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Facilities Management: Bridging the knowledge gap by Quantity Surveyors

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Abstract: The construction industry keeps evolving in response to the growing changes in the global economic and business climate. Expectedly, the roles of professionals in the industry are also changing. The role of the quantity surveyor (QS) is no exception. These changes offer both a challenge and an opportunity for the QS to seize in order to broaden his scope of services to other industries; what with the many big and complex buildings now requiring appropriate maintenance management? The QS has growing opportunities in facilities management to put these deteriorating buildings back in usable shape. This is very apt as organizations are now realizing the impact such facilities have in their overall organizational objectives. However, for the QS to successfully venture into this new vista, he must enhance his skill sets, knowledge base and competencies. This paper examines the competencies of quantity surveyors and facility managers and reports preliminary findings. The study used semi-structured interview technique to conduct the survey of some experienced quantity surveyors actively engaged in facility management consultancy. The study found several competencies gaps that must be bridged if quantity surveyors are to gainfully venture into facility management consultancy. Such gaps include, but are not limited, to: the knowledge and competence on property maintenance, support services and business organization.

Keywords: facilities management, quantity surveyor, competencies, gaps, construction industry, professionals, maintenance, skill sets, knowledge.

Introduction

The quantity surveying profession was conceived over two centuries ago and has evolved along the way in response to the increasing volume and complexity over the last century. At the initial stage, it was a post-measurement and accounting discipline only. Over the years, the role of the quantity surveyor (QS) increased in its importance due in part, to the rapid development and urbanization of cities and towns and with increased emphasis on cost of buildings. The significance and work of the QS expanded in the 1980s due to the interest in whole-life-cycle costing. Coupled with the availability of limited resources associated with continued importance of the economic choices which combined to assure the QS a prominent future in the construction industry. From the traditional role of preparing 'accurate' bills of quantities to be priced by tendering contractors; measuring and valuing any variations that may occur during the progress of the works (Seeley, 1997), the present challenges and onslaught coming from all sides now compel the QS to expand his skills, expertise and client base to survive the increasing pressures in the built environment. These challenges have caused significant changes to the quantity surveyor's traditional roles over the past two decades plus. Factors necessitating these changes include changing industry demands, project procurement practices, Information technology developments, and increased levels of competition (Kumaraswamy & Morris, 2002; Fellows, Liu & Fong, 2003; Wong & Fan, 2013). To remain relevant, competitive and successful, the QS needs to constantly scan his business landscape to discern new directions and adapt to imminent changes in his professional practice (Frei & Mbachu, 2009; Smith, 2009). Facility Management offers the QS significant future opportunities for broadening the scope of his services and remaining relevant (Wong & Fan, 2013; Githaiga, 2004).

Facility Management (FM) encompasses various disciplines and services which aim to ensure functionality of the built environment by integrating people, place, process and technology (International Facility Management Association,

IFMA 2014). In addition to ensuring functionality, FM also helps to ensure the comfort, safety and efficiency of a built environment such as buildings and grounds, infrastructure and real estate. These disciplines and services include: *operations and maintenance, communication management, emergency management and business continuity, environmental stewardship and sustainability, hospitality, human factors and ergonomics, project management, real estate and property management.* According to Wikipedia (2020), apart from operating across business functions, the main priority of facility managers is to keep people alive and safe; and for this to be accomplished effectively, facility managers ought to operate from two levels, namely: i) to strategically-tactically help clients, customers and end-users understand the potential impact of their decisions on the provision of space, services, cost and associated business risks; and ii) to operationally ensure a corporate and cost-effective environment for the occupants to function.

The development of facility management in Nigeria is still at infancy stage when compared to first world countries such as the United Kingdom and United States of America who have gone very far with it. Hitherto, FM was of little worth to construction professions, but with increasing utility and maintenance costs as well as increasing legislative and regulatory requirements on energy use and carbon reduction, several organizations that are committed to the sustainability agenda have developed their in-house FM unit and sustainability policies which now form an integral part of their corporate social responsibility (Walker, Pitt & Urmila, 2007). It is therefore apt for the quantity surveying profession to embrace this rapidly evolving FM industry (Shah, 2007), or stay out of reckoning. However, to make an impact in FM, quantity surveyors must acquire the competencies necessary to effectively execute the FM roles. Consequently, this study set out to achieve the twin objectives of: i) determining the competency gaps between quantity surveying and facility management profession, and ii) based on the findings arising from the study, recommend how to bridge these gaps that will enable the QS hit the ground running.

