



Towards the Actualization of ICT-driven Quality Management System in Nigerian Universities

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ABSTRACT

The concept of quality service delivery in Universities especially in the Sub-Saharan Africa is often given varying interpretations as a result of the different backgrounds of the opinion holder. Often times it is believed in different spheres that quality is dependent on myriads of factors thus making the concept a monstrous abstract entity that should be kept relative having regard to the circumstances around each Organization or Institution. The foregoing notion has gradually eaten deep into the minds of policy-makers in many African Institutions leading to the entrenchment of superficial quality management frameworks which are often not sustainable in the long run. The sad situation is worsened by the rising sociopolitical encroachments into the academia whereby best practices are sacrificed at the altar of personal sentiments, political, and ill-conceived sociocultural affiliations. In that regard quality assurance becomes more of a fiction than a reality. In the light of the foregoing this paper examines various human capacity and sociopolitical challenges affecting quality practices in the Universities. In this paper the sociotechnical system approach is adopted having regard to the ubiquity and influence of technology in the scheme of human affairs in organizations including Universities. A brief but concrete review of classical and common quality practices in public Universities in Nigeria is presented vis-à-vis the various sociopolitical and human capacity scruples and entanglements that are much likely to consistently hold down in the mud the dreams of realizing functional quality service delivery in African Universities. In conclusion, a distinction is drawn between a functional quality management system and the figurative equivalent which is in commonplace. Having regard to the common workings of a typical local public University, the authors draw a conclusion on what should constitute an ideal functional quality assurance system in a University.

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1. Introduction

Quality is a relative abstract component in assessing or estimating how well a service or product satisfies the needs of its consumers. There is no gainsaying that the term ‘quality’ is so ubiquitously used against anything even among those who can hardly make a reasonable sense out of what the term implies. In other words, every Tom, Dick, and Harry regardless of his geography, exposure, and literacy would want to draw attention to quality when it comes to things with market value. Quality applies to tangible and intangible things alike thereby making it a special component in our daily lives. Quality pervades life’s processes and results and often times is the sole important factor in determining how deserving a service, process, or product is.

Many scholars agree that Quality is an elusive term with different interpretations to different people. For instance, how a banker interprets quality service he renders obviously differs from how a hotelier would interpret same, and the same is true for the President/Vice Chancellor of a University or a Rector of a Polytechnic, and the buyer of a consumer product such as canned milk. Nonetheless, there is always a converging point in all perspectives put forth by different individuals/experts when rationally assessed collectively. Accordingly, quality may be expressed in terms of functional measurable components. Quality is not a standard as often misinterpreted but the level of quality attained by a product, process, or service may be adduced from an established standard following evaluation of measurable parameters defined by the said standard. The importance of quality in all spheres of education cannot be over-emphasized (Gift & Bell-Hutchinson, 2007; Pavel, 2012; Pedraja-Rejas & Rodríguez-Ponce, 2015; Papanthymou & Darra, 2017; Samil, 2017; Naidoo, 2019). Quality programs in an organization such as a University are driven by quality management system though called quality assurance in most domains.

Quality management systems dates back to many centuries though were not formalized till the early 1950s (Hoyle, 2007).

1.1 Statement of Problem

A quality management system (QMS) is a reflection of the totality of what an institution or organization does, how it is done and how it is managed. It is a machinery that aids in re-engineering what may be technically called “business processes”. In other words, the QMS aids in identifying, measuring, controlling and improving the core organizational processes for the benefit of stakeholders, delivering confidence in the organization’s ability to consistently meet the expectations of its clients. Quality service delivery is the pillar of any good quality management system. The concept of quality service delivery in Universities especially in sub-Saharan Africa is often given varying interpretations as a result of the different backgrounds of the opinion holder. Often, it is believed in different spheres that quality is dependent on many factors that seems unfathomable thus making the concept a monstrous abstract entity that should be kept relative owing to the circumstances around each organization or institution. The foregoing notion has gradually eaten deep into the minds of policy-makers in many African institutions leading to the entrenchment of superficial quality management frameworks which are often not sustainable in the long run. The sad situation is worsened by the rising sociopolitical encroachments into the academia whereby best practices are sacrificed at the altar of personal sentiments, political, and ill-conceived sociocultural affiliations. In that regard quality becomes more of a fiction than a reality.

