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EMPOWERING 21ST CENTURY QUANTITY SURVEYORS THROUGH SUSTAINABLE DEVELOPMENT STRATEGIES

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Abstract: The dynamic and rapidly evolving nature of engineering and technology-driven industries requires professionals and organizations to adopt robust change management strategies. Managing change has become a defining characteristic of successful organizations, especially within disciplines like Quantity Surveying that operate at the intersection of construction, engineering, and cost consultancy. This paper explores the necessity and implications of change management within the Quantity Surveying profession, particularly in the Nigerian construction industry context.

Traditionally viewed as specialists in measurement and valuation of building works, quantity surveyors are now increasingly tasked with providing a broader range of services. These include project management, cost control, risk analysis, and value engineering—functions that demand adaptability to both technological and market-driven changes. Innovations such as automated quantity take-off software and 3D modeling tools are reshaping the profession, potentially displacing routine tasks while highlighting the need for strategic, analytical, and leadership competencies.

In an environment where construction projects have grown in complexity, both structurally and administratively, quantity surveyors must evolve to remain relevant. The shift in roles driven by technological advancements and shifting client expectations calls for enhanced managerial development and professional agility. This paper highlights the importance of fostering adaptive capabilities among construction professionals through structured change management and continuous professional development programs.

Furthermore, the paper emphasizes the critical role of organizational recognition in sustaining the relevance of quantity surveyors in multidisciplinary teams. In the face of economic, political, and technological pressures, the construction industry must embrace proactive talent development strategies that address skill gaps and strengthen leadership capacity. Only through such approaches can organizations harness the full potential of their human resources while navigating the uncertainties of modern construction demands.

Keywords: Change Management, Quantity Surveying, Construction Industry

Introduction

The engineering and technology environment is a complex and rapidly ever changing one. The ability to manage change will be one of the hallmarks of the organizations of the future. Many senior managers see change as the only constant in the organizational equation. Managing change in engineering therefore involves key interfaces which need prompt resolutions; adaptativeness to changes in scope of services arising due to unforeseen technology developments may require sudden redirection of the entire engineering programs. Such changes and

developments have the propensity to severely influence and pressure the most mature engineering organization and their leaders (Thamhain 1992).

Quantity Surveying Profession, like any other engineering based profession is not exempted from the desirability of a change management agenda. Quantity surveying practice in Nigeria for example has experienced a gradual but steady and rapid expansion from a mere measurer and valuer of building works to a more advanced and extensive services. The developments require high demands in services due to a rapidly changing and challenging construction environment.

Hardie et-al (2005) has observed that in a complex and dynamic industry environment, the role played by various professions is likely to fluctuate and change. New technologies may make some traditional roles obsolete and others may be greatly altered in scope and responsibilities. Computer programs which aim to deliver automatic quantities and pricing from 3D computer drawings are in the process of development in several places. While the application problems are by no means small, it is possible that future programs will be available that will take over those parts of a quantity surveyor's work that are repetitive and routine. The profession will need to concentrate on their value – adding and organizational skills if it is to continue to prosper. Due and proper recognition of the role of quantity surveyor from other elements in the construction industry is needed, if the benefits of their expertise are not to be lost.

The construction industry which begets **capital** projects have metamorphosed from the simple to sophist complexity in nature, structure and approach. The client must involve or even delegate specialist with a view to obtaining quick response and dynamic translation of his dream to life project (Onwusonye 2001).

The economic, political and other changes in the industry and the demands they make have to be dealt with by the construction managers. Therefore it is imperative that a more structured, but flexible, approach is taken to management development in the construction industry so that it's most precious resource can be used for the best for all concerned. There is also a growing awareness on the part of companies that managers should be developed and encouraged to participate in the development process which is not altruism since coping with all the changes and economic pressures requires an ongoing improvement in managerial performance. There is also the advantages of management programme that identifies areas of weakness and strength of organization; revealing areas of skill shortages (Langford et-al 1995). Organizations are generally shaped by this internal and external environment in which they operate. Our profession as an organization is shaped by the effects of the Nigerian and global environments. To us in Nigeria, the next wave of economic and industrial development is around the corner. Foreign investments in a variety of industries, telecommunications, energy and utilities amongst others areas will require cost engineering expertise and consultancy as well as for project management (Oladapo 2000). This research begins to contribute to this agenda by appraising several of the ways through which organizations undertake change and management development programs. This the research achieved through the identification of areas in which changes have occurred and are likely to occur, gaps in skills that are capable of impeding the efficiency of current operations, due to technological, socio-economic and political pressures. The methodology also involved a critique of the issues through comparisons and review on challenges, threats and also opportunities that are open to the Quantity Surveying Profession. It articulated strategic imperative steps needed for the sustainability and sustainable development. Finally drawing from the critique and reviews, conclusions are reached and it offers recommendations.

