

## **THE ROLE OF PROFESSIONALS IN MASS HOUSING CONSTRUCTION IN SOKOTO**

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### **ABSTRACT**

*Housing is one of the most basic and oldest developments of mankind, because of its necessity and importance. This research study aimed to evaluate the roles of various participants in Mass Housing construction project delivery in Sokoto. A total of 200 questionnaires were distributed to five professional working either in consultancy or client organizations. Feedbacks received were analyzed using both descriptive and inferential statistics with the aid of SPSS 16.0. Results indicated three broad categories of knowledge and skills that support roles of Professionals in construction project delivery: managerial, technical and generic knowledge and skills. Identified knowledge and skills underlying the three broad categories were found to fall between moderate to high impact on contractors' the performance with weighted mean values between 3.26-4.35. The levels of the contractors' roles in the identified knowledge and skills areas were also analyzed. The result suggests knowledge and skills gap with weighted mean values between 2.68-3.37, which need to be resolved through contractors training and education.*

**Keywords:** Role, Professional, Housing, Construction

### **INTRODUCTION**

The construction of housing requires expertise from the players of the industry, especially the constructors to ensure safety in the environment. The absence of requisite knowledge and skills amongst mass housing professionals has been identified as part of the key contributors, to the continuous decline in the performance of the mass housing construction projects. Housing is key indicator of the physical, economic, and social development of any nation. It is difficult to talk about the success of a nation or society within a nation without analyzing its housing situation. Housing is one of the best indicators of a person's standard of living and his or her place in society (Nubi, 2000). Housing represents one of the most basic human needs. As a unit of the environment, it has a profound influence on the health, efficiency, social behavior, satisfaction and general welfare of the community (Onibokun, 1998). Housing provides a link between the physical development of a city and its social and economic outcomes. The availability of decent housing for each family defines the level of development which the country has reached. This is because the social and economic wealth of the country can only co-exist with good housing (Alao, 2009).

Oyewobi & Ogunsemi, (2010) (ascertained that the construction industry is a viable sector in the economy of any country. Meanwhile, the present state of the construction industry is complex. There is a wide range of construction products and system which are aimed primarily at groups of infrastructure types or markets. The design process for infrastructure is highly

organized and draws upon research establishments that study materials properties and performance, codes officials who adopt and enforce safety standards, and design professionals who determine user needs and design variety of infrastructure and facility to meet those needs. The construction process is also highly organized; it includes the manufacturers of construction products and system, the craftsmen, the contractors and consultants who specialize in such aspects as construction management, quality control, and insurance (Adams, 1997).

Moreover, professionalism in Building Constructions is a combination of derived significant activities of professionals'. This is mainly related to their job tasks, such as; an active demonstration of the traits of professionals, also the level of professionalism can be evaluated how successful you are in your job and also it can be decided how others' view on you and how far you have developed in your career level as well (Abiodun, 1991). Some specific professionals in the construction industry, for example; Architects, Civil & Structural Engineers, Mechanical & Electrical Engineers, Project Managers, and Quantity Surveyors who are well-trained and highly educated and experienced experts. They are contributing to their specific knowledge and experience for the successful completion of projects. And also they have vital responsibilities and duties within their entire roles; for instance, Preparation of drawings, Specifications, *Bill of Quantities* (BOQ), Contract Conditions and Agreements.

Mbachu (2012) provides the basic knowledge and skills required for professionals to perform in construction projects. If the performance of professionals in mass housing constructions is to be relevant, then the underlying knowledge and skills need to be prioritized to reflect the required knowledge and skills of professionals to perform in mass housing construction projects. This will help professionals to reflect positively on the best practice to improve their performance in mass housing projects. The objectives are:

- 1 to identify the suitable knowledge and skills required by professionals in mass housing construction projects
- 2 to know the current Level of Roles of Contractors' Knowledge and Skills in Mass Housing Projects
- 3 To find out the Core Knowledge and Skills required for Contractors' Performance

### **Research Questions**

- I what are the suitable knowledge and skills required by professionals in mass housing construction projects?
  - ii What is the current Level of Proficiency of Contractors' Knowledge and Skills in Mass Housing Projects?
  - iii What is the Core Knowledge and Skills required for Contractors' Performance?

