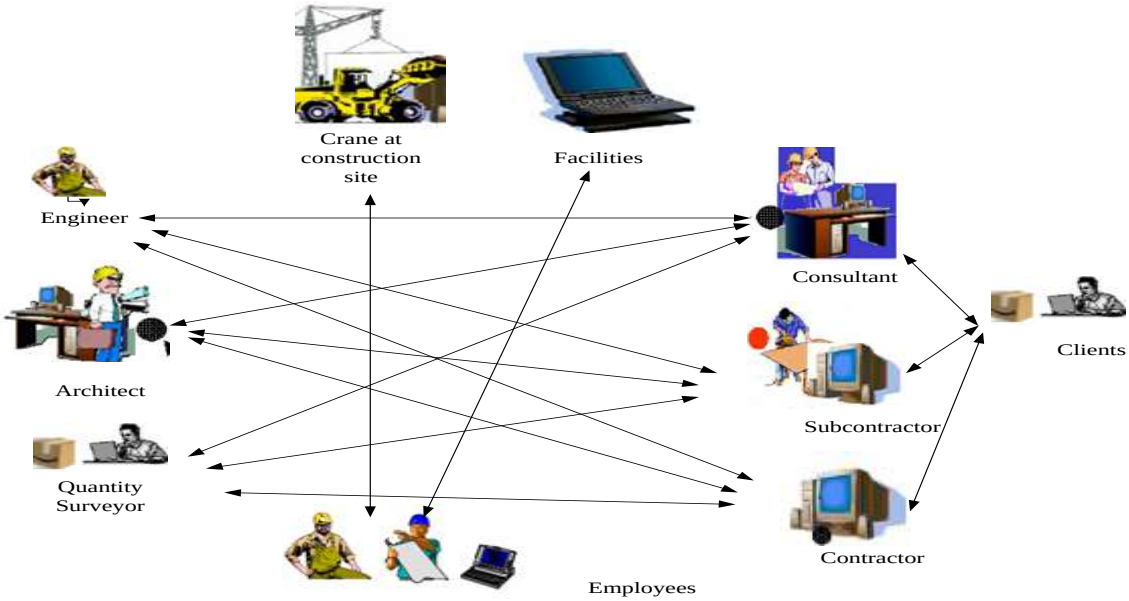

Figure 1: Knowledge sharing practices in the construction firms

2.1 Knowledge Sharing Practices

The construction firms are now facing the challenges of global competitive advantage. These challenges are based on the recognition of required knowledge that will improve the construction organizational process and performance. Knowledge sharing is regarded as a major driver for an organisation to be competitive in nature. In spite of the great amount of the literature concerning knowledge sharing practice by many researchers, there is still need to create awareness of understanding the concept of knowledge sharing practice in developing country like Nigeria [1 &9]. Knowledge sharing hostility is apparent as a phenomenon that widely controls organisational certainty. [30] asserted that KM visions are the mechanisms that support knowledge sharing within the organisational culture. [29] highlighted ten types of KM visions that are applied in the UK, and from their research it was discovered that none of the organisation had completely applied all the initiatives. Though the followings are the ten KM initiatives: (1) capturing knowledge by electronic means in a repository, (2) using information technology to share and transfer knowledge, (3) using the intranet to distribute and access information, (4) structure and maintaining employees' expertise and skills, (5) recognizing interior or exterior best practices, (6) creating a helpful situation for knowledge sharing, (7) developing policies for KM (8) employing KM leaders and teams, (9) rewarding personnel who contribute and (10) share knowledge and measuring the value of intelligent capital. Based on the above views of the previous researchers, this paper deduced and illustrated the practical example of knowledge sharing practices in construction project site as shown in Figure 2.

