



The
University
Of
Sheffield.

This is a repository copy of *The Assessment of Quality Maturity Levels in Nigerian University Libraries*.

White Rose Research Online URL for this paper:

<https://eprints.whiterose.ac.uk/119901/>

Version: Accepted Version

Article:

Egberongbe, H., Willett, P. orcid.org/0000-0003-4591-7173 and Sen, B. (2017) The Assessment of Quality Maturity Levels in Nigerian University Libraries. *Library Review*. ISSN 0024-2535

<https://doi.org/10.1108/LR-06-2017-0056>

Reuse

This article is distributed under the terms of the Creative Commons Attribution-NonCommercial (CC BY-NC) licence. This licence allows you to remix, tweak, and build upon this work non-commercially, and any new works must also acknowledge the authors and be non-commercial. You don't have to license any derivative works on the same terms. More information and the full terms of the licence here:
<https://creativecommons.org/licenses/>

Takedown

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing eprints@whiterose.ac.uk including the URL of the record and the reason for the withdrawal request.

The Assessment of Quality Maturity Levels in Nigerian University Libraries

Halima S. Egberongbe; Peter Willett; Barbara Sen

Abstract

Purpose – Organizations constantly evaluate their activities to ensure that they are attaining their management goals. Maturity assessment enables organisations to examine their capabilities, support innovation and evaluate development. This paper evaluates the maturity statuses of a selection of Nigerian university libraries in a study to investigate their quality management (QM) approaches. The study provides recommendations for means to attain the required statuses in academic library development.

Design/methodology/approach – The study involved a multisite case study in which interviews were conducted with 15 university librarians (or their representatives) and 10 focus groups were conducted with non-management library staff. The resulting qualitative data was analyzed using an aspect of framework analysis – charting, while a maturity model from the field of project management (Prince 2 Maturity Model, P2MM) was used to assess maturity in QM of the libraries.

Findings – The results of the maturity assessment indicate a basic knowledge of the concept of QM implementation amongst the libraries. The scores obtained on the P2MM capability scale placed the libraries studied mainly on Level 1(awareness level) of the model.

Practical implications – This paper demonstrates that the culture of QM in academic libraries in Nigeria is at a low level with considerable potential for development. It is suggested that future adoption of quality maturity models to assess performance and organisational effectiveness would aid improvements for value-added services.

Originality/value – This is the first study to attempt the assessment of quality maturity levels in Nigerian academic libraries for identification of the organization's positioning in QM and strategy.

Keywords:

Maturity assessment, Nigeria, Quality management implementation, Quality maturity, Quality maturity Levels, University libraries

Paper type – Case study

Introduction

The first Nigerian university was founded in 1948, since when the Nigerian higher education sector has grown and now contains over 115 different universities (Oni, 2012) in three categories: federal, state and private. The period from 1948 to 1997 saw the establishment of 36 universities administered under federal and state governments. There was then a rapid growth with the establishment of 81 new universities (Oni, 2012; Agboola, 2000), these including private universities that are licensed to operate by the National Universities Commission (NUC). As the universities have developed so have their accompanying academic libraries, and in this paper we consider the current status of quality management (QM) in fifteen of these libraries in South West Nigeria.

QM is widely recognized as being fundamental to the provision of high quality services in library and information services. This is especially the case in academic libraries (Ashok and Srivastava, 2015), which play an important role in supporting teaching quality, learning, and research in their host institutions. Academic library managers must thus understand the importance of applying QM principles and practices to ensure effective service delivery, and to demonstrate the library's value to its user communities (Town, 2011; Town and Kyriolidou, 2013). QM in relation to the academic library operations is focused in three areas (Hsieh, Chang, & Lu, 2000). The first is technical services, which take place before service to the user and which ensure that the library possesses the required resources to meet the needs of the user. Second is public or customer service, which is an activity that takes place during service to provide accurate, prompt and responsive information. Third is administrative management, which is considered "as the service support system that coordinates and allocates resources to both technical and public services" (Hsieh, *et al*, 2000 p. 195). Roberts and Rowley (2004) note that QM in libraries focuses on a product's or service's quality, as well as on the means to achieve such quality. It is therefore considered as part of organizational and departmental policy and planning.

A review of the literature has revealed increased application of QM concepts in the libraries of developing countries such as India, Malaysia, Pakistan and Thailand (Baidoun, 2004, Sila & Ebrahimpour, 2002), but Alemna (2001) has noted the lack of comparable studies in Africa. In Nigeria, university library managers have in the last decade expressed the need to embrace the QM revolution for the purpose of improving the internal operations of their libraries (Osinulu & Amusa, 2010; Adebayo, 2009; Ikpaahindi, 2006). There is, however, very limited empirical research that focuses on QM in Nigerian university libraries as well as knowledge about the use of QM tools to manage operations (Oladele, 2010). QM is a relatively new area of interest in developing countries, such as Nigeria where academic libraries are considering a more holistic view of library quality issues (Ololube *et al.*, 2013; Opara, 2010). A thorough understanding and appreciation of the significance of QM and its related principles in library management and service delivery is required in order to support strategic development.

Quality maturity assessment, described by Paultk (2009) as a way of examining a range of organisations' capabilities that are required to support innovation, is identified in this study for evaluating QM maturity levels of selected Nigerian university libraries. In library operations, maturity assessments are conducted to establish outputs, inputs, customer satisfaction, staff satisfaction and performance measurement among other parameters (Wilson, 2012). One way of assessing the maturity in this sense is through the use of maturity models. Quality maturity models help to identify organizational strengths and weaknesses (Khoshgoftar and Osman, 2009), while providing systematic frameworks for carrying out benchmarking and improvement in organisational performance, and thus permit the effective assessment of the maturity level of an organization in QM implementation (Paultk, 2009). Brown (2013) portrays maturity models as tools for the assessment of specific organizational capabilities against a benchmark standard.