### **LITERATURE REVIEW**

Housing is by far the most common form of building in the world and has in many ways received considerable attention from decision-makers, architects, planners, and critics alike. It is a form of development which has been in existence since the Stone Age. This is because it provides shelter



and protects human beings need from harsh climatic conditions and crime. It is in many respects the most central environmental setting encountered by individuals during their daily routine, taking into consideration its psychological and social significance, which make it one of the most vital development issues of our time. Housing environments may provide a haven of security and comfortable, supportive milieu from which individuals organize their daily plans and activities (Oktay, 2001).

### **Concept of Professionalism in Construction**

Carr (2000) states that there are five characteristics that allows you to determine whether an occupation can be said to be a profession and these include: -

- Provision of important public service;
- they involve a theoretically as well as practically grounded expertise;
- that have a distinct ethical dimension which calls for expression in a code of practice;
- they require organization and regulation for purposes of recruitment and discipline; and
- Professional practitioners require a high degree of individual autonomy - independence of judgment for effective practice.

### **The Roles of Professionals**

According to the Babade, (2007), In general, the highly qualified and well-trained professionals are contributing to their specific knowledge and experience to deliver the projects the construction industry in successful. There are few professionals in the construction industry, identified as, Architects, Project Managers, Civil Engineers, Structural Engineers, Mechanical Engineers, Electrical Engineer, and Quantity Surveyors. They categorized within their involvement the job environment, some of them are working as client representatives, and some are assigned to design teams, also assigned to builders and maintenance firms. Most construction companies or firms employ reputed professionals to get proper management process to archive projects goals, contribution with the professionals' specialized roles. the professionals include:

- **Architect:** According to the Wikipedia, "an architect is a person trained in the planning, design and oversight/supervision of construction of buildings" and architect should visit the site periodically for inspections to ensure that in general, the work being carried out on site complies with architectural designs and specifications. Generally, Architect has proper education qualifications and also has good training back ground to deliver their knowledge for the project success in terms of sustainability and safety of end-users. Also, there are Landscapes Architects, Town Planners, Infrastructures and building Architects who are categorized on discipline on service and they involve as a team or one person.
- **Engineer:** During the construction phase Engineers (Civil, electrical, mechanical, geotechnical and structural) visit the site often for inspections, and to be ensured that all activities are going on compliance with their engineering drawings, specifications, and schedules. Also, they are concerned with monitoring and ensuring methods and materials. Normally engineer consultants joint as a reputed individual firm with development

projects. Also, involve for selecting the project by way of tender or by nomination. A Fee also will be charged by Engineers as a parentage basis.

- **Builder:** is employed by the client, on the advice of the Architect or the Architectural technologist. A builder must first assess the project-specific documents (referred to as tender documents). In the case of renovations, a site visit is required to get a better understanding of the project. The builder will then calculate a price, also called an estimate. The builder considers the cost of materials and equipment as well as the cost of labor to provide the owner with an approximate price for the project (BOQ).
- **Quantity Surveyor:** is the person/ firm who manage the cost relating to the construction projects, such as new constructions, maintenance work, renovations, as well as seeks to minimize the costs of the project and to make more cost savings while ensuring the total cost of the project does not exceed the estimated cost.
- **Civil Engineers:** are engaging with many activities at the beginning of the project and, up to the end of the project, hence, some of their key roles are: Analyzing various factors and areas concerning construction, searching and investigate the site location and ensure its feasibility for construction purpose, preparing key essential plans to determine what need to be changed before implementing tasks, among others.

## **RESEARCH METHODOLOGY**

The study employed a quantitative design approach using survey. Quantitative approaches tend to relate to positivism and seek to gather factual data to study relationships between facts and how such facts relate with theories as well as the findings, the target population was drawn from 10 registered construction firms, who are specific expertise in Mass Housing construction in the study area. The instrument used for data collection was a structured questionnaire based on information from the reviewed literature on previous studies. A total of One hundred and thirty-two 132 structured questionnaires were distributed to the respondent. The quantitative data was analyzed using tables, percentages, and Mean, Standard Deviation

## **RESULTS AND ANALYSIS**

The data collected, were presented and analyzed in tables 1 to 3 below:

**Table 1: Suitable knowledge and skills required by professionals in mass housing construction projects**

Knowledge & Skills	Consultancy Organization		Client Organization		Total			F	Sign.
	Mean	Rank	Mean	Rank	Mean	S.D	Rank		
Managerial/Business Skills and Knowledge									
Project management and leadership	4.27	1	4.45	1	4.35	1.058	1	0.577	0.450
Risk management	3.92	7	4.18	9	4.02	1.202	9	0.938	0.336
Contract and compliance management	3.86	10	4.18	7	3.99	1.167	11	1.508	0.223
Financial management, accounting, cost/cash flow management	4.12	4	4.18	6	4.14	1.184	3	0.580	0.810
Human resources management	3.92	8	4.27	4	4.06	1.090	7	2.105	0.151
Business and administration, record keeping	3.76	17	3.88	19	3.81	1.058	17	0.231	0.632
Strategic management	3.61	20	3.52	26	3.57	1.090	24	0.143	0.706
Resilience to change, flexibility/adaptability to change (change management)	3.61	19	3.91	18	3.73	1.165	18	1.345	0.250
Marketing and public relation management	3.53	22	3.55	25	3.54	1.197	25	0.004	0.953
Teamwork and relationship Management	4.06	5	4.09	14	4.07	1.200	6	0.014	0.906
Construction technology									
Building code and regulations	4.16	3	3.94	16	4.07	1.138	5	0.729	0.396
	4.20	2	4.36	2	4.26	.946	2	0.626	0.431
Trade-specific technical know-how	3.80	12	4.33	3	4.01	1.081	10	5.040	0.027
Blueprint reading and specifications	3.78	16	4.12	11	3.92	1.055	15	2.069	0.154
Procurement and contract bidding strategies	3.80	15	4.09	12	3.92	1.100	14	1.370	0.245
Plant/ equipment technical knowhow and selection strategy	3.80	11	4.09	13	3.92	1.044	13	1.524	0.220
Materials technology and selections strategy	3.80	14	4.12	10	3.93	1.117	12	1.629	0.205



Generic Skills and Knowledge									
Communication	4.02	6	4.18	8	4.08	1.020	4	0.503	0.480
IT; computer literacy; BIM	3.57	21	3.91	17	3.70	1.190	20	1.653	0.202
Negotiation and dispute resolution	3.65	18	3.85	21	3.73	1.123	19	0.642	0.425
Legal	3.49	25	3.79	22	3.61	1.162	22	1.320	0.254
Decision-making	3.80	1 3	3.85	20	3.82	.946	16	0.044	0.835
Numeracy and problem-solving	3.49	2 4	3.94	15	3.67	1.155	21	3.109	0.082
Politics	3.22	2 6	3.33	27	3.26	1.233	27	0.181	0.672
Social/ networking	3.18	2 7	3.64	24	3.36	1.229	26	2.871	0.094
Can-do altitude, multi-tasking/multi- skilling	3.51	2 3	3.73	23	3.60	1.163	23	0.698	0.406
Creative and innovative ability	3.88	9	4.24	5	4.02	1.041	8	2.438	0.122

**Source:** Field Survey, (2019)

The Table 1 showed that the weighted means of the respondents ‘perceptions of the level of Suitable Knowledge and skills required ranges between 3.26 and 4.35. This indicates that all the knowledge and skills are important in mass housing construction projects delivering. The result showed the mean of three most importance knowledge and skills as Project management and leadership (4.35), construction technology (4.26) and financial management (4.08). The result shows that the three least important knowledge and skills are politics (3.26), social/network (3.36), and marketing and public relation (3.54).