Traditional Quantity Surveying Services/Areas

The traditional roles and services of the Quantity Surveying Profession has metamorphosed and evolved from measure and value of building works, using the bill of quantities as a tool, to more sophisticated and specialized areas. The scope of services rendered have however witness tremendous growth and expansion from the inception as early as C17th to date. The need for the services of Quantity Surveying Profession in England at the beginning of the Nineteenth Century, although the firm of Henry Cooper and Sons of Reading was established as early as 1785. Prior to the first recorded usage of term "Quantity Surveyor" in 1859, the terms "measure", "custom

surveyors" or surveyor were used at various times to describe the Quantity Surveyor who in those early days acted for the Master – Tradesmen, measuring the work after completion and frequently submitting partisan final accounts to the client. As a direct result of these activities, it increasingly became the practice of clients, who wish to have work executed under contract, to call for tenders before any work was undertaken (Esenwa 2000).

The roots of Quantity Surveying task as a distinct activity with its own literature go back to the seventeenth century and the great fire of London. There appears, however to be no evidence by which the origins of this practice can be satisfactory dated, but it is certain that just as the unprecedented volume of work after the Great Fire, with its enormous concentration in time and place, gave a great boost to architecture and the way very idea of having architects at all, so too it gave a boost to measuring and the idea of having measures (Azu 2008).

Akintoye (2000), has observed that the century between 1885 and 1950 has seen quantity surveyors establish themselves within the construction industry achieving high status and rewards by providing services, which lie between the designing and building process. These services referred to as "traditional" services of the quantity surveyor encompass such activities as preparing contract documentation, incorporating bills of quantities for architect designed projects, checking competitive tenders, advising on interim payments to contractor during the progress of work and negotiating final account settlements on behalf of clients. Further developmental stages of the quantity surveying profession were within the periods (1950's & 1950's) (1970's & 1980's) and the 1990's. The focus of services within the period include (cost comparison, evaluation using a technique of cost analysis), (cost forecasting and monitoring) and (cost management and value for money) respectively. The profession has metamorphosed from a purely measurement based to now where the buzzword of the profession include creative, quantity surveying, information technology and communication, customer satisfaction and focus, business objective, integrated construction process, etc. In 1996, it is now recognized that measurement, one of the twin pillars of a quantity surveyors competence, is largely a technical skill in an intellectually and educationally demanding profession.

Contemporary Quantity Surveying Services

NIQS (2003), has asserted that the Quantity Surveyor is the expert concerned with financial probity in the conceptualization, planning and execution of development projects which can broadly be classified into three major areas: Building, Civil Engineering and Heavy Engineering. The services of a Quantity Surveyor centre around advice on cost and value for money spent in the construction industry, preparation of tender documents for construction industry, preparation of tender documents for construction project, cost-benefit analysis, evaluation and negotiation of claims, project management, acting as an arbitration expert witness in litigation, advising government and the public at large on matters relating cost of capital development.

According to Anago (2004), the current competencies of the Quantity Surveyor broadly include: Feasibility studies of capital project, cost modeling, contract documentation, contract administration and project management.

The Quantity Surveyor Think Tank 1998, a committee of RICS set up to appraise the challenge of change have identified external factors affecting the services that quantity surveyors provided and the way they provide them and asserted that there are the structural changes in the construction sector the continuing IT revolution and changes in both the client base itself and its increasing expectations. The Quantity Surveying Profession has witnessed developmental changes from a largely measurement based provision to the current position where quantity surveyors offer a more diversified range of services in response to new demands from construction clients. Construction clients are becoming more sophisticated and demanding that construction professions add value in the construction process (Akintoye 2000).

The Quantity Surveyor Profession has witnessed development changes from measurementbased service provision to the current position where a quantity surveyor is typically able to offer diversified services. This entails that skills and knowledge base of the profession have to increasingly expand in order to provide new services (Akintoye 2000).

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Historically seen as a building industry profession, Quantity Surveyor today see themselves as national resource managers whose sphere of influence extend beyond the narrow confines of the building industry. Quantity Surveyors can no longer be confined to building projects as their expertise and competency indicate that they are relevant in all spheres of national development including industry and commerce (Hussaini 2002).

Quantity Surveying Roles and Services: Global Perspective to Diversifications: Threats, Challenges and Opportunities.

Industry observers have however attributed the diversification of services to responses to structural changes in the construction sector; technological organizational as well as the dynamics of socio-economic and political factors. Oladapo (2002), using Quantity Surveyor practice in Australia as basis highlighted the following as areas of diversification: Feasibility studies, Life cost analysis, programming, taxation advice, arbitration/mediation, project/construction management, facility management and petro-chemical, manufacturing, mining, aeronautical, shipping, transport and civil engineering works), for the past 10 and 5 years respectively.

Smith (2002) cited in Oladapo (2002), has observed changes in the use of the traditional "bread and butter" of the profession, bills of quantities has declined markedly in the Austrain construction industry over this time (20 years) to the point where they are rarely used. Builder's Quantities are usually prepared in a concise form with firms using their own concise standards; no concise method of measurement has yet been developed.

These changes and the diversifications in services scope notwithstanding, the construction sector is ever changing and continually a violate one; therefore a change management programme that is adaptive is essential for survival and sustainable development.