In this paper, we report a qualitative assessment of the quality maturity levels of 15 academic libraries in south-western Nigeria to assist in identifying their positioning in QM implementation. We based our assessment of the libraries' quality maturity levels on five factors that have been highlighted in the literature as being critical success factors for QM implementation (Evans and Lindsay, 2005; Goetsch and Davis, 2010; Oakland, 2014). These factors are leadership, human resource management, customer focus, process management, and performance measurement. Information on these factors was obtained first from an online survey and then from the participants in follow-up interviews, from whom in-depth views about QM practices and quality services were elicited as well as suggestions on how management procedures and service delivery could be improved in their libraries. Interaction with focus groups allowed us to obtain individual perceptions of the phenomenon and topics of discussion from the perspectives of non-management staff. Our assessment of a library's maturity level was based on the UK Office of Government Commerce's Prince 2 Maturity Model (P2MM), which was originally developed to provide a framework for assessing project management capabilities in organizations (Williams, 2010), but which has been successfully used to assess capability development for a digital repository (Brown, 2013).

Literature review - QM and maturity models

Evolution of Quality Management

Quality Management (QM) has developed since the early 1960s as a part of the quality revolution that was meant to resuscitate post-World War II industry (Evans & Lindsay, 1999, p.71). Its introduction resulted mainly from the work of "quality gurus" such as W. Edwards Deming, Joseph Juran and Philip Crosby (Oakland, 2004, p. 24; Evans & Lindsay, 1999, p. 71; Dow, Samson & Ford, 1999, p.2). It provides a comprehensive approach to competitiveness and a means for achieving excellence in organizations. With its origin in the industrial sector, QM has evolved to serve the business and service sectors and increasingly constitutes a very important research theme in operations management (Souza & Voss, 2002).

The development of QM has consequently been identified as having "four-stages" (Dale, 1994, p. 4; Sullivan-Taylor & Wilson, 1996, p. 58). The first stage is described as the inspection stage. This is associated with the first half of the 20th century, which marked the era of industrial mass production (Evans & Lindsay, 1999, p. 5). The inspection process served as an information-gathering tool for improvement of products (Evans & Lindsay, 1999) and also ensured that all finished products were examined, in order to guarantee quality. Quality control (QC) developed by Walter A. Shewhart, is the second stage of quality management (Oakland, 2004; Bergman & Klefsjo, 2003). It has also been described as the process of ensuring that quality goals are met during operations (Evans & Lindsay, 1999). The third stage is quality assurance (QA), which refers to any action directed towards providing customers with products or services which fulfill the required standard (Boharan & Ziarati, 2002). The fourth stage is Total Quality Management (TQM), which entails applying quality management principles and concepts to every facet of organizational operations (Dale, 2003). An important feature of TQM is identified as managing its relationships with customers. In relation to an academic library however, production is here equated to service provision because it fits in the service sector.

Maturity Assessment

Assessing the maturity level of an organization in QM implementation is, according to Paulk (2009), a means to examine the capabilities to support innovation. It provides a direction for choosing procedures that are necessary for an organisation's improvement. In this sense, maturity models have been identified as an important way of assessing maturity levels of organisations. Quality maturity models have developed from the TQM concept (Demir & Kocabas, 2010) and as such involve an in-depth understanding of the current and future positioning of an organisation. They help to identify organisational strengths and weaknesses (Khoshgoftar & Osman, 2009), while providing systematic frameworks for carrying out benchmarking and improvement in an organisation's performance.

There is an extensive literature on different models that can be used for assessing quality maturity levels of processes, products and services (De Bruin, Freeze, Kulkarni & Rosemann, 2005). For example, De Bruin *et al.* (2005) identify three distinct features of maturity models. These are: a descriptive maturity model that offers a deeper understanding of the prevailing situation in an organization; a prescriptive model that serves as an improvement over the first stage as it specifies how to identify desirable future maturity levels as well as providing improvement measures; and a comparative model that involves applying the model in different areas to obtain adequate information for a better assessment of a given situation. The current study is based on the third approach, applying the model to assess the maturity levels of 15 university libraries, based on the five QM principles that were established for the study. It is however not enough to make comparisons based on descriptive and prescriptive evaluation as the essence of a maturity model is its ability to stipulate a logical direction towards systematic organisational development. P2MM is an example of a maturity model for assessing organisations' project management capability

A number of models have been developed for impact/outcome assessment of university libraries, such as Cameron's typology and the Focus/Value/Purpose Matrix: the former was developed with an emphasis on organisational effectiveness, while the latter was proposed for performance measurement (Cullen, 1997; Broady-Preston and Preston, 1999). Two notable models used for performance measurement and change are the Balanced Scorecard (BSC) and the Business Excellence Model (EFQM) (Broady-Preston & Preston, 1999). The BSC, according to Broady-Preston and Preston, enables an organization to be responsive to change and to have a strategy that is customer-centred, as well as enabling quality service delivery; while the EFQM provides a way of looking at factors that contribute to the success of the organisation (Odera-Kwach, 2011). Two quality assessment models for academic libraries developed in Portugal and Brazil were based on BSC and the Cameron Assessment Framework was based on EFQM (Melo & Sampaio, 2007). These models were employed to measure the academic library contributions to their respective institution.

More recently, a number of studies (e.g. Wilson & Town, 2006; Wijetunge, 2012; Town, 2014; Wilson, 2012, 2015) have been conducted to assess the quality maturity levels of university libraries in specific procedures. Wilson and Town's 2006 study used the Quality Maturity model (QMM), an adaption of the Capability Maturity Model developed by the Software Engineering Institute/Carnegie Mellon University, to

assess the impact of benchmarking of procedures among three academic libraries. As a follow-up to the earlier study, Town (2014) developed a maturity model in the context of human capital in academic libraries, to assess the value of their services. In like vein, Wijetunge (2012) conducted an assessment of the knowledge management maturity level of a university library, drawing on Kruger and Snyman's (2007) and Kruger's (2008) studies of knowledge maturity models. A more comprehensive library quality QMM was developed by Wilson (2015) as a framework for self-assessment and has encouraged its use by libraries that are seeking to assess their progress towards achieving a quality culture.