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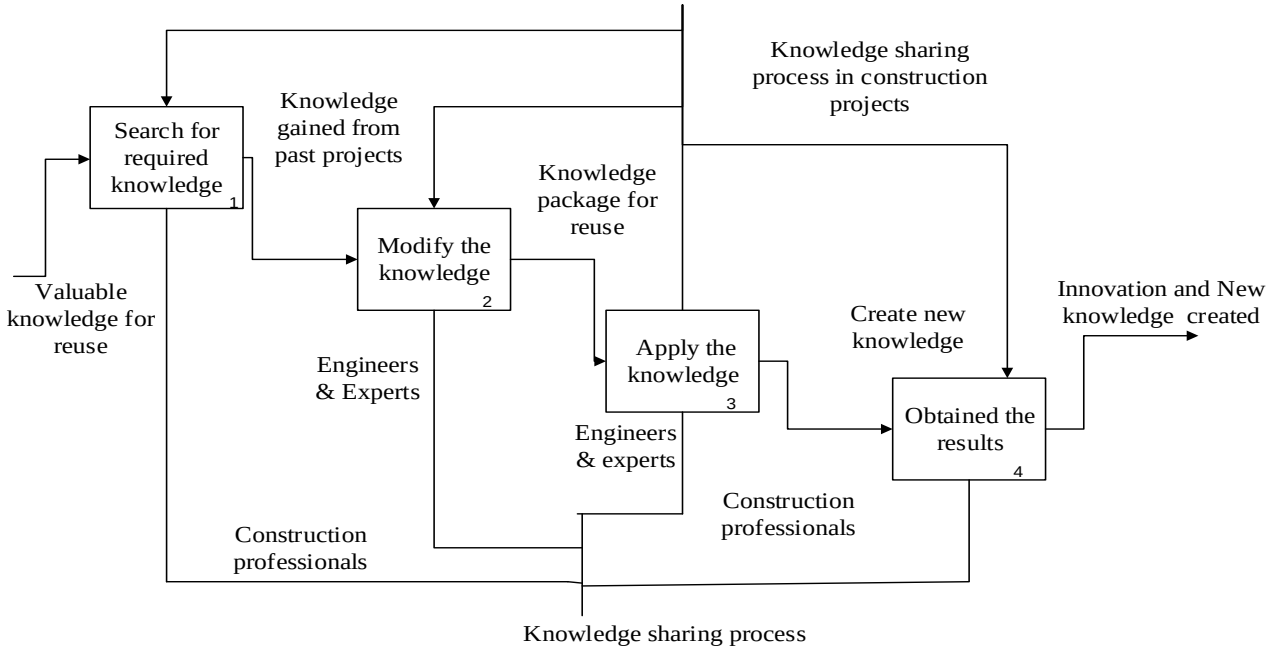

Figure 2. A practical example of knowledge sharing practice in construction project site

Note:

Step	Stages	Clarification
Knowledge sharing	Search for required knowledge	The employees search for related knowledge from the past experiences and problem solutions items documented and stored in the database
	Modify knowledge	The employees modify the previous knowledge stored in the database to suit the present situation on the construction site.
	Apply knowledge	The employees apply the modified knowledge to perform their task and also for future re-use.
	Obtained results	The employees collect the results of the modified knowledge used and package for future re-use.

2.2. The Barriers to Knowledge Sharing Practices

KM has grown to be part of an organisational asset, since it improves the organisational performance. The success in KM practice will be accomplished through effective KS practice. In achieving the effective KS, there is a need to address the following barriers: trust among employees, collaboration, social interaction, management willingness and technology [24]. Technology have commonly been faced with the problems known as ‘‘cultural wall’’ within the construction organisation [20 & 28]. Cultural influences have significant influence on KS in the construction firms. This includes the deficiencies in trust, differences in culture and language, insufficient time limit and site meeting places and shortage in absorptive ability from receiver of the knowledge [8]. The difficulties originating cultural limitations may be split into individual and social barriers [4]. The internal battles, trust, motivation along with a gap in consciousness are the major individual barriers. Sharing knowledge among other employees and store it in the organisational repository without adequate protection may be regarded as exposure of the knowledge, since it is regarded as valuable and rare assets. Likewise, trust definitely has an effect on both receipt and spread of knowledge. If the employee does not trust the knowledge received, they are clearly unlikely to take advantage of it [2]. Some employees don't anticipate reciprocal advantages of moving their knowledge as they don't accept these benefits or do not experience it [12]. Many employees have only a comprehension of problems but don't know anything more. It has an influence for the reason that they don't want to hear something they already know again [4]. The language conflict avoidance can be achieved through bureaucracy and distance, since these are the main social barriers [7]. Certain language is utilised only in a single section, department or division, so it's unintelligible to the others [4].