1.2 Aim and Objectives of the paper

The aim of this paper is to present a consistent and coherent account on the sociopolitical and human capacity challenges bedeviling the entrenchment of sound quality management systems in African Universities with Nigeria in perspective. The specific objectives of this paper are:

- a. Review the concept of quality assurance, quality management, quality management system in relation to standardization of academic processes in African Universities
- b. Appraise the existence and functions of internal and external quality assurance evaluators and regulators vis-à-vis a decentralized scheme

- c. In the light of the foregoing, rationalize whether or not the regulatory and assurance agencies have lived up to their mandates in enthroneing systematic quality management system in the Universities.
- d. Identify the socio-political, technological especially ICT and human capacity challenges that may be responsible for the continuous near-success syndrome affecting the Universities.
- e. Propose a technologically driven solution that could engender global visibility of internal quality assurance status of every University in Nigeria

1.3 Research questions

Going forward to realizing the set objectives, the following questions have been formulated.

- a. Is there any relationship between quality assurance, quality management, and quality management system?
- b. Is education a product, service, or process? Which of the quality dimensions is/are applicable to education?
- c. What are the traditional quality management and assurance practices in Universities?
- d. In what ways are quality management and assurance (QMA) in universities influenced by external quality assurance agencies?
- e. Is there any justification for having government, and independent quality assurance agencies side by side to drive the quality assurance policies in Universities?
- f. What are the socio-political, technological and human capacity factors that militate against the operating of resilient quality management systems in the Universities?
- g. What is the role of information communications technologies (ICTs) in driving quality management and assurance goals in Universities?

2. Materials and Methods

We adopted a qualitative approach and elaborations were made based on the sociotechnical system concept. The reason is that in modern times, the scheme of human affairs in organizations including Universities is continuously shaped by the ubiquity and influence of technology. A brief but concrete review of classical and common quality practices in public Universities in Nigeria is presented vis-à-vis the various procedural scruples and entanglements that are much likely to consistently hold down in the mud the dreams of realizing functional quality service delivery in the Universities. Secondary data were also drawn through desk research on a stream of published works on quality-related topics (considered contextually) from reputed journals and texts. The authors also reflected on their experiences in the industry, academia, and as quality management experts in Nigeria's Universities in the last decade. Regulatory manuals from quality management/assurance authorities were carefully reviewed. The authors also gathered data on quality management and assurance practices in twenty-five Universities in Nigeria comprising ten federally owned, ten state-owned, and five private universities respectively.

3. Discussion

3.1 Quality assurance and Quality management

The concept of quality assurance and quality management system has been a consistent issue addressed by many scholars from different spheres of life. In many of the submissions reviewed, both terms have been used in a manner that presuppose same meaning (Papanthymou1 & Darra, 2017; Abubakar & Luki,2016; Zabadi,2013). In as much as this paper is not intended to argue on such positions it is interesting to discuss these foundational terms briefly. So, what constitutes quality assurance? Does quality assurance imply quality management or quality management system or vice versa? What about quality control? Our submission is that it is imperative to define these basic building blocks in the quality domain to enable us establish internal and external boundaries as to what each should entail. The answers to the questions are

rooted in the key words: assurance, management, and management system respectively. Both Oxford¹ and Cambridge² dictionaries respectively agree that assurance connotes ‘promise’, ‘confidence’, ‘guarantee’, ‘pledge’, ‘commitment’ whereas management entails functions or portfolio with mandate of planning, organizing, controlling, directing, leading a responsibility such as process improvement. It therefore follows that assurance and management though related are two different things.

With respect to quality, the question that may be thrown is whether or not either of quality assurance or quality management can exist independent of each other. While it is not easy to establish the mutual exclusive existence of either domain, it is imperative to note that the driving force behind either of the two may differ. Before delving into the context of which precedes the other, we need to present some contextual definitions on them.

The boundaries of Quality assurance (QA) may be adduced from the following definitions:

“All the planned and systematic activities implemented within the quality system that can be demonstrated to provide confidence that a product or service will fulfill requirements for quality” (ASQ, 2006).

