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Enhancing Competencies for the Future Career of the Practicing Quantity Surveyor Research Paper: May 2020

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Abstract:
The construction industry recognizes quantity surveyors as construction economists with comprehensive and varied duties that support cost-effective construction and property development projects. The core competencies of the quantity surveyor include the determination of project budgets, measurement of project quantities, preparation of contract documents, contract administration and preparation of Final Accounts. Notwithstanding his immense contributions, some disciplines in the built environment have been critical of the works and services provided by the quantity surveyor (QS). Some even question the significance of appointing him/her as a project consultant. They criticize that quantity surveying services could be distributed. As per them the amalgamation of a set of competency standards into professional quantity surveyor's training or continuous professional development (CPD). Even clients have become increasingly interested in the competency levels of the services professionals provide, especially in the wake of and quest for 'value for money'. Interestingly, competence can take place in any domain. It is related to professional occupations where roles can be complex. Consequent upon this, the profession must regroup, take stock of what this challenge portends, and embark on self-validation of the scope and relevance of its services to avoid becoming extinct in the future. The research identified five new competency standards for quantity surveyors, and its findings revealed that three of these new competencies (advance financial management, leadership &general management skills, and marketing) are among the top ten competencies practicing quantity surveyors need to enhance their proficiency level in service delivery.

Keywords: *Competencies, competency models/standards, quantity surveyor, quantity surveying, respondents, services, project consultant, construction industry, projects, contracts, professional, practicing, client*

1. Introduction

The quantity surveyor (QS) is one of the important professional in the construction industry. It has numerous clients like building proprietors, developers, government bodies and agencies, architects and contractors. All of these clients use it for better planning, smooth management and cost control. It also helps to manage contracts, assets and other financial managements.

To understand and to implement these huge responsibilities, proper training and education is very important. Now-a-days due to huge and high competition, construction industry needs to adopt innovative technological processes. New advanced technologies always help to gain the focus of clients and professionals (Lenard, 2000). Due to change in demand from client end (Nkado, 1998), relevancy in terms of value added are now being focused on (Procter, 1997).
Gaining and building core competencies is very tough. Moreover, several roles of organizations have made it more challenging (Cheetam and Chivers, 1996). The ability of the QS to meet client changing needs depends largely on the knowledge base of his profession (Prokesh 1997).

This paper aims to achieve the goal how the current levels of proficiency of quantity surveying competencies in the construction industry can be achieved.

2. Competencies

Competency stands for synchronization of multiple sources to get competitive advantages. According to Holmes and Joyce (1993), it is an action or outcome or behavior that enables a person to transfer knowledge or skills to new situations. Meyer and Semark (1996) have added more components into this definition like personal attributes and value orientation. According to Wisher (1994), it is a framework to gain excellence, and a way of communicating the future. It is application of skills into wide range of contexts and organizations by an individual or group.

Needless to say, it is a key to success in this age of advancement in technology and globalization. The need for periodic audit of quantity surveying competencies is a given and is succinctly supported by Thomson (1968).

The practicing QS, a view is to apply the outcome of many analyses in solving problems specific to each project (Badu and Amoah, 2004) must key into the concept of regular advancement of his competencies or become irrelevant in an ever-evolving industry. From being a trade-based vocation, the quantity surveying profession has evolved into a full-fledged profession that is widely accepted in the construction industry. Although the range of services the QS renders are

often dictated by the type of organization (client, contractor, consultant) he works for, his basic training, where basic competencies are acquired, remains the same. The quantity surveyor's distinctive skill lies in his ability to analyze a project using the knowledge acquired, and applying it to every aspect that his services demand.

The Competency Model

Competency refers to skill-sets an individual must possess to be capable of performing a specified job satisfactorily. The RICS (1998) has provided a list of competencies required of a QS. The model has three categories namely: basic, core and optional competencies.

As per the report by RICS (1998) some competencies have been suggested for Professional Competency in the Quantity Surveyor.