[3] outlined the barriers for KS in the construction organisation into five categories: natural, cognitive, motivational, structural and institutional barriers. [34] argued and grouped the barriers for KS into four categories as entities of sources, context, knowledge transferred and recipient. [12] grouped the barriers for knowledge sharing into two as individual and social barriers. [32] stated that the barriers for KS are individual or personal, organisational and technology barrier.

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3.0 RESEARCH METHOD

This study adopted quantitative research approach via survey questionnaire to sample individuals from a population with a view towards making statistical inference about the population using the sample [5]. And also to pull out public opinion, such as beliefs, perception, ideas, views and thought about the impacts of culture on knowledge sharing practices in Nigerian construction firms. In order to obtain the require population for this study, the stratified random sampling technique was adopted for the selection of the construction firms that participated in this study. This selection was in line with concept of [6] that respondents are arranged in strata for the convinienency in questionnaire distribution and assessment. In addition, the simple random sampling was adopted in each of the construction firms for the selection of construction professionals from the strata.

The questionnaire that was used to record the responses of each respondent contained mainly closed ended questions using a five-point Likert scale ranged from very high, high, slightly high, low and none. The scores of the respondents were computed based on the variables used in the questionnaire. As earlier explained that simple random sampling techniques was adopted in each of the construction firms for the selection of construction professionals. 150 numbers of professionals were selected in Nigerian construction firms that are based in Abuja. These professionals are: Quantity Surveyors forty numbers (40), Architects forty numbers (40), Builders forty numbers (40) and Civil Engineers thirty numbers (30). However, one hundred and forty (140) numbers of those selected professionals were able to return the questionnaire, while four (4) of the one hundred and forty (140) were ignored for incorrect entry.

The inference statistic was adopted to summarise the sample, rather than use the data to learn about the population and sample. In this paper, inference statistic was used to present means score, standard deviation and frequency counts. The mean score was used to rank the respondents' opinions or responses obtained.

4. FINDINGS AND DISCUSSION OF RESULTS

The results of the demographic profile of the respondents were presented in section 4.1 to 4.3 respectively.

4.1 The Age Groups of the Respondents

The age group of the respondents are analyzed and the results are presented in Figure 3. The result shows that 36.36% of the respondents are within the age group of 26-35 years old. Whereas 30.36% of the respondents are within the age group of 36-45 years, and 15.02% of the respondents are within the age group of 18-25 years. This result shows that the employees are within the age of 18-45 years. This reflects that the employees of Nigerian construction firms are within the active age to learn, share and acquire knowledge in order to improve the organisational performance.