Competencies explained

A competent professional is one with a wide range of knowledge, skills and understanding that could be applied in a wide range of contexts and organizations. Without a doubt, developing and leveraging knowledge is the key to success in this age of advancement in technology and globalization. Stewart and Hamlin (1992) opine that competency is something which a person working in a given profession should possess and be able to apply. According to Holmes and Joyce (1993) competency is the action, outcome or behaviour a person is able to demonstrate or in other words it is the ability of a person to transfer knowledge or skills to new situations within his sphere of operation. Meyer and Semark (1996) enriched this definition by adding personal attributes and value orientation into the equation. According to Wisher (1994), competencies help in providing "a common cultural thread, a language for success, a framework for thinking about excellence, and a way of communicating the future." In sum, competency refers to skill-sets an individual must possess to be capable of performing a specified job satisfactorily.

Quantity Surveyor's Competencies

There are certain competencies that are expected of quantity surveyors which should enable them deliver their roles and services to clients efficiently and effectively. The general literature on quantity surveying skills and competencies illustrates a multiplicity of perspectives (Dada, 2014). Parera, *et al.* (2007) defined competency or skill as the ability to perform a task that can be utilized in other occupations, which can be 'innate' or 'acquired', and applied to general or specific aspects of the work. While innate skill reflects the ability of a person to think and reason; acquired skill on the other hand is that which is gained through education, training and experience. Both skills are applied within the domain of knowledge either in general or specific manner.

The model set out by the Royal Institution of Quantity Surveyors (RICS) for the assessment of professional competence (APC) of quantity surveyors is recognized globally including Nigeria. The RICS has categorized these competencies into three broad categories, namely: i) mandatory, ii)

core, and iii) optional competencies. Under the RICS structure, the mandatory competencies are common to all professionals, whereas the core competencies are uniquely required by quantity surveyors. The optional competencies, on the other hand, indicate areas of specialization or future career diversification. The pathway guide prepared by the RICS and displayed in Table I (RICS, 2018), offers a very useful guide on the rating and importance of these competencies to the QS; with Level 3 being the highest, level 2 being next, and level 1 being the least in order of importance. As expected, all the core competencies are at Level 3. While all the optional competencies are at Level 2, Mandatory competencies are split into Levels 1,2 and 3, depending on their degree of importance.

Table I - Quantity Surveyors' Competencies/Pathway Requirements

Categories	Competencies/Pathway requirements
Mandatory	*Level 3*: Ethics; Rules of Conduct and professionalism; *Level 2*: Client care; Communication and negotiation; Health and Safety; *Level 1*: Accounting principles and procedures; Business planning; Conflict avoidance, management and dispute resolution procedures; Data management; Diversity, inclusion and teamworking; Inclusive environments; Sustainability.
Core	*Level 3* Commercial management *(of construction works)* **or** Design economics and cost planning; Construction technology and environmental services; Contract practice; Procurement and tendering; Project finance *(control and reporting)*; Quantification and costing *(of construction works)*.
Optional	*Level 2* Capital allowances; Commercial management *(of construction works)* **or** Design economics and cost planning *(whichever is not selected as core competency)*; Conflict avoidance, management and dispute resolution procedures **or** Sustainability; Contract administration; Corporate recovery and insolvency; Due diligence; Insurance; Programming and planning; Project feasibility analysis; Risk management.

Source: RICS 2018

The current threats continue to pose a serious challenge to the QS in his traditional roles and functions as cost manager within the construction industry, as a result of changing client needs (Matzdorf *et al.*, 1997), advancement in technology (Wong & Fan, 2013), and diversity in procurement methods (Kumaraswamy & Morris, 2002), in addition to the particular needs of a developing economy such as ours. To remain relevant in the present competitive climate, the quantity surveying profession must enhance its knowledge base and competencies which would enable QS practitioners move quickly into new areas of service as opportunities present themselves. Competent quantity surveyors are expected to have a range of skills, knowledge and perception that could easily be applied in a range of context and organizations (Babalola, 2009). This same competencies should enable the QS migrate from old methods when technology and competition has rendered them redundant. Table I highlights new areas of diversification where quantity surveyors have opportunities (optional competencies).

Facilities Management Competencies

Most, if not all corporate entities and organizations, operate from buildings which form part of their corporate assets and cost liabilities. These buildings require more than routine maintenance and services; they need to be properly managed, taking cognizance of the organizational objectives in a way that aligns the strategies of servicing its accommodation and facilities with its business strategies and plans (Chotipanich, 2004). To be sure, an efficient facility creates an environment that supports corporate operations, and integrates the service infrastructure of the organization in such a manner that delivers satisfaction to its personnel and clientele at best value and optimizes its productivity (RICS, 2012). To actualize these, the organization must engage the services of facilities managers.