Under basic competencies many communicational aspects like 1. Personal & Interpersonal Skills, Business Skills, Standard to maintain Data, Information &Information Technology and practice guidelines have been focused. It also highlighted the importance of law. The rest two components are measurement and mapping. These provide good infrastructural competencies.

In the second category i.e. core competencies highlighted many practices for construction. These are contract, technology, environment, economy. Procurement and management of financial aspects have also been highlighted. These are very specific type of competencies those should be practiced.

The last and third category is optional competencies. Arbitration & other Dispute Resolution Procedures come under it. Insolvency, management of facilities are also under it. One more component is Development Appraisal. Apart from all of this management of project, taxation, insurance management, valuation and the whole research methodology come under it.

Whereas the basic competencies are broader and find application in most professions where knowledge and skill acquisition are needed. The core competencies are somewhat exclusively essential to the practicing QS. The optional competencies showcase areas for career enhancement and diversification with value-adding potentials the QS can leverage to deepen his competencies and be a force to reckon with in the construction industry.

The Competency Standards for Quantity Surveyors has been developed by the Australian Institute of Quantity Surveyors (AIQS) (AIQS, 2005). It covers six broad headings namely, General Competencies, Basic Competencies, Project Cost Management Competencies, Support Competencies, Asset Management Competencies, and Specialized Management Competencies. Of the six broad headings, project management competencies fall under the core competency standard of the QS, which are streamlined under three subheadings such as (i) design cost advice, cost planning & cost engineering, (ii) contract documentation & procurement, and (iii) contract administration. These Standards are further broken into 31 Competencies that professional bodies need adhere to in producing competent quantity surveyors. However, of these competencies, 12 core competencies of the QS were identified under three subheadings shown in Table 1:

Project Management Competencies		
Design Cost Advice, Cost Planning & Cost Engineering	Contract Documentation & Procurement	Contract Administration
Strategic Planning	General Procurement Advice	Account Management
Budgetary Process	Quantification Measurement & Documentation	Construction Change Management
Cost Estimating	Tender Process	Claims & Dispute Resolution
Cost Planning		Financial Audit
		Resource Analysis

Table 1: Project Management Competencies

The Pacific Association of Quantity Surveyors (PAQS) has analyzed a wide range of competencies required by a practicing quantity surveyor and settled for 10 competency standards, namely (PAQS, 1999):

- Strategic planning.
- Budgetary process.
- Cost estimating.
- Cost planning.
- Procurement advice.
- Documentation.
- Tendering process.
- Construction account management.
- Construction change management.
- Feasibility studies.

The foregoing competency models developed by The RICS (1998), PAQS (1999) and AIQS (2005), deemed the most comprehensive of all competency models developed to date, have established the basis for the theoretical framework of this research. The research will test the suitability or otherwise of these competencies in the Nigerian construction industry and make recommendations accordingly.

3. Methodology

Relevant competencies were arrived at from the results of in-depth interviews with experienced quantity surveyors of 12years and above as well as younger practitioners of less than 12years, randomly selected from consultant, client and contractor organizations in Lagos, Port Harcourt and Abuja. This was followed by questionnaires designed to obtain respondents' Likert scale ratings of the importance and proficiency levels of the 22 competencies identified ab initio by the interviewees. The respondents randomly sent the structured questionnaires are all registered with the Nigerian Institute of Quantity Surveyors (NIQS). They were 60 in total, with 25 sent to those working with consultant organizations, 20 to those with client organizations and 15 to those working with contractor organizations. The data collection tool consists of all the preliminary and advanced core competencies. All of these have been discussed previously. On the basis of the Nigerian context, ten optional competencies and five competencies have been presented below in the table v.