The construction industry, however, is rather unique and different when compared to other industries; it is heterogeneous and fragmented with mercurial qualities. Trying to pin it down in order to examine and define it akin to stabilizing and confining mercury on a laboratory bench-maverick particles persist and insist on escaping in all directions (Langford et-al 1995).

The role of the Quantity Surveying Profession is facing challenges and changing role. This according to Akintoye (2000), is partly because of the many pressures that the construction industry is experiencing. Rapid technological and sociological changes, construction projects are more complex-clients are becoming more complicated and more demanding, increasing number of group who have interest in a project, modern practice in design-new ideas, techniques, materials and components are used.

The challenges facing the practice of the profession are multifaceted and may be examined from two main perspectives: Those ascribable to factors related to the types of employment or occupational environmental factors and prevailing adverse cultural, political and socioeconomic factors (Oforeh 2005).

Based upon this guidance, it is reasonable to infer that diversification of practice areas, in response to changes, are to take into cognizance and adapt to the peculiarities of the environments.

There is a metamorphosis of the Quantity Surveying Profession. The profession is evolving; this has brought about changes and attendants challenges and threats. This assertion is in resonance with the assertion of J.K. Kennedy, the 35th president of the United States of America (USA), ***change is the law of life***, and those who look only to the past or the present are certain to miss the future. ***Change is therefore the greatest challenge the Quantity Surveyor Profession will have to face, if it has to remain relevant in years to come.*** The fundamental questions are what are the fundamental changes? What are the resultant challenges or threats to the Quantity Surveying Profession, what are the needful actions to overcome these challenges/weakness, how can our strength be enhanced for a sustainable development.

Oforeh (2005) has asserted and agreed that Quantity Surveying Practice in the days ahead, holds out a lot of number of current developments: The current economic and social reforms being undertaken by the government of today would widen the base of the private sector participation in the economy and attract more foreign participation. Ultimately this would lead to a more efficient use of resources and therefore a buoyant economy. Such situations always favour the construction industry. ***These observed changes and threats can actually serve***

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as avenues for opportunities. Ogunsemi (2008) has observed that great industrialized nations of the world are currently under the plaque of fuel crisis, fear of insecurity and the horror of climatic change. As a result, inflation rate has continued to soar while economic indicators have shown that the global economy is receding. Moreover, major upheavals in the world have been in favour of the political scrutiny wherein probity, transparency and accountability have gained improved relevance in governance. In this vein, the need for better alternatives of value fulfillment has become imperative to good governance so that they can create a balance between available that resources and inevitable needs. He further reiterated that in the light of this, public construction projects have received unequivocal focus as one of the best ways to create value for money reinforce the capacity of the client as the core project opinions.

The recorded changes in technological, material as well as procurement techniques have also affected the Quantity Surveying profession. Hardie et-al (2005), Gray (1996), Sultrisna et-al (2005), Masidah and Khairuddin (2005) as cited in Ogunsemi (2008) have observed the following: Quantity Surveyors contribution to innovation in construction are not explicit, despite the availability and use of sixty (60)% cost control techniques in the UK construction industry, the cumulative result has not been more than ten (10%) and that some of the professional services rendered by Quantity Surveyors might be unnecessary and undesirable respectively.

Reechoing the dreams of the RICS about a decade ago "tomorrow's professional Nigerian Quantity Surveyor will need to be more ***innovative, proactive and more mobile than today's***. The action of others, problems and changing client's requirements must be anticipated rather than awaited". I look forward to the time when the employers have no doubt in their minds where their first part of call should be, at the inception of any sizeable project – that of the professional Quantity Surveyor (Azu 2008).

Thamhain (1992), has observed that making the engineering management development system work requires more than just another plan. It requires the total commitment of management at all levels. The following headings provide good basis for discussion on some of the suggestions which can potentially increase the effectiveness of management training, and development and ultimate enhance operational efficiency of engineering: careful consideration and analysis of the specific needs of your engineering function, define the environment, understand your engineering organization, its interfaces, cultures and value system. Plan your management needs and developments in sufficient detail to make it operational, involve management and resource people the organizational development, use experimental on-the-job training method as the cornerstone of the development systems assure systematic tracking and follow-through of your development plan. Other suggestions involve taking a multi-disciplinary approach to organizational development, beware of resistance to change, take a long range approach etc.

The Nigerian Professional Environment: The Case with Quantity Surveying

Critique and comparison of quantity surveying practices at the global level and Nigerian scene reveal some salient features within the context of competency, requisite body of knowledge/total cost management and client's business needs.

Oladapo (2000), has observed that the Nigerian quantity surveying profession has developed along the UK and the system. The level of international professional competencies in the areas of cost engineering and project management however need to be developed to same competency level of quantity surveying. This is principally due to steady move from national to international competition with emphasis on the free trade zones and removal of access barriers; this has presented a number of challenges and opportunity for the construction industry and professionals. This suggests that the development of competencies that are international as opposed to national and regional reflecting the world's best practice are essential requirements for global survival. Vester's proposal (2000) is indicative that the competency level of Quantity Surveying in Nigeria as repackaged has achieved the desired benchmark.