In recent times, FM involves more than building operations and maintenance; it's about property management, business support, personnel and clientele support, or a combination of some of those (Thomson, 1990). The list of services provided by the Facilities Manager, in part or whole, can contribute to the relative success or failure of an organization's business. This is owing to the fact that facilities and FM function are prioritized differently to the core business by different organizations (Chotipanch, 2004). To succeed, the functions, roles, scopes and FM functions should be designed to fit with these contingent matters (Lunn & Stephenson, 2000). However, the achievement of the organization's mission, vision and objectives cannot be achieved until the competency elements are properly diagnosed in advance which will aid the realization of its dreams and objectives (Rothwell & Lindholm, 1999).

The FM industry recognizes three important professional bodies, namely: International Facilities Management Association (IFMA), British Institute of Facilities Management (BIFM), and Facility Management Association of Australia (FMAA), who have done justice to the competencies and skills required of a Facility Manager. They have individually developed competency standard models that remain the most comprehensive to date and are consistently revised by them to ensure they reflect current realities and provide flexibility in catering to the different organizational requirements and individual needs. These three models are presented in Table II for easy perusal and comparison. It is appropriate to suggest that competencies which are recognized by two or more professional bodies are the *'fundamental competencies'* the Facility Manager needs.

Table II - FM Competencies Standard Models developed by IFMA, BIFM and FMAA

IFMA	BIFM	FMAA
1. Communications	*1. The Business Organization*	*1. Leadership & Innovation*
2. Quality	*2. Management Principles*	*2. Stakeholder relationships*
3. Technology .	*3. Risk Management*	*3. Business Systems & Productivity*
4. Operations & Maintenance	*4. Information & Knowledge Management*	*4. Industry Knowledge*
5. Human factors	*5. Project Management*	*5. Risk Management*
6. Finance & Business	*6. Personal Leadership*	*6. Operational Activities*
7. Emergency Planning & Business Continuity	*7. Human Resources Management*	*7. Strategic Activities*
8. Leadership & Strategy	*8. Relationship with Suppliers & Specialists*	
9. Real Estate & Property Management	*9. Quality Management*	
10.Proejct Management	*10.Customer Service*	
11. Environmental Stewardship & Sustainability	*11.Management of Property*	
	12.Property & Building Services Maintenance	
	13.Space Management	
	14.Support Services Operations	
	15.Sustainability & Environmental Issues	
	16.Energy & Utility Management	
	17.Financial Management	
	18.Procurement, Contracts & Contract Management	
	19.Legislation, Codes, Directive & Regulatory Issues.	
	20.Facilities Management.	

Source: IFMA (2013), BIFM (2009), FMAA (2012).

Competencies Gaps between the QS and FM

To ascertain if a QS can venture into the FM industry, it is important to compare the skill-set requirements of a QS and a Facilities Manager in order to identify the competencies gaps between them and then suggest ways of bridging or narrowing the gaps. Of the *'Competencies Standard Models'* developed by the three recognized international FM bodies, the author selected the model developed by the British Institute of Facilities Management (BIFM) for the FM profession in Nigeria. Being a commonwealth country and a former British colony, it is expected that the requirements will bear similarity in needs. The long list of competencies in this model shows many similarities with the quantity surveying competencies in Table I, especially in respect of Financial, Contractual and Procurement management (Kamaruzzaman & Zawawi, 2010). However, this similarity should not be the basis for easy conclusion that the QS possesses the competencies needed to switch seamlessly into the FM roles. A lot of work needs to be done to fill the gaping gaps in the competencies, especially within the operational context such as property and building services maintenance and support services (Brown, Hinks & Sneddon, 2001). Other areas of competency gaps include the business organization competencies that enable the optimization of facilities usage to meet the strategic objectives of an organization (Morris, 1994). To leverage the business opportunities FM offers, the QS must take proactive measures to overcome this shortcoming and bridge the gaps in order to effect a smooth transition into the FM discipline. Dada and Jagboro (2012) found that the competencies the QS needs to acquire in the course of time to be able to migrate to performing FM roles are: professional practice, education and continuous professional development. However, Chan *et al.,* (2002) differ on this, and are of the opinion that these FM competencies are better learned in academic institutions, especially tertiary institutions, where the basics and rudiments of FM are adequately taught.

Notwithstanding the different FM competency standard models referenced earlier, in practice, different countries have different variables which dictate adjustments to the competencies required by Facility Managers. Be that as it may, there are few competencies that remain consistent across all countries that have keyed into the FM philosophy. It is therefore appropriate to accept competencies recognized by two or more professional bodies as the *'Fundamental Competencies'* for Facility Managers across the globe. Table III presents an extract of Schedule Matrix for FM Competency of Professional bodies, showing competencies that cut across two or more professional bodies, which are hereby recommended to Facility Managers for adoption and use.