A component of quality management that “focusses on providing confidence that quality requirements will be fulfilled” (ISO, 2005; Hoyle, 2007).

“Systematic, structured and continuous attention to quality in terms of quality maintenance and improvement” (Vroeijenstijn, 1995).

To showcase the boundaries of quality management (QM), the following definitions from different quality institutions and authorities are made.

It entails the seven principles of customer focus, leadership, engagement of people, process approach, improvement, evidence-based decision making, and relationship management (ISO, 2015).

“A formalized system that documents processes, procedures, and responsibilities for achieving quality policies and objectives. A QMS helps coordinate and direct an organization’s activities to meet customer and regulatory requirements and improve its effectiveness and efficiency on a continuous basis” (ASQ/ISO, 2015).

“The act of overseeing all activities and tasks needed to maintain a desired level of excellence; activities include: determination of a quality policy, creating and implementing quality planning and assurance, and quality control and quality improvement” (Kemp, 2019).

The purpose of a QMS is shown in Figure 1. A quality management program is driven through a quality management system and where such is lacking or not appropriately defined with internal and external boundaries clearly documented, the program is bound to fail. Figure 2 shows the relationship between quality management, assurance, control and inspection. Often quality assurance is used in a manner that connotes quality control (Odukoya, et al, 2015). However, quality control (QC) is not the same as QA but an aspect of it. QC is the “overall system of technical activities that measures the attributes and performance of a process, item, service against defined standards to verify that they meet the stated requirements established by the customer/client; or operational techniques and activities that are used to fulfill requirements for quality”.

QA uses two streams of techniques: quality inspection, and quality control. Having established the fundamentals, it would be easier to delve into what is practiced in the Universities and other institutions of higher learning as well as appreciate the gaps that need to be addressed.