4. Results

The questionnaires were sent in early October 2019 and by mid-December 2019, 36 respondents had returned completed questionnaires. Hence, the research respondents are 36 (N=36), giving a response rate of 60% - deemed very encouraging. The analysis of results adopted a process that established the mean scores of the ratings allocated by the respondents showing the level of importance and proficiency, using the formula:

$$MSi = \frac{\Sigma (F \times S)}{N} \quad \text{.....Equation 1}$$

Where, S = score given to each competency standard by the respondents

F = frequency of responses to each score for each competency standard

N = total number of responses received for the respective competency standards

And the weighted averages were calculated using the formula below, before ranking them.

Weighted Average = waxa + wbxb + wcxc…Equation 2

Where, w = relative weight (%)

x = mean score

a, b&c represent contractor, consultant and client respectively.

The research then tested respondents' views for correlation using Spearman rank coefficients to see if there was significant difference in ranking between two groups of respondents such as consultant versus client, consultant versus contractor, and client versus contractor, on the rating and ranking of competencies by the respondents. For any two groups of ranking, the Spearman (rho) rank correlation coefficient could be ascertained using the formula below:

$$\rho cal = 1 - \frac{6 \times (\Sigma di2)}{N \times (N2 - 1)} \quad \text{...Equation 3}$$

Where, Rho (ρcal) = Spearman rank correlation coefficient

di = the difference in ranking between each pair of factors

N = number of variables

Chances of occurrence	Not Important	Slightly Important	Moderately Important	Very Important	Extremely Important
Scale	1	2	3	4	5

Table 2: Scales That Show Chances of Occurrence

Respondents Designation		
Organization	**Number of Respondents**	**Percentage**
Consultant	15	42
Client	11	30
Contractor	10	28
Total	36	100

Table 3: Respondents Organization

	Competencies Identified By The Respondents	Consultant		Client		Contractor		Weighted Average	
S/N	COMPETENCIES	MSi	Rank	MSi	Rank	MSi	Rank	MSi	Rank
1.	Procurement & Financial Management	4.62	1	4.36	4	4.49	3	4.44	1
2.	Project Management	4.39	4	4.51	1	4.39	5	4.40	2
3.	Economics of Construction	4.26	5	4.44	3	4.42	4	4.36	3
4.	Personal & Interpersonal skills	4.20	6	4.41	2	4.21	7	4.23	4
5.	Computer literacy & Information Technology	4.11	8	4.03	9	4.51	2	4.11	5
6	Construction Technology & Environmental Services	3.83	10	4.32	6	4.61	1	4.05	6

	Competencies Identified By The Respondents	Consultant		Client		Contractor		Weighted Average	
S/N	COMPETENCIES	MSi	Rank	MSi	Rank	MSi	Rank	MSi	Rank
7	Construction Contract Practice	4.42	3	4.22	7	3.76	13	3.99	7
8	Advance Financial Management*	3.98	9	3.81	14	4.26	6	3.96	8
9.	Leadership & General Management Skills*	3.65	14	3.94	12	4.20	8	3.88	9
10.	Marketing*	3.66	13	4.01	10	3.93	10	3.85	10
11	Measurement	4.53	2	3.93	13	3.38	15	3.70	11
12	Professional Practice	4.17	7	3.68	15	3.37	16	3.64	12
13	Skills to work with Modern Contractor*	3.01	16	3.96	11	4.01	9	3.55	13
14	Development Appraisal	3.82	11	4.33	5	2.99	18	3.46	14
15	Law	3.75	12	2.98	20	3.78	12	3.41	15
16	Skills in managing a Business Unit	3.35	15	3.47	17	3.41	14	3.41	15
17	Property Investment Funding	2.71	18	4.07	8	3.84	11	3.34	17
18	Arbitration & Dispute Resolution Procedures	2.83	17	3.24	18	3.18	17	3.09	18
19	Facilities Management	2.62	19	3.63	16	2.98	19	3.05	19
20	Mapping	2.34	22	3.12	19	2.75	22	2.72	20
21	Macro-economic Perspectives*	2.55	20	2.60	21	2.92	20	2.69	21
22	Research Methodologies & Techniques	2.46	21	2.22	22	2.85	21	2.51	22