Oladapo (2002), has advanced come common features which have characterized the Nigerian Professional environment. The following headings provide good basis for discussions on the impacts on Quantity Profession.

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National development policies (national construction policy, national housing policy, urban development policy). Periodic economic recession, payment of services through professional scale of fees, professional overlapping services, employment and commissions, alternative procurement methods and statutory regulation of professions by government. A review of the impacts indicate an array of negative features, some of which are threats on traditional areas of expertise and the monopoly are facing competition from other profession. Measurement of engineering works in public service and private sectors consultancy is being dominated by other professionals. Accountants have recognized the opportunities to provide project audits and cost management services in the guise of auditing and accounting cost management principles. The inclusion of others in construction in the construction and other capital schemes. The infringements by Architect and Estate Surveyors, on fundamental functions undertaken by Quantity Surveyors (preliminary cost estimates and replacement cost valuations). Underemployment, as a result of inadequate structures for commission consultancy services.

Sustainability of Quantity Surveying Profession: Broader Perspectives

Addressing the challenges and threats that face the Quantity Surveying Profession should be effected through a response agenda that involves strategic planning and managements which according to Keller 1993, cited in Esinwa (2008), is a disciplined creative process for determining how to take an organization from where it is today to where it would be in the futures it is the process of setting institutional goals or objectives based on identified strengths and weakness so as to take maximum advantage of opportunities and threats in the environment. It also entails a consideration of strategic alternatives and a choice amongst them of the most appropriate strategy for achieving set goals and objectives in addition to periodic evaluation to ensure that the chosen strategy would achieve the objectives and if not to alter the strategy or review the objectives. Strategic planning is most appropriate if it supports strategic thinking and leads to strategic management; the basis for an effective organization. Strategic thinking involves insight about the present foresight about the future, having the "end" in view while maneuvering towards the achievement of a goal or sets of goal for the ultimate fulfillment of the institutional purpose or mission. Strategic management is therefore, the application of strategic thinking to the job of leading on organization it is a process whereby managers establish an organization's long term direction, set specific performance objectives, develop strategies to achieve those objectives in the light of relevant internal and external circumstances and undertake to execute the chosen action plans.

Strategic management reflects the growing significance of environmental impacts on organizations and the need for top managers to treat appropriately to them. Besides, there is a growing suspicion that organizational effectiveness is not necessarily based on efficiency but on adaptability to changes in the environment. This emphasis has caused a shift from the older concept of the managerial job (Fubara 1996).

This would seem to be consistent with Charles Darwin theory which postulates that "***it is not the strongest or the fittest of the species that survive, rather it is those who are most adaptive to change that do".*** It is also in congruence with Langford's et-al (1995) assertions on the trait, behaviourist and contingency theories of management. Langford et-al like other proponents of the behaviourist (style) theory further revealed that the behaviourist theory is more concerned with how leader should behave towards situational factors. Behaviourist have however argued that trait theories could only help in the selection of leaders as only those who had requisite personal traits would be eligible for leadership role. Criticisms and fallacies on the trait theory are that it ignores the needs of the followers and fails to classify the relevance and importance of various traits and ignores situational factors.

Both the trait and behavourist theories are criticized based on grounds that the complex phenomenon of leadership is not explained by identification of a number of isolated traits or by preferred behavour. None of the behavoural theories have been able to identify invariable linkages between examples of leadership behavior and successful performance. There were and not any universal situations. This led to consideration of "situational factors" and the rise of contingency theories. Contingency theories of leadership show that appropriate leadership style to achieve effective performance is dependent upon situational factors and not simply upon either human traits or

behavioural patterns. Analysis of "situational factors" is critical to make decisions using leadership theories; both cognitive, based on rational economic view of human nature and self interest. Where individuals know what they want, and assess the changes of getting it and the means by which it can be attained. The expectancy theory is based on the assumption that certain links exist between effort, performance and outcome (Langford et-al 1995). Drawing from the foregoing, the paper reflects on issues that need adaptive responses to changes, which impact on the practice of quantity surveying at present and the likely in the future. On this note, it elucidates on the services to be delivered, the resources to employ towards the conversion of services towards achieving objectives, the timing and sequencing of major steps to be taken, the targets to be met and the tools or techniques/means of achieving them. This is the very essence of strategic planning and management.

Oladape (2002), has submitted that there is the need for the Nigerian Quantity Surveyors to consolidate the traditional services and promote diversification into non-traditional services and new business sector. These we need to develop as major gains and opportunities and overcome the competition from other professions. The imperatives are the absolutely essential actions we need to start now for the sustainability of our profession. The following constitute an array of imperatives: the establishment of a new structure with appropriate systems and procedures for the management and regulation of the profession; involving leaders and the right volunteers, to manage the professions cost effective management of the profession in the face of additional resource requirements. Initiate consistent interprofessional collaboration, negotiations and a network of interaction between government and the professions. Formulation of strategic plan for ourselves as individuals, firms and organizations where we work. Active involvement and participation.