¹ Oxford Advanced Learners’ dictionary 9th ed. Oxford University Press

² Cambridge Advanced Learners’ dictionary 4th ed. Cambridge University Press

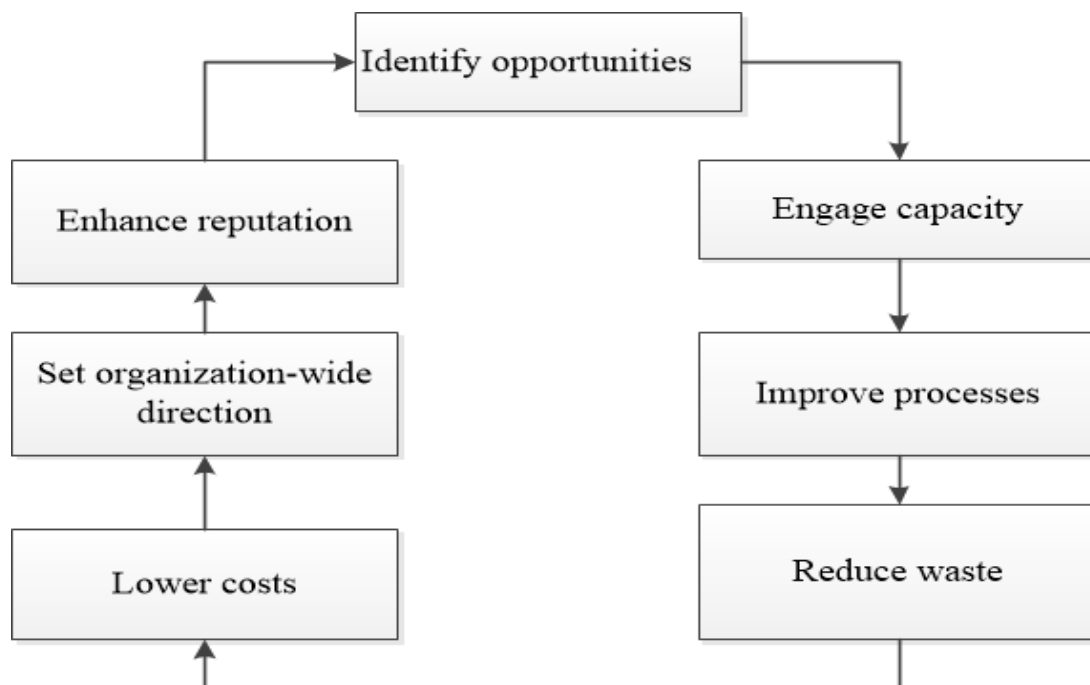


Figure 1: Purpose of a Quality Management System

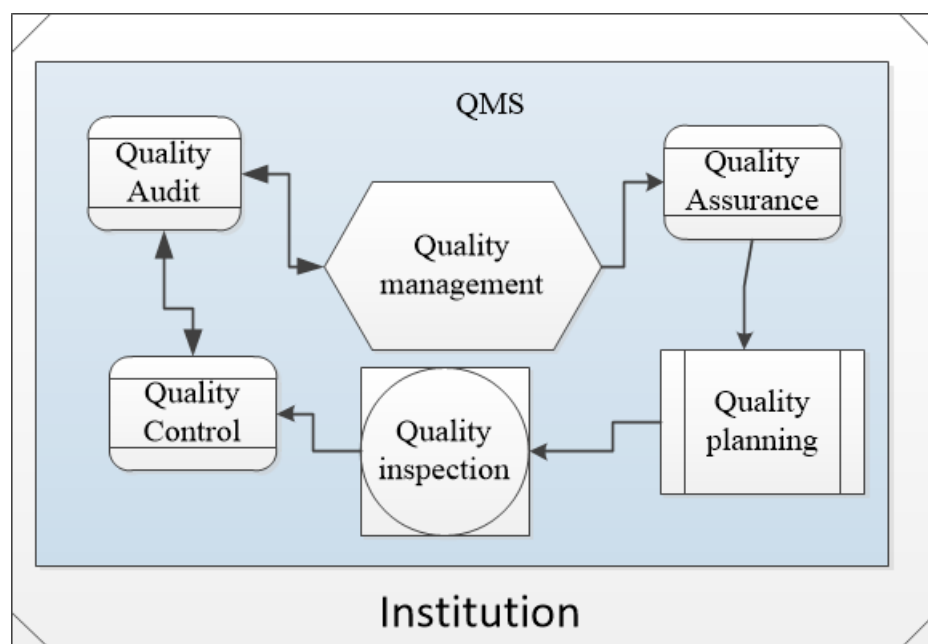


Figure 2: Relationship between QMS, QM, QA and QC

3.2 Is Education a Product, Service, or Process?

Education as a sector have marked distinctions from other sectors such as financial and manufacturing. It is argued that these sectors produce tangible products (where applicable) and services for those sectors that are offer services to their clients though some of these defacto service providers like the banks and insurance companies have evolved what they call intangible products. In any case, quality has a history of being associated with products and services. It is in this regard that it has been argued in some quarters that quality in higher education is only a political issue often blown out of proportion. The proponents of the forgoing hinged its argument on the fact that prior to the growth of quality assurance agencies in Europe,

America, Asia, and the Middle East, there has been higher institutions of repute who never operated under the control of external quality assurance agencies. As Jarvis (2017) observed, "Quality assurance as a specific focus of regulation in the higher education sector originated in the late 19th century when the first accreditation organizations emerged in the United States". Valeikienė (2017) submits that the lack of agreement in what constitutes quality higher education has far-reaching consequences due to the fact that "when public authorities set the agenda and seek to satisfy public demands and sometimes their own political interests, they can be prone to changing policies and definitions about what quality agencies should be measuring and in what proportions".

However, it is important to evaluate the nature of education objectively in the light of modern development.

As succinctly stated by the International Standard Organization,

"Education differs from many other sectors in that a successful educational process maximizes the chance that a learner will succeed, though it cannot guarantee that outcome. The effort and capability of both the learner and educational organization are crucial variables for the educational process to be successful. Learning involves the internalization of knowledge, methods and skills. The educational organization stimulates this internalization and provides the framework, input, processes and learning resources for it to take place" (ISO, 2018).

Some authorities (TEC, 2004) had earlier asserted ISO's standpoint on education.

As education has remained the cornerstone for socioeconomic development and is identified as the pillar of the 2030 Agenda for Sustainable Development (Nwankwo & Njoku, 2020; Ukaoha et al, 2019; WEF, 2015) quality education cannot be overemphasized.