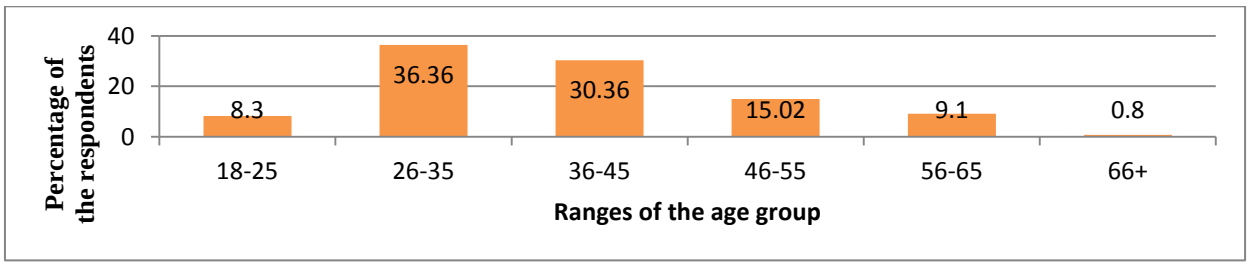

Figure 3: The age group of the respondents

4.2 The Educational Background of the Respondents

The respondents of this study specialize in different areas of professions such as Engineers, Quantity Surveyors, Architects and Builders. These professionals obtained their knowledge and training skill in the above areas of specialization as mentioned. The professionals obtained certificates in these areas, but the nature of the certificates varies. The natures of the certificates obtained by the respondents are analyzed using descriptive analysis and the results are presented in Figure 4. The result shows that 34.39% hold a Bachelor of science degree (BSc), 31.62% hold a Higher National Diploma (HND). 18.18% hold a National diploma. 13.83% hold a Master of Science (MSc) degree and 1.98% holds a Doctor of Philosophy (PhD). This implies that the respondents have the required educational training in line with the experiences acquired during the construction phase of the projects.

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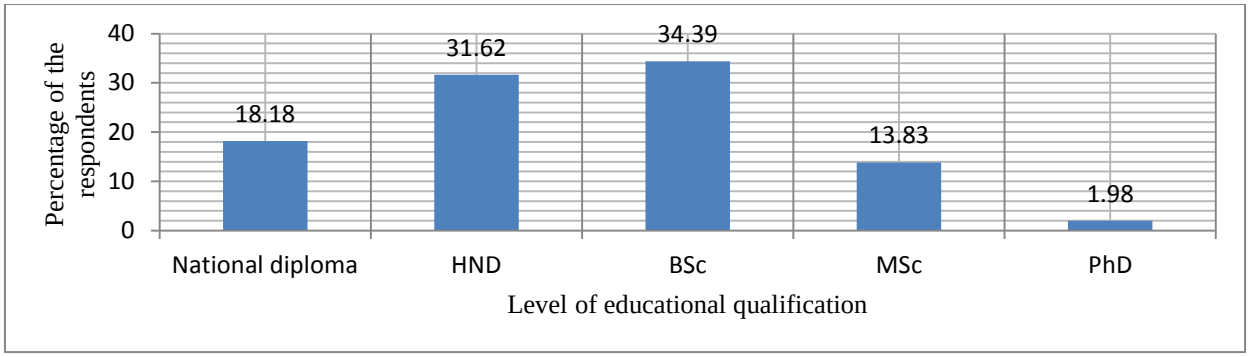

Figure 4: The educational qualification of the respondents

4.3 The Respondent's Working Experiences

Figure 5 shows that 42% of the respondents are within the range of 6-10 years of working experiences. 24% of the respondents are within the range of 11-15 years of working experiences, 22% of the respondents are within the range of 1-5 years of working experiences and 9% of the respondents are within the range of 16-20 years of working experiences respectively. This shows that the respondents have enough working experience in construction projects.