Determining the quality maturity levels of the libraries investigated in this study required an assessment of their knowledge and an understanding of the extent of QM implementation. The assessment in this regard was based on five main QM principles which were identified from the literature as critical success factors (CSFs) for QM implementation (Goetsch & Davis, 2010; Evans, 2005; Oakland, 2014). CSFs in the academic library context have been explained by Liang (1999) as involving: visionary leadership; incorporating the library's mission with that of the host institution; accurate utilization of technology; human resource management and the development of a solid infrastructure. The principles were common features to six QM models – namely: TQM, International Standardization for Organisations (ISO), QA, the BSC, Malcolm Baldrige National Quality Award (MBNQA), European Framework for Quality Management (EFQM), also known as Business Excellence Model – identified for quality improvement in higher education institutions and were consequently modified and established for the study. These principles - namely leadership, human resource management, customer focus, process management, and performance measurement - are discussed below.

Leadership

The successful implementation of QM in an organisation requires top management commitment and leadership traits (Moghaddam, 2008; Evans and Lindsay, 2005). This is because employees at the lower levels of the organisation are invariably difficult to influence, unless with the total commitment of top management. Top managers therefore need to sustain the internal environment in which employees can be fully involved in realizing the organisation's purpose (Lewis, Hiller, Mengel and Tolson, 2013). Dewey (2014); Kranich, Lotts, and Springs, (2014); and Lynch et al. (2007) endorse library leadership as a key attribute of top management that plays an important role in institutional development.

Human resource management

The development and management of an efficient and committed workforce is necessary for achieving organisational goals. This requires human resource policies which align with general organisational strategy which should be of utmost importance (Oakland, 2014). Thus in order to encourage employees' participation in QM, organisations need to encourage employee involvement by, e.g., allowing them to participate in decisions and activities related to improving their work (Evans & Lindsay, 2005) This is an essential step for effective engagement with the customer. With regard to QM implementation, the role of leadership in the development and management of the organisation's workforce is regarded as a significant contribution to its realization. Both criteria act in congruence in ensuring the selection and recruitment of

the personnel, providing adequate training for employee development and empowerment, to encourage commitment to quality service delivery.

Customer focus

Fulfilling the needs and expectations of customers is a significant factor in QM that enables an organisation to maintain a competitive edge over rivals. Zhang, Vonderembse, and Lim, (2003) emphasise the importance of treating customer expectation with high priority as a way of ensuring customer satisfaction. This is achievable through the use of different approaches and tools to collect and analyse customer-related data (Naqvi, 2013). According to Roberts and Rowley (2004), customer feedback can only be useful when it is used to support the design and improvement of products, services and procedures and that achieving customer satisfaction is a short-term concept which may or may not lead to commitment. They add that the extent of employee involvement in service transactions plays a significant role in satisfying customers. Hence creating a customer- oriented quality environment requires a total commitment to customer service, which is an essential element in QM implementation (Moghaddam, 2008).

Process management

Process management in service organisations concerns activities involved in creating products and services (Omotayo, 2015; Baloh, Desouza and Paquette, 2011). Such activities, as observed by Cain and Haque (2008), are designed to transform the organisation by converting input into output as well as by achieving good outcomes. Process management in the academic library context concerns a significantly improved method of delivering services or products, which may include improvement in operational techniques, equipment and software. The application of IT in this regard is crucial to improving processes, to achieving desired results, and to improving the quality of output. Hence, incorporating new technologies in the design and implementation of processes in academic libraries is necessary to achieve quality objectives (Kumar and Suresh, 2009; Tam, 2000) and to process the large quantity of information needed. Hence, application of IT in the academic library services promotes QM implementation as well as improving the quality of its output

Performance measurement

Performance measurement refers to the measuring of past activity in an organisation and the use of data to generate a plan for an improved future (Brophy, 2006). This involves a wide range of features of the environment such as accountability, budgetary pressures, socio-technical changes, improvement and comparison that provide the context for measuring performance. A systematic evaluation of an organisation's performance requires an identification of the key indicators of evaluation that are typical to the organisation (Corrall & Sriborisutsakul, 2010; Brophy, 2006). Data collected for these purposes are used for development and improvement in quality, while it also enables an organisation to identify its strengths and weaknesses and be able to set priorities for improvement (Moghaddam and Moballeghi, 2008). These, according to Hasan and Huq (2010), are achieved through assessment of quantitative and qualitative aspects of services. In academic library services, the most important measurable indicators of organisational performance relate to the library, the user community and stakeholders and these are required to relate to the overall institutional mission, goals and outcomes (Hiller, 2008, Brophy, 2006). Activities in this sense are

geared towards continuous and sustainable improvement to ensure cordial relationship between the library and the user community.

Methodology

As described by Egberongbe (2016), the study reported here builds on an earlier online quantitative survey and an exploratory pilot interview that followed-on from the survey. The survey had suggested that a range of different QM tools (e.g. TQM, QA and ISO) were already in use, but the pilot study showed clearly that this was not the case. It was hence decided to investigate the precise quality maturity levels that had in fact been achieved in a sample of Nigerian academic libraries. The methods used to conduct this investigation are described in this section.

The work reported here was part of a two-phase PhD project conducted between October 2012 and August 2014 to explore and to assess the knowledge and the extent of the implementation of QM approaches in academic libraries in South West Nigeria (Egberongbe, 2016). The first phase involved an online, quantitative survey of 24 academic libraries within the zone to assess their management and customer service practices. The second phase, which was conducted in two parts, sought to confirm and build on the results of the survey, using a pilot case study of one of the university libraries studied in the survey (Egberongbe *et al.*, 2015) followed by the multiple case study of 15 university libraries that is discussed here. These universities are run by the federal government, a state government, or a private sector organization under license from the National Universities Commission, and the sample of 15 studied here contained five of each type of university. In each case, the head of the university library was interviewed on the extent of QM implementation in their institution. In addition, ten focus groups were held with non-management staff (chosen where possible from different sections of the libraries and who were at different stages of their careers) to obtain their, often complementary, views on the extent of QM implementation in their institutions. The decision on choice of the population of focus group discussion was mainly informed by the readiness of libraries to participate in the exercise. Consequently, focus group sessions were conducted in three federal (F) university libraries, four in state (S) university libraries and three in private (P) university libraries respectively. There were 73 discussants in all who participated in the exercise, with an average of 7.