3.3 Quality management practices in Universities

Admittedly, the quality of a TEI is multifactorial. Funding, qualified staffing, infrastructure, power supply, research facilities, to name a few, are all contributory elements to the quality of a university system. However, the quality management practices discussed in this section are connected to the internal and external procedures that are expected to promote and sustain quality service delivery in the institutions. In this section, we present an overview of three major quality management players in the quality management system cycle in Nigeria's Universities viz:

- The National University Commission
- The Professional Councils and Learned Societies
- The University

The National Universities Commission (NUC)

Quality management is an uncommon terminology among the Universities in Nigeria. Quality assurance appears more in their parlance. The reason is simply that Nigeria's ivory towers are regulated by a central government agency, the National Universities Commission (NUC), often regarded as the quality assurance police and the single determinant of what constitutes quality service delivery and how quality assurance policies should be implemented in Universities. In other words, the quality assurance must flow from the various policies set by the central quality assurance. The NUC is mandated by law to oversee the activities of all Universities in Nigeria irrespective of ownership. The NUC documents government-owned universities through official recognition unlike the private Universities whose recognition is through the issuance of operating license following satisfactory institutional evaluation and accreditation visits. While it has been argued that a single centralized government agency is praiseworthy for reasons bordering on the economy (Jackson & Bohrer, 2010) and standards issues that may arise with multiple agencies undertaking same assurance functions; the argument could only be sustained further if the concerned agency is consistently living to its legal mandate in all ramifications.

As has been said earlier, the quality management practices in universities in Nigeria is derived from the policies set by the chief accreditation agency. At best, the NUC conducts external quality assurance functions, which does contribute to quality service delivery. The NUC employs several control measures to ensure that Universities adhere to the strictest rules in carrying out their mandate. The various measures employed by the NUC include:

- Institutional accreditation
- Benchmarking of academic curricula
- Program accreditation and re-accreditation
- Organizing of workshops, conferences, and symposia
- Ranking of Universities
- Impact assessment
- Human capacity profiling
- Directives and Advisory services

Professional Councils and Learned Societies

In addition to the statutory functions of the NUC, it is worthy of note that professional councils also play significant role in influencing the quality practices in the Universities; this they do through professional program accreditation. Professional accreditation is applicable to programs with professional contents such as Nursing, Dentistry, Radiography, Medicine, Law, Engineering, Optometry, Medical Laboratory Science, Computer Science, etc. For instance, for any University to run a program in *Medicine and Surgery* the Medical and Dental Council of Nigeria must conduct own independent evaluation and accreditation otherwise, the graduates from such a program shall be deemed unfit and not registrable to practice after graduation. However, professional evaluation and accreditation is applicable to less than 10% of all academic programs in a typical public university in Nigeria hence could not be relied upon as a major determinant in quality service delivery in Universities. Nevertheless, it does not diminish the role professional accreditation plays in enhancing the quality of service delivery in such programs offered in the Universities.

The Universities

Notably, over decades, the modus operandi of Universities had clearly shown that internal quality service delivery (IQSD) is their sole responsibility. IQSD in the university cuts across the following important domains:

- human capacity (staffing)
- management and administrative procedures
- students, studentship, and counselling
- course curriculum
- infrastructure
- admissions
- teaching
- research and development
- publications
- assessment, etc.

The aforementioned areas do attract minimal interference from external entities, perhaps a status that reflects autonomy so to say. While autonomy is unarguably appropriate if it is exercised in the interest of academic excellence, recent developments have shown that there are so many challenges in the system, which may compromise the very quality visions of majority of these institutions.