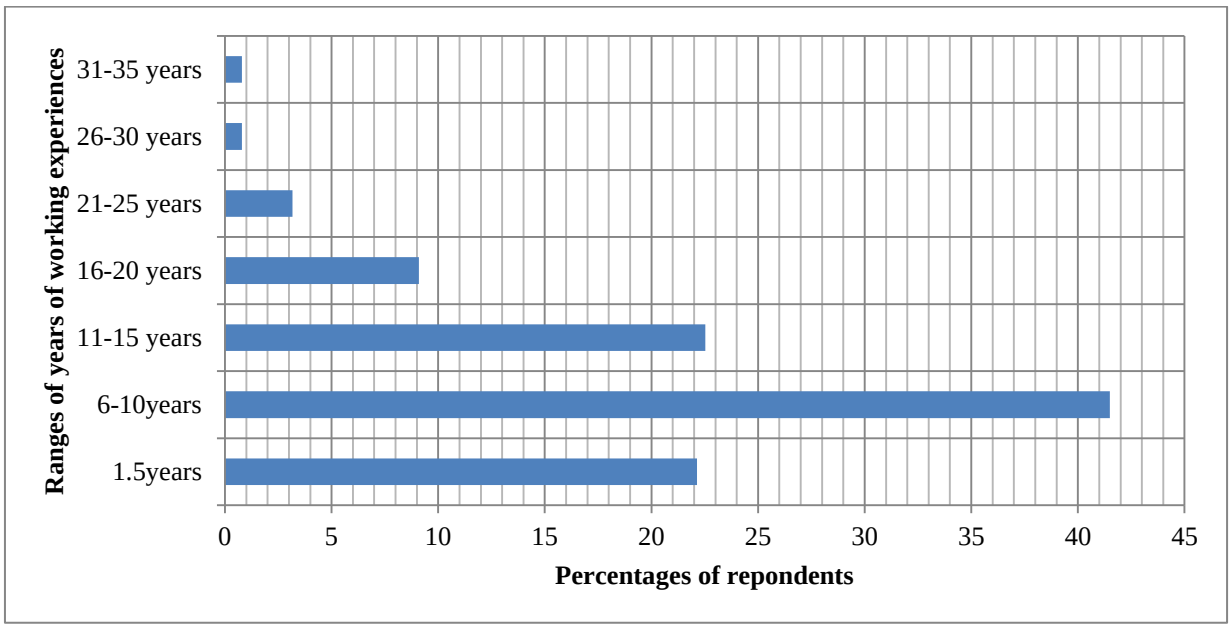

Figure 5: The respondent's years of working experiences

4.4 The Barriers to Knowledge Sharing Practices

The barriers for knowledge sharing practices were analysed in Table 2 below.

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Table 2.0: Barriers for Knowledge sharing practices

Barriers	Mean	Std. Deviation	Remarks
Funding	4.51	1.193	1
Leadership commitment	4.23	1.169	2
Lack of incentive and rewards	4.13	1.182	3
Trust between colleagues	4.08	1.145	4
Organisational culture	3.95	1.210	5
Time factor	3.90	1.142	6
Awareness of benefit of sharing knowledge	3.83	1.179	7
Lack of sharing and re-use of past experience policies and strategies	3.51	1.233	8
Lack of internet and intranet facilities	3.31	1.274	9
Lack of technical support	2.90	1.154	10
Lack of practices or channel of sharing	2.72	1.147	11
Lack of sharing space	2.65	1.281	12

Source: Field Work, (2019)

Table 1 show the followings as main barriers to knowledge sharing practices in Nigerian construction firms: funding, leadership commitment, lack of incentive and rewards, trust between colleagues, organizational culture, time factors, awareness of benefits of sharing knowledge, and lack of sharing and re-use of past experiences, policies and strategies. These barriers were ranked 1st, 2nd, 3rd, 4th, 5th, 6th, 7th and 8th with the following mean scores 4.51,4.23,4.13,4.08,3.95.3.90,3.83, & 3.51 respectively. [15] conducted a similar study in construction companies and discovered the followings as impdiment to knowledge sharing: lack of teamwork, top management commitment, lack of motivation and time management problem. In addition, [23] conducted a study on influences of technology devices on knowledge sharing practice in Nigerian construction organisations and established that inspite of technology eefficiency the construction professionals does not have followings characters. These are (1) knowledge sharing behaviour, (2) motivation, (3) lack of trust among their colleagues, (5) lack of awareness of benefits knowledge sharing and (6) lack of knowledge protection. Therefore, the result have highlights the important of these main barriers to KS practice that were ranked high need to be put into consideration in order to avoid its implication.

4.5. The Benefits of Knowledge Sharing Practices to the Construction Firms

The benefits of knowledge sharing to the construction firms were examined in Table 2 below.