An important aspect of the interviews was the researchers' request to know the extent of QM implementation in the libraries studied, as a follow-up to responses to the initial online survey. Responses to the question: "Results of the online survey conducted some months back shows that this library is using TQM/Assurance to maintain its services. May I know which area of services the strategy is being applied"? included:

"As parts of the handing over I have, I don't think there is really a dogmatic rule or template on ground as far as quality assurance is concerned....." (FI - UL)

and

"Generally, in the country there is no certification for quality except the one driven by the National Universities Commission... it is just an in-house thing to ensure that we drive standards....." (P3-UL)

With regards to focus group, discussions on QM application were centred on participants' levels of understanding of the concept which was demonstrated in a number of ways by focus group members: "*When we started, we were emphasizing customer satisfaction, but what we have here has kind of opened our eyes to some other aspects of quality management. It's talking about leadership, employee empowerment....*" (P4- FG3).

Another response was: "*Libraries in Nigeria should have a policy.....If they are talking of ICT in libraries, the policy statement guiding the use of it, how to make it perform.....I think there should be policy statement*" (S3 – FG3).

In all, the interviews and focus groups yielded a total of 30 hours of recordings that were then transcribed to enable the identification of the most important themes arising from the discussions. The identification of the themes was done using framework analysis (Ritchie *et al.*, 2013), which is a derivative of the better known thematic analysis and which involves five stages: familiarisation, which involves reading and becoming familiar with the transcripts; identifying a thematic framework, which is usually rooted in initial *a priori* themes and is subsequently guided by emergent and analytical issues; indexing, which involves systematic application of the thematic framework to the data; charting, which creates charts of the data by copying data from the original content and rearranging them in chart form according to themes; mapping and interpretation involves searching for patterns, associations, concepts and explanations in the organized data. The process of assessing maturity levels of the library involved identifying quotes from the data of a participant library as derived from their responses or comments that related to the QM principles that had been established as themes of study.

P2MM identifies two stages – Awareness and Capability – and six levels, as detailed in Table 1, which has been adapted from Brown (2013, p. 87). The comments and themes resulting from the data were analyzed to identify the P2MM level that corresponded to each library's knowledge and level of QM implementation under each of the five factors (leadership, etc.) listed above.

Results

Given the very large amounts of data that were collected from the interviews and focus groups, Tables 2-4 seek to summarize our findings for each university library under each of the five factors. In these tables, the three types of university are identified as 'F' (Federal), 'P' (Private) or 'S' (State), and the study participants are identified as 'UL' (for a university librarian) or 'FG' (for a focus group participant). Each element in the main body of a table contains a quotation characteristic of the maturity level that that library had been allocated, based on the interview and focus group discussions. The quality levels are represented in each level here by just a single comment from amongst the many hundreds that were collected; a much larger selection of comments is presented and discussed by Egberongbe (2016) in her thesis. The results are also graphically presented as in Figure 1.

Table 1: Maturity levels for QM adoption and implementation in P2MM (organizations in general)

P2MM stage	P2MM maturity level	Description
Awareness	0 No awareness	The organization has no awareness of either the need for QM adoption or the basic principles for applying it
	1 Awareness	The organization is aware of the need to adopt and implement QM and has an understanding of its basic principles.
Capability	2 Roadmap	The organization has a defined roadmap for implementing QM
	3 Basic process	The organization has implemented QM
	4 Managed process	The organization has implemented a comprehensive, managed process, which reacts to changing circumstances
	5 Optimized process	The organization undertakes continuous process improvement management