3.3.1 Directorates of Quality Assurance (DQA)

Lately, the NUC demands that every university has a functional directorate of quality assurance. The rationale is two-fold. First, all matters regarding quality management in a University could be easily harnessed through a special central organ of the University. Second, the NUC can easily maintain communication on matters of quality with each University through the University's dedicated academic unit. Not all the Universities in Nigeria have functional directorates. Directorates are more prevalent in public universities though poorly facilitated. Recent experience has shown that most private universities operate centrally and matters on quality assurance are handled on a 'case by case' basis. In public institutions the DQA is established as an internal quality assurance unit and expected to drive all QMA projects that would boost the University's chances of achieving its goals in terms of quality service delivery, infrastructure and capacity. However, experience has shown that in most institutions, the DQA where it even exists is a mere shadow put in place to 'fulfil all righteousness'. This is consistent with the observation of Giami & Nwokamma (2019) wherein they rightly stated that internal quality assurance in Nigeria's Universities only exists during program accreditation by the NUC. Such observations are very common and are rapidly becoming a tradition especially with the program accreditation-reaccreditation cycle of the NUC. The NUC's program accreditation appears to be the ultimate decider as to the validity and legitimacy of any academic program in a University in Nigeria, hence, once a University secures full accreditation on a program it relaxes all its quality assurance efforts. This behavior is traced to the fixed period for re-accreditation of any fully accredited program as the University believes it would take at least the next four (4) years for any re-evaluation of the accredited program.

3.3.2 Quality Assurance Committees (QACs)

Committees are customary to University operations in Nigeria though similar organs exists in other jurisdictions. Experience and wide consultation have shown that majority of the federally and state-owned Universities have committees on quality assurance that meet regularly to deliberate on quality assurance issues in these Universities. Some of the private Universities operate a centralized system whereby issues are resolved as they arise through adhoc nominees. It is observed that the centralization is due to the size, number of programs, and human capacity in these institutions compared to their counterparts with established committees. These Universities maintain a rationale that the establishment of separate committee for each function do not contribute to efficiency in running the affairs of the Universities. Though it may be adduced that their rationale is hinged on cost, it does follow that the use of committees or any specialized unit should be encouraged.

3.3.3 Quality assurance framework/policy/manual

In response to NUC's persistent communications lately, majority of the Universities have established quality framework and policy. It is estimated that about 80% of the Universities now have quality manuals and quality policy framework. However, the issue is found not to lie with the quality manual or the policy framework brandished by most Universities but on the implementation of the content of such documents.

3.3.4 Quality assurance practices in Academic processes

The business of Universities the world over is to admit, teach and produce quality students, conduct researches, contribute to national development as well as assert their relevance globally through international research and developmental programs. Some of these processes are briefly underscored herein.

Admissions

Admission guidelines and procedures are laid down in manuals and majority of the Universities have same guidelines online. Inasmuch as Universities are aware of the provisions of the benchmark minimum

academic standards (NUC, 2013) that stipulates the baseline qualifications, it is no news that strict adherence in reality to such regulatory documentations are in doubt (Nwankwo & Olayinka, 2019). It is submitted that while Universities may set baselines for teaching and research, however, such should not be inconsistent with the principle of public policy, fairness and natural justice (National Policy on Education, 2004). Many of the federally-owned Universities are to a great extent in breach of their own documented procedures as what they present to external stakeholders as their admission guidelines/policy are not what is implemented. Irregularities are evident from undergraduate to postgraduate admissions irrespective of what they have on paper. Discriminatory practices on grounds of tribe, religion, political affiliation and positions are evident at both undergraduate and postgraduate levels.

Admission quota is another interesting parameter, which is expected to match the resources available in each University. However, there is a somewhat interplay on admission among professional councils, Joint Admissions and Matriculation Board (JAMB), and the Universities.

For some professional councils, admission quota is very important and every University must adhere strictly to the quota given to it. These councils do exercise their authorities by ensuring that only the quota it provided to the institution would be qualified for professional registration following the students' successful graduation. In 'non-professional' disciplines especially in public universities, these professional rules do not apply.

To provide what appears to be a generalized mechanism for admitting students into tertiary institutions especially public institutions, JAMB provides three criteria, which are:

- Merit: forty-five (45) percent of the admission space in federally-owned TEIs is reserved for candidates who performed excellently in the unified tertiary matriculation examination regardless their state of origin.
- Catchment areas (CAs): This another determinant wherein some States in Nigeria are designated catchment areas of federally owned TEIs. JAMB reserves 35% of available space is reserved for candidates from such States.
- Educationally Less Developed States (ELDS). With this criterion, candidates from the 23 States designated as EDLS are given 20% of admission space in federal TEIs.