Table III - Extract of Schedule Matrix highlighting 'Fundamental Competencies' identified by Professional Bodies

No	Competency Area	IFMA	BIFM	FMAA
1	Leadership & Management			
2	Organization Management			
	Develop FM Strategy in line with organizational strategy	*	*	
3	Human Resources Management			
	Human Resource Management in FM Work Process		*	*
	Effective Communication	*	*	*
4	Premises Management			
	Management matters on Organizational Property	*	*	*
	Maintenance of Building Elements		*	*

	(Roof, Floor, Walls, Stairs, etc.)			
5	Service Management			
	Manage Building Service Systems (Drainage, Piping, Sanitary, etc.)	*	*	*
	Execute the Contract Management Works	*	*	*
	Manage Support Services (Cleaning Team, Landscaping, etc.)	*	*	*
	Project Management (Repair, Refurbishment, etc.)	*	*	*
6	Operation & Maintenance Management			
	Manage the Building Structure & Internal permanent Fittings Maintenance	*	*	
	Implement Operation & Maintenance Management	*	*	
7	Work Environment Management			
	Environmental Issues (such as Recycling, Energy Saving, etc.)	*	*	*
	Space Management		*	*
8	Resource Management			
	Work related to resource procurement		*	*
	Risk management involved in the Work Process done		*	*
	Financial Management in managing Organizational Resource	*	*	*
	Quality Management in managing the Organizational Resource	*	*	
	Information Management in managing the Organizational Resource	*	*	

Source: *Awang, M., Mohammed, A. H., Sapri, M., & Rahman, M. S. (2013)*

Research Methodology

The qualitative research approach was deployed using semi-structured interviews as the technique for obtaining data, with the researcher asking the interviewees detailed questions based on their individual experiences towards the achievement of the objectives of the study. The interview dwelled on the interviewees' understanding of 'Competencies Requirements' for quantity surveying and FM professions. Coherence between the objectives of this study and interview questions was checked to ensure validity, and a pilot study was undertaken with three senior quantity surveyors who have sound experience in FM. This decision helped the author improve the quality of interview questions and boosted respondents' understanding of the questions. A list of registered quantity surveyors practicing in Lagos-Nigeria was scrutinized and six firms actively involved in FM consultancy were selected which became the main focus of this research. Ten senior quantity surveyors with varied FM experiences were chosen from the selected firms for the interviews. This low number is indicative that not many quantity surveyors have ventured into the FM discipline, owing to the fact that FM consultancy is considered new in Nigeria and the practice, especially among professional quantity surveyors, is still gaining momentum. The rich resource obtained from the interviews was analyzed through the process of examining, categorizing and tabulation to ascertain if the outcome supports the objectives of the study. The findings are linked-back to similar seminal literature to arrive at the conclusion.

Data Collection

Table IV tabulates the competencies gaps between the QS and FM professions as revealed by the interviews conducted. In sum, six competencies gaps were identified, namely: property maintenance, business organization, support services operation, energy and utility management, customer services, and information management.

Table IV - Competencies Gaps inhibiting Quantity Surveyors' venture into the FM discipline

Competencies Gaps	Excerpts & Explanatory Notes
Property Maintenance	*All the respondents were in agreement that: "...the QS lags behind in 'Building Maintenance Competency..." Some of them suggested the need to: "...focus more on Property Maintenance..", as it is the first thing to learn for those willing to venture into FM.*
Business Organization	*About half of the respondents opined that: "business organization is an important competency the QS must master.." This is because "..every decision made impacts the organization's objectives."*
Support Services Operation	*About a third of the respondents suggested that: "..quantity surveyors need to familiarize themselves with post-building services." This will facilitate knowing the differences between 'Construction and Commission Services.' This will also help quantity surveyors improve their knowledge of building services management.*
Energy and Utility Management	*Three of the respondents asserted that "..energy consumption is a key operation cost to trim."*
Customer Services	*One fifth of the respondents suggested that: "..quantity surveyors should endeavor to meet customers' satisfaction." They added: "..Quantity Surveyors should learn to communicate with, and establish relationships with Users."*
Information Management	*One fifth of the respondents are emphatic that: ".. quantity surveyors should be able to analyze feedbacks systematically regarding the services they offer."*

From the foregoing commentaries, respondents were asked to proffer suggestions on the best approaches for bridging or minimizing the competencies gaps between the two professions. Several suggestions were made, a few of which are summarized in Table V. Most of the respondents were of the opinion that tertiary level education is the most effective approach to bridging the competency gaps by quantity surveyors who look forward to venturing into the FM discipline. Of course, other equally important recommendations were made.