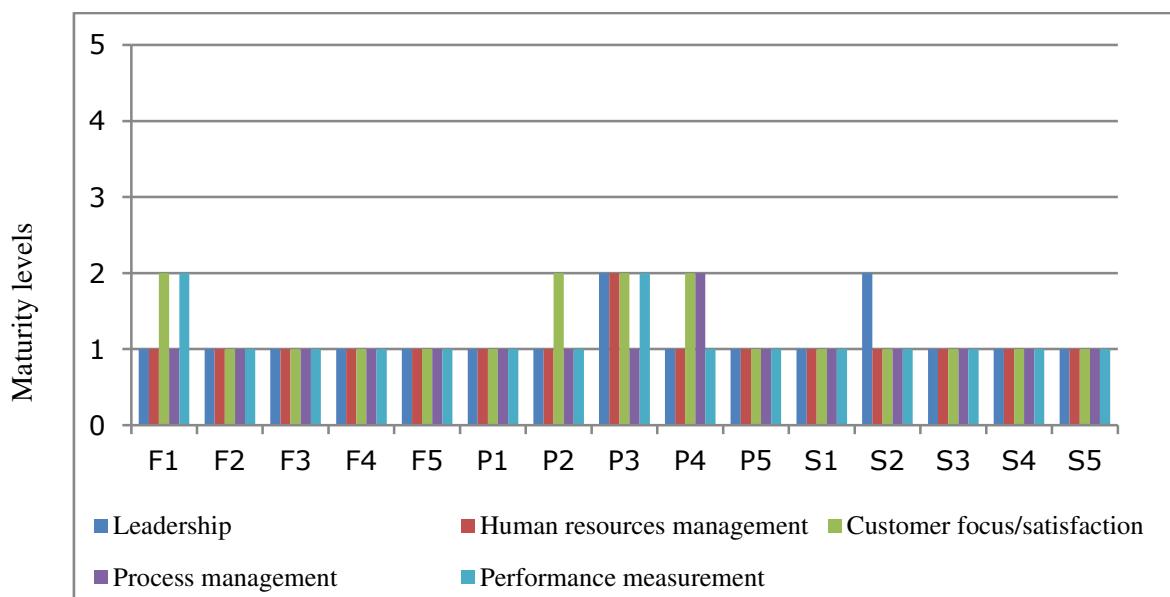


Figure 1: Maturity levels of the case libraries on the five dimensions of QM

Table 2: Maturity levels of federal ('F') university libraries

Case	Leadership	Human resource management	Customer focus/satisfaction	Process management	Performance measurement
F1	Trying to put modalities of ensuring quality assurance in the managerial procedure [UL].	Hiring of the right crew of staff, professional, para-professional, supportive [UL].	In the recent times we have been trying to cater for information needs of the visually impaired [UL].	We recently started uploading on our institutional repository [FG3].	The way the library assesses its performance is through statistics taken, report generation, strategic planning plans, monthly [FG 1].
F2	The library provides materials in all fields of study... and by that is activities align with the institution's goals [UL].	I ensure training and retraining of staff... that is the way of enhancing capacity building [UL].	We try as much as possible to meet the needs of users in information resources and personalized services [FG 2].	We have automated services. Although not all our services are automated, we have our website running [UL].	We review the policy we have been operating in and see if there is need for us to improve on it, or to continue with it [FG 1].
F3	I'm running an inclusive administration by trying to relate to everybody by bringing them together [UL].	I look at different strengths and weaknesses of individuals, in-terms of deploying them to places where they have to work [UL]	Part of the goals of this library is to meet the information needs of the user [FG4].	We subscribe to online data bases especially journals, on yearly basis so that people will have continuous access to them [FG 3].	We have periodic statistical report, where each unit has to give account of its services... this is what we use to prepare our annual report [FG5].
F4	Making available to staff and students relevant and current information sources [UL].	We send them for training... That motivates them but it also improves the services they can offer to the library [UL].	I have seen demands from students and researchers evolving over time....I believe we have to move with times and provide 24 hour library services 7 days a week [UL].	Technology has effectively reduced the time spent on routine tasks and increased efficiency[UL]	We do periodic evaluation to see whether there is a place for us to improve or where to make adjustment [UL].
F5	The mission statement of the library aligns itself with the whole essence of the university existence, which is teaching, research and community service [UL].	If you talk of reader services, the services we render there must be of high standard. The personnel you put there must also be of high standard in terms of [UL].	The library has been encouraging users by providing training for them [UL].	Our OPAC, we have not put them to effective use because we need to do retrospective-conversion of existing materials [UL].	There is really no formal way of measuring performance. The university librarian or members of library management at any time will just bump into a particular unit [UL].

Table 3: Maturity levels of private ('P') university libraries

Case	Leadership	Human resource management	Customer focus/satisfaction	Process management	Performance measurement
P1	We have a broad mission and vision statement, very broad, but we are now trying to develop it further [UL]	We hold meetings where we rub minds...They also bring suggestions being the people at the front-desk... and this kind of feedback is very important to management [UL]	Lecturers' offices are networked and connected to the Internet. They don't have to come to the library [UL].	In addition to the collection of books, we also have an e-library with some twenty work stations and connected to the Internet for the use of our students [UL]	
P2	Whatever we are doing is to key into the mission and vision of the institution [UL]	They (staff) are sponsored for conferences, seminars and workshops. Four of them are pursuing their doctorates, with the university sponsorships [UL]	Most times, students may not need to come to the library. They sit in the comfort of their hostels and with proxy servers they can access library materials. [UL]	If you are not ICT compliant, you cannot have a place here [UL]	
P3	The university started with a culture of cutting edge practices...so at the library, we ensure that we operate at cutting edge level, to enable us drive quality...[UL]	This library ensures that quality is applied to every component of services to our clientele. [FG6]	We have a basic process to ensure that our users are knowledgeable with retrieval skills that enable them to maximize the use of the library.[UL]	We have high level of bandwidth over 255mbps and so the electronic resources are able to open with ease. [UL]	The quality assurance team comes around and there's a feedback. [FG8]
P4	The library complements the activities of the university to make sure that the mission of the university is achieved UL	One thing I have learnt over time to really improve services, loyalty and quality is to ensure that my staffs are not looked down on by users... [UL]	Information literacy in this place is formidable...when we acquire new databases we arrange on how to train, so that user's time will be saved[FG6]	One of the things we are using to ensure quality service to the user communities, one of them is the software we are using which is KOHA library software [FG4].	The best staff in the university during annual reward has always come from the library [UL]
P5	I encourage the staff under me to be friendly, show competence and efficiency in service delivery [UL].	Employees in this place are motivated to do their work... the library leadership have flair for employee empowerment [FG3].	We ensure that we are able to provide services that meet our users' needs [FG2]	We introduced a library automation using the library software. We have introduced the bar coding system. [UL]	Every year we carry out library surveys and also statistical information, we compile every year and compare UL.