The aforementioned criteria for admission do not seem sustainable and evidences abound to support the conclusion that they are not strictly adhered to, for instance, many universities create their own concessional admission which tend to override the aforementioned provisions. Admission into federal institutions in recent times is markedly determined by factors outside the general legitimate rules. Such factors include tribe, religion, political affiliation, and significantly by 'purchasing power' of the admission seeker in which case admission is guaranteed provided the admission seeker is ready to pay the price. The recent event where a high performing candidate of the southeastern extraction was denied admission by a federal TEI in the North is a clear confirmation that the quota criteria operate in principle. Nepotism and corruption had been clogs in the wheel of fair and equitable admission procedures in Nigeria for over two decades and without a transparent mechanism through which all stakeholders are kept abreast of vital processes in the Universities, it would be difficult to deal with these concerns.

The University is also a major player in determining the number of eligible candidates it can admit into its programs at various levels. This they ought to do by paying attention its available human and material resources, however, many Universities seldom pay attention to their resources but admit beyond their capacity in many occasions. The trend appears worse in private Universities who are more oriented towards profit maximization.

Course Curricula, Staffing, Delivery and Examination

This vital area requires continuous quality improvement. The NUC provides Universities with Benchmark Minimum Academic Standards (BMAS) for all academic programs in Nigeria. The BMAS is a veritable guide in that it provides the baseline on which the Universities could build on to improve quality service delivery. The BMAS specifies staffing, qualifications of staff, examination protocols, course content,

infrastructure requirements, etc. around which a typical University may build its academic structure. Program accreditation by the NUC is often based on the BMAS.

Internally, many universities adopt clear and coherent teaching pedagogies; develop their course materials, research guidelines, laboratory/workshop manuals, administrative structures and guides; academic calendar; etc. to drive their service delivery mandates. In most institutions, these activities are coordinated using university-approved instruments. To ensure some quality service delivery, some institutions put up periodic evaluation surveys wherein students assess their lecturers. Another form of assessment is staff appraisal which is done to evaluate performance of staff. However, in majority of the universities, appraisal is conducted towards the end of every academic session and geared towards staff promotion. Ideally, staff appraisal is expected to be a systematic evaluation of staff performance with emphasis on variables such as: teaching performance, research output evidenced by publications, qualifications, feedbacks from students, etc. Ordinarily, appraisal is conducted by academic superiors in the same field who are considered skilled and knowledgeable to evaluate their subordinates. As a systematic procedure, measurability is a very important factor and coherency must be emphasized.

In respect of students' evaluation, several mechanisms are employed by universities. These include: quiz, test, group assignment, mini projects, seminars, laboratory/workshop assignments, and ultimately examinations. Evaluation of students using these traditional means appears to yield same old results i.e. a student may pass or fail. However, new approaches which does not necessarily attract permanent scores may be used to enhance the student's performance and self-esteem.

3.4 Critique of Quality Management Practices in Universities

Having regard to the various functions discussed above in relation to the quality management practices demonstrated by the NUC, Professional councils, and Universities respectively, we make the following submissions.

First, though the oversight functions performed by professional councils or learned societies may affect quality service delivery across the concerned professional disciplines in Universities, however, experience has also shown that beside the periodic program accreditation, there is no consistent and continuous inspection especially adhoc and inclusive inquiries put up by these professional agencies to enable them establish a common point of truth between the outcome of the scheduled formal accreditation visits and what obtains in reality across those facilities thereafter. The aforementioned gap is also applicable to the NUC. It may be argued that the program accreditation by the NUC is not an all-inclusive affair as it only pays attention to what is presented before it by the host University during formal accreditation visits. As the cost of accreditation visit is partly borne by the institution to be accredited, it may be argued that the NUC may be biased in the process as against the reality if the government agency bears the burden alone.

Second, the NUC does not appear to have any functional machinery that enables it probe into the credibility and integrity of the internal quality management system of the Universities.

More so, the accreditation process is itself fraught with so many errors and public criticisms (Rowell & Orighofori, 2018) Majority of the accredited programs do not have the basic requirements. Experience has shown that many Universities pass accreditation fraudulently. The nature of the accreditation process makes it susceptible to fraud and misrepresentation wherein Universities can arrange facilities from vendors, individuals, front persons who are not affiliated to the Universities in any way, etc. to meet the stipulated requirements by NUC.