Extending Frontiers of Quantity Surveying Profession for Sustainable Development (Some Issues at Stake)

Strategic planning and management fundamentally involves the definition of services an engineering organization is set to deliver, the timing and sequencing of the major steps to be taken, the targets to be met and the means through which such can be achieved.

Many aspects of environmental influence seem, at first glance to be small and insignificant if viewed in isolation. The key to success for human resources managers is in being able to identify the numerous and often subtle changes and interchanges that take place and to maintain an awareness of their potential benefits and threats to the organization. Demographic changes affect the size and nature of the available and workforce, the technology available also changes and affect people, working in the industry. Changes in economic environment have led to changes in working patterns. The internal environment of a firm can (to some extent), be controlled, influences from the external environment can produce different and difficult sets of problems for the survival and being of the organization, therefore managers need to be aware of the constantly changing nature of the environment and of any trends that arise within and from it (Langford et-al 1995).

Onashile's (2005), articulation provides relevant basis for discussions on the transformation process required of the Quantity Surveying Profession to be strategically positioned at the front end of development process. Changing traditional roles, increasing the varieties of services offered, encourage quality assurance, complete automation of procedures, marketing and improvement in education and training, involvement in politics, pooling of historical cost data.

Anaewhule (2007) from a study on the relevance of courses in certain programmes in two Nigerian universities has recommended that academic programme be restructured to include academic courses that demand practical orientation, to enable graduates to be self reliant. Entrepreneurship, introduction to business education and computer education were identified as necessary for inclusion into their programme.

Additional sets of international professional competencies need to be developed in the Nigerian environment. Cost engineering and project management must be developed to the same competency level as quantity. The developments of international competencies as opposed to national or regional reflecting the world's best practice are essential for global survival (Oladapo 2000).

Sustainable Development of the Quantity Surveying Profession: The Strategic Management Imperatives

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Effective management development must concern itself with the reality of the construction manager's job and management development involves the interaction of the needs of the organization and the individual manager. In order to for it to be effective and fruitful, both the organization and the manager must agree on the reality. The economic, political and other changes in the industry and the demands they make have to be dealt with by the construction managers. Therefore it is imperative that a more structured, but flexible, approach is taken to management development in the construction industry so that it s most precious resource can be used for the best for all concerned. Management development therefore must be integral, effective and meet the company's. However, since the organization and the social and economic climate in which manager now find themselves are not static but dynamic. If it is to avoid stagnation, the organization must regard management development as future oriented, i.e. it cannot continually develop people solely in its present image but must take account of the risks of losing its most able and innovative managers if it does not take their needs into account during the planning and execution of its management development programmes (Langford etal 1995). This for Quantity Surveying according to Githaiga (2005), include exploiting strategic opportunities by diversifying to other areas such as dispute resolution, project evaluation, project and contract management, project accounting and auditing and property valuation, keeping abreast with technological innovation in construction worldwide. African commonwealth countries Quantity Surveyors and other professionals must deliberate on problems facing the Quantity Surveying Profession and be able to arrive at some workable alternatives to be presented as blue prints for policy to various governorships in common African. Both academic and profession institutions have to plan appropriate so that the Quantity Surveying Profession will be salvaged from the effects blowing across the everchanging world community. There is a call for possible re-plan of QS education and practice so that they may metamorphose into the "cost engineer" profession and discipline (Githaiga 2005).

Jagboro (1996), has also emphasized that professionals in the industry must be given an education with a practical orientation, enough to be able to operate the day to day requirements and sufficient theoretical content to be adapted to and manage changes. A shift to management and business orientation subjects has taken over. The diminishing time allocated to measurement in a degree curriculum is part of the recognition that there is a need for an increased intellectual and academic content of quantity surveying courses in response to the long-standing demands for better-education graduate to enter the profession (Birnie 1996, cited in Akintoye 2000).

Leeuw DE (2005)'s heading provide a basis for discussion on overcoming obstacles that bedeweil Quantity Surveying in Africa: Education, Research and development, quality of service, marketing, positioning the profession. Unless the basis training of quantity surveyors is world, we will not succeed. For most of us on the continent English is a second language. Yet, unless we can speak and write it with near perfection, we will not be accepted by global clients. Over the years practices have tended to become smaller rather than larger. Small entities find it very difficult to generate funds for research and development the continent's QS practice will not progress but will tend to stagnate. Consistently quality of service is extremely important, we are either going to attend to this matter or we will lose out.

Leeuw DE [2005], further reiterated that though there are many opportunities for the quantity surveyors of within Africa and abroad, but such opportunities will only come out way if we provide a world class with all it entails. There is of necessity of lot of hard work ahead and it will take to reach our goals. We have a great local and across border future but we need to start planning for it right now otherwise it will merely be a pipe dream.