Table 4: Maturity levels of state ('S') university libraries

Case	Leadership	Human resource management	Customer focus/satisfaction	Process management	Performance measurement
S1	Our goals reflect the goals of the institution [UL].	We've enjoyed capacity building programme at one time or the other and it has affected our productivity positively [FG 1].	We have faculty libraries. We get feedback from there and as much as possible and we try to improve [FG 5].	Technology has done a great job for us in the library. It has helped us in cataloguing books faster than we used to [UL].	We assess ourselves by going into the acknowledgements in the thesis and the project of our final year students [UL]
S2	The library aligns with the mission and vision of the university through the provision of resources and services [UL].	Empowerment has not been very easy when it comes to capacity building of the staff, and if staff are well empowered it will enhance their service delivery [FG4].	We meet every month to look at challenges and issues bordering library services and products [UL]	We have OPAC where users can check the list of our materials online [FG 2]	Through feedbacks and sometimes, I interview students myself... to see whether we are getting there or there are some areas that we need to make adjustments [UL].
S3	We practice participatory leadership... suggestions are made towards the attainment of the goal of the library [FG 3].	We do organize an in-house training whereby staffs deliver papers...to see better ways to discharge our services [UL].	We are trying to market ourselves so that the library will not remain irrelevant [FG 2]	Technology has enhanced the development of most of our processes, especially the technical services and electronic resources [UL].	We don't really have any hard and fast rule as to any laid down rules, but the few feedback you get from users will determine how well you are faring [UL]
S4	We maintain what we call an open door policy...teamwork and it encourages quality delivery of services [UL].	We still have to do a lot in the area of human resources. We are really working but we don't have enough staff to ensure that we do what we want to do [UL].	We try to create awareness of recent latest books in the library through the notice board [FG 1]	The major problem here that is affecting the quality of services being rendered to the users is the automation of the library [FG 4].	Let me just be honest to say that we have not really put something in place to say 'what do you think', we just treat issues as they come [UL].
S5	As we contribute to the attainment of the university goals, we peck our services to the clientele [UL].	We provide in-house training to our library staff on how to use our library software. So, there is hands-on experience for the library staff [UL].	We encourage students to come to the library, to know departments and to know what we have in the library[UL]	We acquire our resources to meet our target audience and in doing that we ensure that, we are able to provide our users with the best that is available [UL].	What we don't have here is the case of outright getting the users to assess the staff because it's only the readers' services librarian that they have contact with most times [UL].

The first phase of the PhD project, the online, quantitative survey mentioned in the previous section, had shown that all of the university libraries studied here had at least some knowledge of QM principles, and had hence proceeded beyond level-0 (“No awareness”) in Table 1. However, with only a very few exceptions, the interview and focus group data suggested that most of the libraries were still at level-1 (“Awareness”) for most of the five factors. The few exceptions were all at level-2 (“Roadmap”) and these are marked in Tables 2- 4 by light shading of the corresponding elements; the unshaded elements (the great majority of Tables 2-4) are unshaded to denote that they are at level-1. For example, the row F1 in Table 2 represents the responses for the first of the five federal university libraries: this was judged to be performing at level-2 in terms of customer focus/satisfaction (where the listed comment was made by the university librarian) and performance measurement (where the listed comment was made by one of the participants in the first focus group), and at level-1 for the other three factors.

Inspection of Tables 2-4 will instantly reveal that there is huge scope for the libraries to further develop their QM strategies. Over the 75 elements of the three tables (five libraries judged on five factors in three types of university) there are just ten that are at level-2; moreover, seven of these are in Table 3, for the private universities, with four of those seven being for library P3, so that this single library accounted for no less than 40% of all the level-2 assessments. This is attributed to that library’s orientation towards modern management practices and service delivery as well as an emphasis on acquisition of physical and electronic resources, as obtained from participants’ responses.

Discussion and Conclusions

The results of the maturity level assessment of the libraries studied indicate the stage at which the libraries were, based on their individual knowledge and awareness of applying QM concepts to their systems and resources. The results show that all the university libraries were on level 1 of the first stage in QM maturity, except for a few that demonstrated some aspects of their activities to reflect characteristics of level 2. Libraries at this level require clear-cut strategies for effective library QM implementation, and the libraries at this level of development were mainly in private universities. If a library is to move to the next stage of maturity it would require an individual and concerted drive to instill awareness of the concept at all levels of the library’s structure in order to determine their place within the quality journey (Wilson, 2015).

The results also present a picture of proactive measures on the part of private university libraries, in developing their processes and services, i.e. through the provision of adequate resources to meet user

demands. It confirms a comment from a participant who, while expressing his frustration on government's inadequate provision of resources for public university libraries, said:

'On the issue of ICT, some private universities are doing better than some of us...and it's because their owners try to introduce this modern approach to administration. So you tend to find them doing more in terms of this area' (S4 - UL).

In addition, the findings also show that libraries use different strategies to implement institutionally prescribed (QA) procedures. QA as deployed by the NUC – the superintending body that oversees operations of universities and their libraries - was meant to develop products, services and resources to meet the quality criteria for accreditation processes by the external regulatory agencies.

Maturity assessment is a recent phenomenon in the global library literature. Its introduction into the Nigerian university library context will no doubt assist in quality improvement of the libraries, if embraced. Identifying maturity levels of organisations provides the means to assess their capabilities in respect of specific operational standards such as the QM implementation.

The assessment of levels of awareness of university libraries in South West Nigeria has provided an insight into the extent of knowledge of the concept of QM and its adoption and implementation. Oladele (2010) noted that the descriptive and prescriptive nature of the literature on QM application in Nigerian university libraries was a reflection of understanding of the concept and not as a result of any empirical evidence. It is clear that, in general, such knowledge is still quite limited in most libraries studied to engender current best practice and to plan their future QM capabilities. For those libraries where QM has not yet been implemented, knowledge of the stages is essential for them to plan their quality journey. For those libraries that are still at an early stage of adoption a self-assessment model such as P2MM will enable them to assess the extent of adoption thus far, and to identify the strengths and weaknesses of their operations in order to recommend strategic plans for improvement activities.

A prerequisite for using a model such as P2MM is for a library to put in place a structure for assessing its maturity status in QM implementation. The survey and interviews found only limited evidence for systematic QM initiatives. In the few cases where there was such evidence, these did not follow any standardized principles as there were no techniques or tools available to guide the procedures. Whilst it is acknowledged that most Nigerian academic libraries are constrained by financial resources, due to the economic downturn in the country and to an over-dependence on their host institution or government, respective library managements must be able to demonstrate a significant commitment to the delivery of quality services in order to justify any investment. One way in which this might be achieved would be to increase collaboration among the libraries for the purposes of knowledge and resource sharing, and benchmarking, thus helping to ensure that libraries are delivering quality services that support their institutional vision. There are, of course, other ways, most obviously by the

Nigerian federal government improving its budgetary allocation for the HE sector so that it is able to meet UNESCO's recommendation of allocating 6% from the country's gross domestic product to education (Ololube *et al.*, 2013). Resolving the fundamental issue of funding will enable Nigerian universities to create favorable working environments, provide basic infrastructures, and improve ICT facilities and Internet connectivity, all of which are factors that directly affect university library services.