Third, within the university itself, the internal quality assurance machineries are fraught with anomalies that make them nothing more than a procedural formality. The poor quality of graduates produced in recent times and the visible manifestation of poor quality service delivery are potential indicators that while the defacto structure (a sole public external quality assurance agency and a sole internal quality assurance agency) had served its purpose, there is a need to create some platforms that could enable inclusiveness thereby providing stakeholders with a single point of access to the state of affairs in these institutions especially the public universities. This proposition is in tandem with concerns that have been raised from different quarters over the years.

Moreover, quality management practices in Universities could be systematically structured to afford ease of evaluation, monitoring, and measurement by other stakeholders. This brings to bear the relevance of ICT infrastructure which has become sophisticated over the years and could effectively be utilized to cure many ills that plague the University quality management system.

It is interesting to note that lectures, tutorials, seminars, laboratory assignments, workshops, conferences, staff appraisal and evaluation could all be monitored, and measured in such a way to provide transparency and accountability in the processes.

3.5 The Role of ICT in Promoting Quality Management Practices in Universities

The 21st century society is an ICT-enabled society wherein ICT tools and platforms could be harnessed to enhance productivity and efficiency. The following are areas to which ICT could be applied in entrenching sound quality management practices:

- a. Hardware and sophisticated software-based quality management system that tracks all quality management practices in real-time
- b. Cloud-based enterprise QMS that provide connectivity and role-based access to all stakeholders. External agencies such as professional councils, NUC, independent auditors, etc. would be able to conduct preliminary evaluation on processes and state of affairs within a university without necessarily setting foot in the university environment. The beauty of such visibility is that fraudulent arrangements during accreditation or adhoc visits may be eliminated or grossly reduced as any university on such a platform understands the implication of making false representations and would cautiously avoid it. More so there has been a lot of complaints in the public sphere on the poor quality of lecturers in the universities (Mba,2019; Nzokurum & Agala,2019; Alub,2018; Akinnaso,2017), cloud-based QMS offers a global visibility to every lecturer's profile, periodic evaluation reports, assessments, qualifications, etc. This would not only reduce the public outcry but would put most universities on their feet especially in recruiting world-class teaching staff since no university is ready to be perceived as a failing institution.
- c. Accountability and Governance. Structured and systematic procedures in universities are directed towards ensuring governance and accountability. Procedures including staff appraisals, academic staff assessment on lectures, practical, etc. could be harnessed through a cloud-based QMS. This replaces paper-based or semi-automated assessments. With artificial intelligence and analytics capabilities, a cloud-based QMS could offer various insights through accurate predictions as to staff performances in various departmental assignments (Nwankwo, 2016; Nwankwo & Eze,2015) as well as students' performances thereby reducing uncertainties as to the capacity of teaching staff and students. Similar approaches are also possible with other academic processes.
- d. Continuous process improvement and re-engineering. Process re-engineering is a singular requirement for computerized QMSs. Academic activities in a University must be continuously made better and more rewarding. Computerized QMSs provide very elastic solutions to tracking actions while at the same time providing recommendations for better yields in respect of task optimization. Curriculum design, lecture delivery scheduling and support, assessment, mentoring of students, etc. are some of the activities that could be automated.

4. Conclusion

Quality is the hallmark of every product and service delivery. In TEIs, the quality of graduates produced are greatly tied to the quality of the TEI. In this paper we made an attempt to examine the quality management practices in Nigeria's Universities. While we did not undermine the perennial challenges confronting Nigeria's ivory towers, we took a swipe on the procedural issues bordering on internal academic processes. We argued that majority of the gaps and concerns raised along these procedural lines could be remedied through concerted efforts directed towards the building of an ICT-driven QMS. We conclude that such infrastructure exhibits the potential of curing so many ills that have contributed to wretchedness of our universities in terms of output and contribution to national development. However,

the deployment of such facilities requires political will, concerted efforts and commitment on all sides. The Government at all levels should realize the importance of changing the status quo ante without further delay before it metamorphoses into a monstrous tradition.

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