Table 2: Benefits of knowledge sharing practices in the construction firms

Benefits	Mean	Standard Deviation	Ranks
Improve project delivery in terms of time	4.41	1.170	1
Improve project delivery in terms of cost	4.19	0.862	2
Improve project delivery in terms of quality	4.05	0.531	3
Improvement in solution to problems	3.86	1.076	4
Reduce construction reworks problems	3.52	1.041	5
Enhancement of company competitive advantages	3.45	0.892	6
Reduce unnecessary cost	3.38	0.721	7
Improve problem solving and decision making	3.26	1.304	8
Improve work efficiency	3.01	0.431	9
Improve economic profitability	2.84	0.425	10
Improve bidding performance	2.65	0.521	11
Enhancement in the personal capabilities	2.59	0.732	12
Improve experiences sharing problems	2.51	0.441	13
Rise the morals of the spirit of works	2.42	0.645	14
Integrate knowledge within the construction firms	2.37	0.981	15
Ability to respond to market and clients' needs	2.21	1.027	16

Source: Field Work, (2019)

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Table 2 shows the followings as main benefits of knowledge sharing practices in the construction firms: improve project delivery in term of time, improve project delivery in terms of cost, improve project delivery in terms of quality, improvement in solution to problems and reduce construction reworks problems. These benefits were ranked 1st, 2nd, 3rd ,4th & 5th with the followings mean scores of 4.41, 4.19, 4.05, 3.86 & 3.52 respectively. This signifies that knowledge sharing practices enhance the organisational performance. [22] agreed with result that construction process required sharing of knowledge and experience between the employees on a daily basis to accomplish its target. [25] with contrary opinion that construction firms today are facing difficulties in terms of international competiveness. These difficulties rely on the recognition of vital knowledge that enhance the construction firms process. In addition, the result also presents the followings as benefits of knowledge sharing practices in construction firms: enhancement of company competitive advantages, reduce unnecessary cost, improve problem solving and decision making, improve work efficiency, improve economic profitability, improve bidding performance and enhancement in the personal capabilities. These benefits were ranked 6th, 7th,8th,9th,10th,11th, &12th with the followings mean scores of 3.45,3.38, 3.26,3.01,2.84, 2.65 &2.59 respectively. This implies that knowledge sharing practices contributes immensely to the development and success of construction firms in terms of project delivery and efficiency of the employees. This was in line with the observation of [31] that knowledge sharing have the power to influence the construction firm's performance.

5 CONCLUSION

Knowledge sharing practices in construction firms play a predominant role in projects delivery and efficiency of the key players in the construction firms. But due to some barriers the success of its practices is still at the infancy stage in Nigerian construction firms. As a result, the paper established the followings as main barriers to knowledge sharing practices: (1) funding, (2) leadership commitment, (3) lack of incentive and rewards, (4) trust between colleague, (5) organizational culture, (6) time factor, (7) awareness of the benefits of knowledge sharing. In addition, the paper also established the followings as main benefits of knowledge sharing practices in Nigerian construction firms. These are: (1) improve project delivery in term of time, (2) improve project delivery in terms of cost, (3) improve project delivery in terms of quality, (4) improvement in solution to problems and (5) reduce construction reworks problems. The paper therefore, suggests that there is need for Nigerian construction firms to address aforementioned barriers for knowledge sharing practices. Since knowledge sharing among the employees help in preventing the previous problems that already solved in construction projects from re-surface again. Secondly, the leaders of the construction firms should source for funds to support the knowledge sharing practice, especially in the areas of hiring the specialists. The incentives and reward systems should be institutionalized in the construction firms to encourage the professionals to share their tacit knowledge in order to improve the construction process, reduces time and cost of solving problems. The extra time should be created for the professionals during the construction process to share experiences, know-how, and best practices with other employees. The construction firms should incorporate the culture that facilitates and create awareness of knowledge sharing practice in Nigerian construction firms to overcome the challenges of these barriers mentioned earlier. Lastly, the leaders of the construction firms should establish trust among the employees through social interaction and knowledge protection process to encourage the professionals to share knowledge and experiences between the colleagues without fears of losing their position.

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