References

- Adebayo, E. L. (2009), "Quality assurance and the implication for the management of university libraries in Nigeria", *Library Philosophy & Practice*, Vol. 11, No. 2, pp. 1-9.
- Agboola, A.T. (2000), "Five decades of Nigerian university libraries", *Libri*, Vol. 50, No. 4, pp. 280-289.
- Alemna, A. A. (2001). The need for marketing and total quality management strategies in libraries in Ghana. *INSPEL*, Vol. 35, No. 4, pp. 265-269.
- Ashok, N. and Srivastava, J.P. (2015), "Total Quality Management (TQM) and its applications in academic library and information services", *International Journal in Management and Social Sciences*, Vol. 3 No. 2, pp. 676-684.
- Baidoun, S. (2004). The implementation of TQM philosophy in Palestinian organization: a proposed non-prescriptive generic framework. *The TQM Magazine*, Vol. 16, No.3, pp. 174-185.
- Baloh,P., Desouza, K.C. and Paquette, S. (2011) "The concept of knowledge". In K.C. Desouza and S. Paquette (Eds.), *Knowledge Management: An Introduction* (pp.35-71). New York: Neal- Schuman Publishers, Inc.
- Bergman, B. & Klefsjo, B. (2003). *Quality from Customer Needs to Customer Satisfaction* (2nd ed.). Lund: Studentlitteratur.
- Boharan, N. & Ziarati, R. (2002). "Developing quality criteria for application in the higher education sector in Turkey", *Total Quality Management*, Vol.13, No.7, pp. 913-926.
- Broady-Preston, J. and Preston, H. (1999). "Demonstrating quality in academic libraries" *New Library World*, Vol. 100 No. 1148, pp. 124-9.
- Brophy, P. (2006), *Measuring Library Performance*, Facet: London.
- Brown, A. (2013). *Practical Digital Preservation; A How-to Guide for Organisations of Any Size*. London: Facet Publishing.
- Cain, C. and Haque, S. (2008). Chapter 31. Organizational workflow and its impact on work quality. *Patient Safety and Quality: An Evidence-Based Handbook for Nurses*, 2. Rockville (MD: Agency for Healthcare Report and quality (US)
- Corrall, S. & Sriborisutsakul, S. (2010). "Evaluating Intellectual Assets in University Libraries: A Multi-Site Case Study From Thailand", *Journal of Information & Knowledge Management*, Vol. 9, No. 3, pp. 277–290.
- Cullen, R. (1997), "Does performance measurement improve organizational effectiveness? A most modern analysis", in *Proceedings of the 2nd Northumbria International Conference on Performance*

- Measurement in Libraries and Information Services* held on 7 –11 September 1997, Northumberland. Northumberland, England: University of Longhirst: 3 –20.
- Dale, B. (1994). *Managing Quality* (2nd ed.). Hemel Hempstead: Prentice Hall.
- Dale, B. (2003). *Managing Quality* (4th ed.). Oxford: Blackwell.
- De Bruin, T., Freeze, R., Kulkarni, U. and Rosemann, M. (2005), “Understanding the main phases of developing a maturity assessment model”, Proceedings of ACIS 2005, *16th Australasian Conference on Information Systems*, at https://eprints.qut.edu.au/25152/1/Understanding_the_Main_Phases_of_Developing_a_Maturity_Assessment_Model.pdf
- Demir, C. & Kocabas, I. (2010). “Project management maturity model (PMMM) in educational organizations”, *Procedia-Social and Behavioral Sciences*, Vol. 9, pp. 1641-1645.
- Dewey, B. (2014). "Leading the library by leading the campus: A dean's perspective". *Library Leadership Management*, Vol.29, No.1, pp.1-10. Retrieved from <https://journals.tds.org/lle/index.php/lle/article/view/7099>
- Dow, D., Samson, D. & Ford, S. (1999). "Exploding the myth: Do all quality management practices contribute to superior quality performance?". *Production and Operations Management*, Vol.8, No.1, pp. 1-27.
- Egberongbe, H. (2016), *An Investigation of Quality Management Approaches in University Libraries in South Western Nigeria*, PhD thesis, University of Sheffield.
- Egberongbe, H., Sen, B. and Willett, P. (2015), “Quality management approaches in academic libraries: A pilot study of a Nigerian university library”, *Qualitative and Quantitative Methods in Libraries*, Vol. 4, No. 3, pp. 399-412.
- Evans, J.R. and Lindsay, W.M. (2005), *The Management and Control of Quality* (6th ed.). New York: West Publishing.
- Goetsch, D.L. and Davis, S. (2010), *Quality Management for Organisational Excellence*. Upper River Saddle: Pearson Prentice Hall.
- Hasan, M. T. and Huq, M. M. (2010) “Quantification of Qualitative Parameters for Performance Appraisal: A Case Study”. *ASA University Review*, Vol. 4, No. 2, pp. 39-48.
- Hiller, S. K. (2008). “When the evidence is not enough: Organizational factors that influence effective and successful library assessment”. *Performance Measurement and Metrics*, 9(3), 223-230.
- Hsieh, P., Chang, P. and Lu, K. (2000), “Quality management approaches in academic libraries and information services”, *Libri*, Vol. 50, No. 3, pp. 191-201.
- Ikpaahindi, L. N. (2006). “Quality assurance and its implications in the management of university libraries in Nigeria”, presented at the *National Workshop on Quality Assurance in the Management of the Nigerian University Library System*. Abuja: National Universities Commission.
- Khoshgoftar, M. and Osman, O. (2009), “Comparison of maturity models”, *Proceedings of the 2nd IEEE International Conference on Computer Science and Information Technology, 2009. ICCSIT 2009*, pp. 297-301.
- Kranich, N. Lotts, M. and Springs, G. (2014). "The promise of academic libraries: Turning outward to transform campus communities". *College and Research Libraries News*, Vol.75, No.4, pp. 182-186.