Table V - Suggested Approaches for bridging the Competencies Gaps identified.

Suggestions	Excerpts & Explanatory Notes
Tertiary Level Education	*All the respondents believe that: "The Academy (University/Polytechnic) is the place best equipped for learning something based on a curriculum." Some Respondents added that: "..in the Academy you will be properly guided to understand the basics and rudiments of the subject matter."*
On-the-Job Learning	*Some of the Respondents believe that "..you will learn on-the-job in the course of your* Experience *professional practice." This is because there are new things you learn from experience.*
Continuous Professional Development (CPD)	*The Respondents, however, suggested that: "..CPD maybe the best option for those who cannot cope with an elaborate tertiary education framework at this point of their career."*

Tables IV and V provided a glimpse of the raw data that was used for the analysis presented below.

Analysis of Data

Most of the competencies gaps identified, based on feedbacks from the Respondents, specifically relate to the 'Commission Phase' of the project - an unfamiliar terrain to the QS whose participation with the project terminates after project implementation and handing over. Competencies

gaps identified by this study and listed in Table IV bear similarity to researches carried out by different researchers in the past. For example, Brown, Hinks and Sneddon (2001); Morris (1994); and Bennet (1991), among others, found that Property Maintenance, Business Organization, Support Services Operation and Information Management are competencies gaps that inhibit the quantity surveyor's venture into the FM discipline. However, this study found additional competencies gaps, namely: "Energy & Utility Management" and "Customer Services." This could be the result of the different experiences encountered by the respondents on the different projects they were involved with, as dictated by the nature and circumstances of the projects themselves. The point need be made that there is no stereotype FM approach, since each is prioritized differently depending on the core business objectives of an organization (Chotipanch, 2004). Functions, roles, scopes and priority of facilities-function-needs are designed to fit contingent matters.

The most prominent competencies gaps identified by this study are: "property maintenance", "business organization", and "support services operation". The focus of FM in Nigeria, as observed by the Respondents, is still on conventional roles of maintenance and operation works, which makes it incumbent on quantity surveyors to master competencies related to those areas before venturing into FM. Since maintenance and operations play key roles in keeping building services safe and useable, it makes perfect sense to operate a cost-effective and efficient maintenance approach that adds value to the organization. Considering the fact that FM boosts the business strategy of an organization, the Facilities Manager will play critical roles at top management level of the organization where key decisions that will impact the overall business objectives are taken. Consequently, the QS needs to enhance and diversify his competencies into this discipline in order to leverage the huge business opportunities FM offers. Although the remaining competencies, namely: "energy & utility management", "customer services", and "information management" are not rated among the fundamental competencies, quantity surveyors need to explore avenues of mastering all FM-related competencies in order to stay relevant to maximize their business opportunities in the construction industry.

Conclusion and Recommendations

The growing demand for construction works with its attendant challenges such as client changing needs and advancement in technologies offer the QS both challenges and opportunities to rise to the occasion or be knocked out of reckoning in the industry. To survive, quantity surveyors must redefine and upgrade their roles to accommodate new initiatives that will keep them afloat. For example, the quantity surveying profession can promote the integration of the construction supply chain, especially in facilities management. This integration could be facilitated through the improvement of quantity surveyors' competencies in line with the FM requirements. This study has identified the gaps between these two professions (Quantity Surveying and Facilities Management) that need bridging, if the dream of the QS becoming a successful Facilities Manager is to become a reality.

Table V provides a window into recommendations made by the respondents on how to eliminate or minimize the gaps between Quantity Surveying and Facilities Management competencies, most of which conform with those of researches conducted by Jagboro (2012) and Chan *et al.,* (2002) which recommended tertiary-level education, self-learning, and continuous professional development. All respondents were in agreement that "tertiary-level education" provides the most conducive environment for learning in universities and polytechnics which have competent lecturers and sufficient learning facilities at their disposal. However, many of the respondents believe there are certain competencies that are best acquired outside the classroom, through practical experience as they relate to leadership, soft skills and decision making processes, which mature in proportion to the field experience garnered. This is where continuous professional development finds relevance, and provides a credible alternative for QS professionals who may not cope with the rigours of tertiary-level education and favour time flexibility. Also worthy of consideration is the recommendation that the QS curriculum should be

amended to include FM-related elective courses which will facilitate understanding basics of the FM discipline.

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