Oladapo (2000), has postulated that the pursuance of a total cost management agenda which is consistent with our strategic plan would add value to the operations and business of our clients and provides greater opportunity and flexibility for inability of employment and marketing the profession. We need to however reposition and develop the profession within the framework of national development and goals; this can be achieved through an enhancement of the governance of the profession by putting in place appropriate structures that enable us undertake total cost management of capital projects. These include education board, professional development and technical board, examination and certification board, code of conduct and ethics board.

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Ajanlekoko, (2000), has asserted that professionals must come together, collaborate and cooperate to produce a healthy industry that can champion, nourish and sustain the built environment. Developing interpersonal relationship - a philosophy of human interaction through synergy were reiterated essential ingredients; these are to be achieved through an upgrade of skills, constant professional education and development.

Strategies needed to extend the frontiers of knowledge of the quantity surveying profession and bridging the existing gaps as required by professional bodies (the Nigerian institute of quantity surveyors), the RICS, the quality and standards regulatory body for higher institutions (the national universities commission (NUC) are extensively reviewed else by Ogunsemi (2004). These include the setting up of a "Think Tank" to provide pragmatic solutions, the NIQS through it education committee to enrich the curriculum and new directions and core competencies and the advancement of knowledge through post graduate studies: and promote cooperation between national and international bodies. The NIQS is to strengthen its corroborative efforts with International organizations: Common Wealth Association of Land Economy (CASLE), International Federation of Surveyors (FIG), International Cost Engineering Council (ICEC) Africa Association of Quantity Surveyors (AAQS), etc for their mutual benefit and that of individual members.

Babalola (2005), recognizes training of the younger generation as an imperative for continuity of any profession, and further reiterated that it is important for developing countries to consider available training methods in relation to evolving technologies and challenges. To be relevant we must produce what the industry needs, as the industry is the major consumer of the products of tertiary consumer of the producer of tertiary institution: The most common criticism made against quantity surveying education in Africa (in fact all professional courses) is that the products are too theoretical and specialized, there is for academic quantity surveyors to be constantly trained and retrained to update their professional knowledge and skills. This calls for closer interaction between academic and practicing quantity surveyors in enhancing quantity surveying education.

Dada (2014), has also advocated for continuing professional development (CPD) for professional in response to today's constantly changing global work place and environment demand. Professionals are to stay abreast of the least skills and knowledge. However to remain relevant, CPD must adapt to the ever changing needs of the society (Davis and Parboosingh, 1993 cited in Dada 2014).

There is a need to reemphasize as earlier suggested by Oladapo (2002), that the following even in the year 2015 are still relevant ***steps needed to strategically position the Quantity Surveying Profession*** as one that is responsible and in charge of total cost management and procurement of capital goods, in line with its vision and objectives: The effective integration of cost and procurement management discipline into the civil service by the establishment of a cost management department or units at both the strategic planning and implementation level of public sector projects. Reinvigorate the pursuance of memoranda sent to Government over the years on the need to give recognition to cost and procurement management as a specialized responsibility in the implementation of projects and government to sustain the recognition of the Nigerian Quantity Surveyor as being more competent to carry out these functions using model of the Australian Institute of Quantity Surveyors as relevant basis rather than see the incursion of other professionals as a treat or challenge, the Nigeria Quantity Surveyor should begin to see, seize opportunities sustain in roads and offer cost management services to other industries in nontraditional areas, like petro-chemical, manufacturing, mining, aeronautical, shipping, transport and civil engineering works.

There is a need to put in place a robust and efficient professional organization body (the NIQS and QSRNBN), armed with appropriate systems structure and procedures for regulating and running the profession. The structure is to include dynamic leaders, volunteers' stakeholders who are to contribute positively to the development of the profession. The process will also through effective and efficient communications – emails, internet/website, E-business. Synergies and Symbolic collaboration between sub-regional, regional and global professional and organizations and maintain a positive network of interaction between government and the profession. The procedure to include maintaining good, ethical standard and values that help us achieve our vision statement –

the profession charged with the responsibility of total cost management and procurement of capital goods, as well as active participant through CPD by individual and organizations.

Mogbo (2002), has raised questions on the following issues asserting that there is need to look inwards: Have we been transparently serving the needs of the profession? What are individual and corporate contributions to the furtherance of the profession? What transparent efforts have we made to involve the profession in civil and heavy engineering works or shall we continue to be appendages to other professionals who have stamped their feet on dwindling building construction? What efforts have we made towards Quantity Surveying Education – (i) Matching grants to Quantity Surveying teachers in the classrooms to teach? (ii) Public spirited donations for finance to publish Quantity Surveying books? A profession that is not well focused in professional practice and in education should go and sing the

"NUNC DIMITIS" or start dismantling itself.

What would seem as a response to the above questions, Adetola (2002) has suggested that we need not to be selfish. We should try and invest some of our earnings into technology that will enhance availability of information to up and coming generation. Some of us sitting here were made what we are by this profession. We cannot afford to fold our arms and pretend that all is well and that the new generation of Quantity Surveying Services will make the way we did. There is a need to create a TRUST that will enable us to set up a Quantity Surveying information café with all technologies provided where the younger ones venturing into practice can come in at an affordable, make use of the systems and software and be able to practice the way the world requires us to practice today. This sort of investment will also enable us to generate new innovations in the art of Quantity Surveying.