Table 4: Aggregate Rating of Competencies and Ranking by Respondents

5. Analysis of Results

On the aggregate, the respondents across the three different organizations accepted 'Procurement & Financial Management' as the most important competency a quantity surveyor needs to enhance his proficiency, even though in their separate ratings quantity surveyors in consultant, client and contractor organizations chose in first place; procurement& financial management, project management and construction technology & engineering services respectively. 'Project management' emerged as the second most important competency a quantity surveyor must acquire to boost his proficiency. This comes as no surprise, since project success is only possible through effective project management. The third most important requirement is 'Economics of Construction'. Interestingly, all three competencies fall under the Core Competencies of a QS, listed in Table I of the RICS. 'Personal and Interpersonal Skills' comes in the fourth position.

The findings reveal that QS needs to acquire soft skills apart from quantity surveying-related abilities. 'Interpersonal skills' is one of them which would help him carry out his duties in a proficient way. Also, worth noting is the importance of 'Computer Literacy & Information Technology' which emerged fifth in the reckoning of the respondents. This is probably in recognition of clients' increasing demand for better services in an evolving industry where data collection, collation and analysis must be carried out in record time, and error-free.

Worthy of note is the low rating allotted to 'Measurement' and 'Law' which ranked eleventh and fifteenth respectively. Both are basic competencies a QS traditionally needs in order to deliver contract documents that are above reproach. Another finding of this research is the high rating of management-oriented competencies (procurement & financial management, project management, personal & interpersonal skills, marketing, and leadership & general management skills) among the ten most important Competencies a QS needs to improve his proficiency in service delivery. This finding underscores the importance of acquiring managerial skills -a requirement necessary to midwife projects successfully. Lastly, of the five competencies recommended by the interviewees (asterisked in Table V), three of them (marketing, advance financial management and leadership and general management skills) emerged among the top ten most important competencies that could boost a QS proficiency in service delivery.

5.1. Tests for Agreement on Ratings of Competencies

The main thrust of this research is to investigate and ascertain whether there is agreement or not in the views expressed by the various respondents on the importance of enhancing the competencies required by quantity surveyors to deliver quality services to their respective clients. The major purpose of the hypotheses test is to be sure that the outcome is not a chance occurrence. It helped the author in evaluating whether there is consensus of opinions among the different groups of respondents. Hence;

- Null Hypothesis (H0) - There is no agreement in the ranking of competencies between respondents.
- Alternate Hypothesis (HA) - There is agreement in the ranking of competencies between respondents.

With a significance level of 95% (P = 0.05), the calculated values of ρ for 22 pairs of data in all three group cases are all greater than the critical value of ρ, which indicates a very significant correlation between two sets of data in each case. Consequently, the Null hypothesis (H0) which says there is no significant agreement between the respondents is rejected. The Alternative hypothesis (HA) which says there is agreement in the ranking of competencies between the respondents is accepted, as most respondents have same perception about the competencies. From the analysis of data, it was concluded

that there's agreement in the perception of quantity surveyors working with consultant, client and contractor organizations on the competencies required by professional/practicing quantity surveyors.

6. Conclusion

Due to huge competitors' pressure and the pressure to maintain sustainability, periodic proactive auditing has become must. The researcher found an overall eagerness among the quantity surveying fraternity. This motivation helps to establish their own competency standards. Although the research made reference to competency standards established by quantity surveying organizations like AIQS (Table 2) and PAQS (listed), it, however, dwelled essentially on the standards earlier established by the RICS (Table 1), and went on to introduce five new competency standards considered critical to the Nigerian built environment. This paper has suggested some competencies like 'advance financial management', 'leadership & general management skills' etc. Further exploration regarding finding the benefits of the prescribed competencies has been suggested.

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