**Table 2; current Level of Roles of Contractors’ Knowledge and Skills in Mass Housing Projects**

	<i>Consultancy Organization</i>		<i>Client Organization</i>		<i>Total</i>				
	<i>Mean</i>	<i>Rank</i>	<i>Mean</i>	<i>Rank</i>	<i>Mean</i>	<i>S.D</i>	<i>Rank</i>	<i>F</i>	<i>Sign.</i>
<b>Managerial/ Business Skills and Knowledge</b>									
<b>Project management and leadership</b>	3.02	11	3.33	12	3.14	1.142	12	1.521	0.221
<b>Risk management</b>	2.63	26	2.76	27	2.68	1.121	27	0.268	0.606
<b>Contract and compliance management</b>	3.00	12	3.21	19	3.08	1.132	16	0.701	0.405
<b>Financial management, accounting, cost/cash flow management</b>	3.22	4	3.15	21	3.19	1.146	6	0.062	0.804
<b>Human resources management</b>	3.00	14	3.45	6	3.18	1.077	8	3.682	0.058
<b>Business and administration, record keeping</b>	3.08	7	3.21	18	3.13	.915	14	0.424	0.517
<b>Strategic management</b>	2.61	27	2.94	26	2.74	1.077	26	1.921	0.170
<b>Resilience to change, flexibility/adaptability to change (change management)</b>	2.92	18	3.06	24	2.98	1.006	21	0.380	0.539
<b>Marketing and public relation management</b>	3.22	3	3.12	23	3.18	1.008	7	0.174	0.677
<b>Teamwork and relationship Management</b>	3.08	6	3.61	2	3.29	1.025	4	5.608	0.020
<b>Technical Skills and Knowledge</b>									
<b>Building code and regulations</b>	3.06	8	3.27	14	3.14	1.121	13	0.727	0.396
<b>Construction technology</b>	3.22	2	3.58	3	3.36	1.060	2	2.349	0.129
<b>Trade-specific technical know-how</b>	2.86	21	3.39	9	3.07	1.039	18	5.524	0.021
<b>Blueprint reading and specifications</b>	3.02	9	3.39	8	3.17	1.028	9	2.713	0.103



<b>Procurement and contract bidding Strategies</b>	3.00	13	3.48	5	3.19	1.114	5	3.931	0.051
<b>Plant/ equipment technical knowhow and selection strategy</b>	2.88	20	3.42	7	3.10	1.060	15	5.523	0.021
<b>Materials technology and selections Strategy</b>	3.02	10	3.36	11	3.15	1.092	11	2.013	0.160
<b>Generic Skills and Knowledge</b>									
<b>Communication</b>	3.16	5	3.70	1	3.37	1.050	1	5.591	0.020
<b>IT; computer literacy; BIM</b>	2.76	25	3.36	10	3.00	1.182	20	5.416	0.022

<b>Negotiation and dispute resolution</b>	2.80	22	3.24	15	2.98	1.064	22	3.506	0.065
<b>Legal</b>	2.80	23	3.15	22	2.94	1.123	24	1.941	0.167
<b>Decision-making</b>	2.88	19	3.00	25	2.93	.889	25	0.348	0.557
<b>Numeracy and problem-solving</b>	2.78	24	3.24	16	2.96	.898	23	5.500	0.021
<b>Politics</b>	3.43	1	3.21	17	3.35	1.217	3	0.647	0.423
<b>Social/ networking</b>	2.94	17	3.30	13	3.08	1.100	17	2.200	0.142
<b>Can-do attitude, multi-tasking/multi- skilling</b>	2.94	16	3.48	4	3.15	1.012	10	6.142	0.015
<b>Creative and innovative ability</b>	2.96	15	3.21	20	3.06	1.112	19	1.023	0.315

**Source:** Field Survey, (2019)

The table 2 showed that the weighted means of the respondents ‘perceptions of the current level of proficiency in the delivery of the identified knowledge and skills range between 2.68 and 3.37. This indicated that most of the Sokoto mass housing contractors are not so proficient in delivery the identified knowledge and skills currently. The result showed that Sokoto mass housing Contractors are currently most proficient in communication (3.37), construction technology (3.36) politics (3.35) the top three most proficient knowledge, and skills as trade-specific technical know-how, social/networking and construction technology. The result also revealed that the Sokoto mass housing Contractors is currently least proficient in risk management (2.68), strategic management (2.74), and decision–making (2.93). The results showed low values for the standard deviation, which indicate a high degree of consistencies in the respondents ‘opinions. The result also showed there is a significant difference between the opinions of consultancy and client organization in teamwork and relationship management, trade-specific technical know-how, procurement and contract bidding strategy, plant/equipment technical, 46 know-how, communication, IT, and can-do attitude with a significance level less or equal to 0.05.