In a related perspective the following under listed are proposed as ***critical issues that could form a basis for strategic management*** for sustainable development of the Quantity Surveying Profession;

1. Explore the possibility of establishing centres of information (Q.S. cafes) in higher institutions of learning where younger generations of Quantity Surveying are trained
   on software applications, etc.
2. Presumably, the RICS is recognized as an international organization. Can modalities be worked out where Nigerian higher institutions are RICS accredited so as to enjoy the privileges of exemptions of examinations as is the case with appreciable number of South African Institutions.
3. Can we also explore the cross posting of renown academics and practitioners from other countries and regions of the world for sometimes, as a part of synergy and collaboration agenda as was the case in early/mid 1970s in Ahmadu Bello University Zaria - Nigeria.
4. What then are possible means of financing such a scheme.
5. Can the "eagle heart" a Quantity Surveying foundation be involved.
6. Can we explore the possibility of a Quantity Surveyor practice profit fund? What are the other modalities/options? ***We need to reflect on these issues.***

Conclusion

Engineering managers operate in a complex, dynamic and highly competitive environment. Coping and adapting with all the changes and economic pressures require an improvement and planning in managerial performances by Quantity Surveyors if they are to survive. This requires identification of areas of weakness and strength of organization as well as shortages in impeding efficiency in current operations. This calls for consolidation of traditional services and promotion, diversification into non-traditional services, new sectors and urgently undertaking imperative steps or agenda for sustainable development.

Recommendation

Agenda for sustainability and sustainable development is therefore a sine-qua non for the survival or continual relevant of engineering organizations. Quantity Surveying organizations and practices should draw a programme of engineering management development that tackles internal pressures (organizational, technical and economic)

as well as anticipates both external and future challenges. Specifically Quantity Surveying practices and organizations in Nigeria as a matter of priority are to appraise areas of skill shortages in relation to global practices and continually adopt necessary strategic imperative steps: Bridging educational gap, skill development, strengthens the operational base and efficiency of professional bodies. Establish collaborative synergies and symbolic relationships with other sub-regional, regional and inter-relational bodies.

References

A Janlekoko, J. O. (2002), National Development and Challenges of Leadership, Paper presentation the 20th Biennial Conference of the Nigerian Institute of Quantity Surveyors (NIQS). Theme: Building the Blocks of National Development – challenges, Conflicts and prospector: organized by the Nigerian Institute of Quantity Surveyors at Oba Akenzua Cultural Centre Benin City on 31st October 2002. Pp. 16 17.

Adetola, F. O. (2002): Electronic Data Exchange for the Quantity Surveyors. Paper Presentation on the 20th Biennial Conference/General Meeting. Theme: "Building

Blocks of National Development Challenges, Conflicts and Pressure" held at BeninCity, organized by the Nigerian Institute of Quantity Surveyors. 30th October – 3rd November 2002. P 38

Akintoye, (2000). Quantity Surveying: An Art or Science? Researcher's Perspective presentation: 19th Biennial Conference. Organized by the Nigerian Institute of Quantity Surveyor. At Sheraton Hotel and Towers Abuja15-18 November 2000.

Amaewhule, W. A. (2007). Education, the world of Work and the challenge of Change: in search of intervention strategies. A professional inaugural lecture. Delivered at the Rivers State University of Science and Technology Port Harcourt, on Wednesday, 24th February 2007

Anago, I. T. (2004). Conditions of Engagements and Consultancy Services Agreement. Paper presentation 2 – Day Seminar on contract Administration and Project Management. Organized by the Nigerian Institute of Quantity Surveyors at Lagos Airport Hotel, Ikeja held on Monday 5th & Tuesday 6th April 2004. Pp. 11.

Azu Nom (2008). Quantity Surveying practice in Nigeria. Problems and prospects for improvement. Paper presentation at 23rd biennial conference and general meeting: Quantity surveying and the millennium Development Goals organised by the Nigerian Institute Quantity Surveyors, held on Wed 5 – Sat 8 November, 2008 at Hamdala Hotel, Kaduna pp. 3 & 13.

Babalola, O. (2005). Training Strategies for Effective Quantity surveying education in Africa. Paper presentation: The 3rd Triennial General Assembly of the Africa Association of Quantity Surveyors. New partnership for Africa's Development (NEPAD): challenges for built-environment professionals in Africa. Organized by AAQS, NIQS and the International Cost Engineering Council (ICEC). Held at Rock view hotel, Abuja April 25-29, 2005. PP 2,4, & 8.

Dada, J. O. (2014). Assessment and administration of continuing professional development for the quantity surveyors professional in Nigeria. The Quantity surveyor. Vol. 58, July – December 2014. P.23.

Dikko, H. A. (2002). Extract of welcome address. 20th Biennial Conference: organized by the Nigerian Institute of Quantity Surveyors. At Oba Akenzua Cultural Centre Benin City on 31st October 2002.

Original Article

Esenwa, F. O. (2008). Economies of a multi-functional estate development – Case study of a Nigerian University Master Plan. Paper presentation at the 23rd Biennial Conference: Quantity Surveying and the Millinnium development Goals organized by the Nigerian Institute of Quantity surveyors, held on wed 5 – sat. 8 November 2008 at Hamdala Hotel, Kaduna.

Essenwa, F. O. (2000): The Quantity Surveyor and the Nigerian Society. Paper Presentation 3 day seminar on Quantity Surveying and challenges of National Development. 19th Biennial conference of the Nigerian Institute of Quantity Surveyors: held on 15-18 November 2000 at Sheraton Hotel and Towers Abuja. Pp 1-2.

Fubara, B. A. (1996). Business Policy corporate strategy and the realities of management in development in developing economics. Inaugural lecture. Delivered at Rivers State University of Science and Technology Port Harcourt, on Wednesday, 28 February 1996 pp. 5.

Githaiga, F.M. (2005). Quantity surveying practice across African – The Kenyan experience. Paper presentation: The Third Triennial General Assembly of the Africa Association of Quantity surveyors. New partnership for Africa's development (NEPAD): challenges for built – environment professionals in Africa. Organized by AAQS, NIQS and the International cost engineering council (ICEC). Held at Rockview Hotel Abuja. April 25-29, 2005.

Hardie, M, Miller G, Manley K and McFallan S (2005). The Quantity Surveyors Role in Innovation Generation, Adoption and Diffusion in the Austrain Construction Industry. Report of Research by the Australian Cooperative Research Centre for Construction Innovation.

Jagboro, G. O. (1996). Training of construction professionals for sustainable development in

Nigeria: “The quantity surveyor's” Vol. 22. P7

Kano, H. A. (2001) Contract administration Issues and perspective. Paper presentation at the 2 day workshop on cost and management of Highways, Roads and infrastructure organized by the Nigerian Institute of Quantity surveyors at the Centre for Women Development Abuja held on 10th & 11th April 2001. Pp. 14.

Langford D, Han Cock R, Fellows R and Gale A,. W. (1995). Human Resources Management in Construction. Longman Group Limited. Longman House. England.

Leeuw DE, C.P. (2005). Opportunities for Quantity Surveyor: An Africa perspective. Text of key address. 3rd Triennial General Assembly of the Africa Association of Quantity Surveyors. New Partnership for African's development (NEPAD): challenges for built – environment professionals in Africa. Organized by AAQS, NIQS & the International cost Engineering Cost Council (ICEC). Held at Rock View Hotel, Abuja, April 25-29, 2005. P12.

Mogbo, T. C. (2002): Issues in Transparency and Accountability. Paper Presentation on the 20th Biennial Conference/General Meeting. Theme: “Building Blocks of National

Development Challenges, Conflicts and Pressure” held at Benin-City, organized by the Nigerian Institute of Quantity Surveyors. 30th October – 3rd November 2002. P 14

Original Article

Oladapo, M. O. (2000). Nigerian Quantity Surveying Profession – The third way Presidential address. 19th Biennial Conference: Organized by the Nigerian Institute of Quantity Surveyors. At Sheraton Hotel and Towers Abuja15-18 November 2000.

Ogunsemi (2008). The New partnership for African Development (NEPAD) opportunities and Qauntity surveyors penetration: Paper presentation at 23rd biennial conference and general meeting: quantity surveying and the millennium development Goals. Organized by the Nigerian Institute of Quantity surveyors held on Wed 5 – Sat 8 November 2008 at Hamdala Hotel, Kaduna.

Oladapo, M. O. (2002) Imperatives of sustainable quantity surveying development. Paper presentation the 20th Biennial conference of the Nigerian Institute of Quantity Surveyors. Theme: Building the Blocks of National Development – challenges, Conflicts and prospector: organized by the Nigerian Institute of Quantity Surveyors at Oba Akenzua Cultural Complex Benin City on 31st October 2002. Pp. 1 -12.

Onashile, O.O. (2005). Putting Quantity surveying at the front end of Development Process: Constraints and Strategies. Paper Presentation at the third triennial General Assembly. Organized by the African Association of Quantity Surveyors (AAQS) and the NIQS at the Rockview Hotel, Abuja Nigeria held on 25th – 29th April 2015. Pp 12-15 & 17.

Onwusonye S.I.J. (2004). The procurement and delivery of capital projects: The role of public client's . In-house professionals. Paper presentation. 2-Day similar on contract administration and project management organized by the Nigerian Institute of Quantity Surveyors held on 5th and Tuesday 6th April 2004 at Lagos Airport Hotel, Lagos p. 22.

RICS (1998). The Challenge of change – QS think tank 1998. Questioning the future of the profession. London.

Thamhain H. J. (1992). Engineering Management. Managing Effectively in Technology Based organizations. John Wiley & Sons Inc. New York. Toronto. Pp. 4&7.