**Table 3: Core Knowledge and Skills required for Contractors' Performance**

	<i>Mean</i>	<i>Std. Deviation</i>	<i>Impact of Importance</i>	<i>Rank</i>
<b>Project management and, leadership</b>	4.35	1.058	Important	1
<b>Construction technology</b>	4.26	.946	Important	2
<b>Financial management</b>	4.14	1.184	Important	3
<b>Communication</b>	4.08	1.020	Important	4
<b>Building code and regulations</b>	4.07	1.138	Important	5
<b>Teamwork and relationship management</b>	4.07	1.200	Important	6
<b>Human resource management</b>	4.06	1.090	Important	7
<b>Creative and innovative ability</b>	4.02	1.041	Important	8
<b>Risk management</b>	4.02	1.202	Important	9
<b>Trade-specific technical know-how</b>	4.01	1.081	Important	10
<b>Contract and compliance</b>	3.99	1.167	Moderate	11
<b>Materials technology and selection strategies</b>	3.93	1.117	Moderate	12
<b>Plant/equipment technical know-how and selection strategy</b>	3.92	1.044	Moderate	13
<b>Procurement and contract bidding Strategies</b>	3.92	1.100	Moderate	14
<b>Blueprint reading and specifications</b>	3.92	1.055	Moderate	15
<b>Decision-making</b>	3.82	.946	Moderate	16
<b>Business and Administration</b>	3.81	1.058	Moderate	17
<b>Change management</b>	3.73	1.165	Moderate	18
<b>Negotiation and dispute resolution</b>	3.73	1.123	Moderate	19
<b>IT; computer literacy; BIM</b>	3.70	1.190	Moderate	20
<b>Numeracy and problem solving</b>	3.67	1.155	Moderate	21
<b>Legal</b>	3.61	1.162	Moderate	22
<b>Can-do attitude, multi-tasking/multi- skilling</b>	3.60	1.163	Moderate	23
<b>Strategic management</b>	3.57	1.090	Moderate	24
<b>Marketing and public relation</b>	3.54	1.197	Moderate	25
<b>Social/networking</b>	3.36	1.229	Moderate	26
<b>Politics</b>	3.26	1.233	Moderate	27

**Source:** Field Survey, July (2019)

The table 3 shows the ranking of knowledge and skills required for contractors 'performance in mass housing project delivery showing their impact on performance.

## **SUMMARY OF MAJOR FINDINGS**

- 1 The Three most importance knowledge and skills for professionals in mass housing projects are Project management, and leadership, construction technology, and financial management.
- 2 The mass housing Contractors are currently most proficient in communication, construction technology and politics. The top three most proficient knowledge and skills as trade-specific technical know-how, social/networking, the result also revealed that the Sokoto mass housing Contractors is currently least proficient in risk management, strategic management, and decision-making.
- 3 There is a significant difference between the opinions of consultancy and client organization in teamwork, and relationship management, trade-specific technical know-how, procurement and contract bidding strategy, plant/equipment technical, communication, and IT.
- 4 The areas needing improvement through education and training which covers knowledge and understanding of politics, social/network, marketing and public relation, communication, construction technology, risk management, strategic management

## **CONCLUSION**

Based on the results of the study, it has been established that the identified knowledge, and skills are important for professionals to perform. Project management, leadership, construction technology, financial management, trade-specific technical know-how, social/networking and construction technology. Knowledge and skills were identified and ware prioritized along with the level of their importance, and professionals 'proficiency in delivering them. Finally, The study has provides areas needing improvement through education and training which covers knowledge and understanding of politics, social/network, marketing and public relation, communication, construction technology, risk management, strategic management among others.

## **RECOMMENDATIONS**

- 1 The core knowledge and skills established in the findings should serve as basis for engaging professionals in mass housing construction projects.
- 2 Deliberate efforts should be made to improve professionals' proficiency in the identified knowledge and skills by the contracting organizations and professionals.
- 3 Government should develop policies that will encourage and force professionals to acquire requisite knowledge and skills before they are engage (e.g. Contractor Registration, Training and Regulatory Board).
- 4 Further research works should consider other sectors of construction and compare their proficiency, knowledge and skills, current level of importance with mass housing sector. Also, studies should be conducted on perspectives of the professionals themselves on those identified knowledge and skills and compared with the professional's perspective. In addition, a framework should be developed for Professionals knowledge and skills including a

curriculum development for Professionals education, training and regulatory scheme for construction professionals.

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