- Kruger, C. J. (2008). *Knowledge Management Maturity from a Strategic/Managerial Perspective*. PhD thesis, University of Pretoria.
- Kruger, C. and Snyman, M.M.M. (2007), "Guidelines for assessing the knowledge management maturity of organizations", *South African Journal of Information Management*, Vol. 9, No. 3 at <http://www.sajim.co.za/index.php/SAJIM/article/view/34>.
- Kumar, S.A. and Suresh, N. (2009). *Operations Management*. New Delhi: New Age International Limited.
- Lewis, V., Hiller,S., Mengel, E. & Tolson, D. (2013). Building scorecards in academic research libraries: Performance measurement and organizational issues. *Evidence Based Library Information Practice*, 8(2), 183-199. Retrieved from: <http://libvalue.cci.utk.edu>
- Liang, C. (1999). "Critical success factors for reinventing the academic library". *Reference Services Review*, Vol. 27, No.2, pp. 127-133. Retrieved from: <http://wwwscholar.google.co.uk>
- Lynch, B. P., Murray-Rust, C., Parker, S.E., Turner, D., Walker, D.P., Wilkinson, F.C. & Zimmerman, J. (2007). "Attitudes of presidents and provosts on the university library". *College and Research Libraries*, Vol. 68, No.3, pp. 213-227.
- Melo, L. B. and Sampaio, I.C. 2007. Quality Measures for academic libraries and information services: two implementation initiatives –mixed model CAF-BSC-AHP and PAQ-SIBi-USP. <http://eprints.rdis.org>
- Moghaddam, G. G. (2008). "Total quality management in library and information sectors". *The Electronic Library*, Vol. 26, No. 6, pp. 912-922.
- Naqvi, T. H. (2013). "Current awareness services: A case study of the CBHTS Nasinu library at Fiji National University. *Chinese Librarianship*", No. 35, pp.99-111.
- Oakland, J.S. (2014), *Oakland on Quality Management* (3rd edition). Amsterdam: Elsevier.
- Odera-Kwach, B. A. (2011). "The impact of external quality assurance on university libraries in Kenya" PhD thesis, University of South Africa
- Oladele, B.O. (2010), "Setting the agenda for library quality assurance in the Nigerian university system. *Text of a Public Lecture at the Annual Jire Olanlokun Educational Foundation*. Lagos: Nigerian Institute of Advanced Legal Studies.
- Ololube, N. P., Dudafa, U.J. Uriah, O.A. and Agbor, C.N. (2013), "Education for development: Impediments to the globalisation of higher education in Nigeria", *International Journal of Educational Foundation and Management*, Vol. 1, No. 2, pp. 108-129.
- Omotayo, F.O, (2015) "Knowledge management as an important tool in organisational management: A review of literature. *Library Philosophy and Practice*, 1(e-journal) Paper 1238. Available: <http://digitalcommons.unl.edu/libphilprac/1238>.
- Oni, J. (2012), "Reflections on the growth and development of university education in Nigeria", *Bulgarian Journal of Science and Education Policy*, Vol 6, No. 1, pp. 170-193.
- Opara, U.N. (2010). "Toward improving library and information services delivery in Nigeria through total quality management", *African Journal of Library, Archives and Information Services*, Vol. 20, No. 1, pp. 63-69.
- Osinulu, L. and Amusa, O. I. (2010). "Information technology, quality assurance, and academic library management". *Library Philosophy and Practice*, Paper 324 at <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1334&context=libphilprac>

- Paulk, M. (2009), "A history of the capability maturity model for software", *ASQ Software Quality Professional*, Vol. 12, No. 1, pp. 5-19.
- Ritchie, J., Spencer, L. and Lewis, J. (2013), *Qualitative Research Practice*. London: Sage.
- Roberts, S. and Rowley, J. (2004). *Managing Information Services*. London: Facet Publishing.
- Sila, I. and Ebrahimpour, M. (2002). An investigation of the total quality management survey based research published between 1989 and 2000: A literature review. *International Journal of Quality & Reliability Management*, Vol. 19, No. 7, pp. 902-970.
- Souza, R. & Voss, C.A. (2002). "Quality management re-visited: A reflexive review and agenda for future research", *Journal of Operations Management*, 20(1), 91-109.
- Sullivan-Taylor, B. & Wilson, M. (1996). "Total quality management (TQM) implementation in New Zealand service organizations", *The TQM Magazine*, 8 (5), 56-64.
- Tam, L. (2000). "Quality management theory and practice: Some observations of practices in Australian academic libraries". *Library Management*, Vol 21, No.7, 349-356.
- Town, S. (2011). Value, impact, and the transcendent library: Progress and pressures in performance measurement and evaluation. *The Library Quarterly: Information, Community, Policy*, Vol. 81, No. 1, pp. 111-125.
- Town, S. (2014). "The value of people: A review and framework for human capital assessment in academic and research libraries". *Performance Measurement and Metrics*, Vol. 15, No. 1/2, pp. 67-80. <http://dx.doi.org/10.1108/PMM-05-214-0019>
- Town, J.S. and Kyrillidou, M. (2013), "Developing a values scorecard", *Performance Measurement and Metrics*, Vol. 14, No. 1, pp. 7-16.
- Wijetunge, P. (2012). "Assessing knowledge management maturity level of a university library: a case study", *Qualitative and Quantitative Methods in Libraries*, Vol. 1, No. 3, pp. 349-356.
- Williams, G. (2010), *Prince 2 Maturity Model (P2MM)*, version 2.1. London: Office of Government Commerce.
- Wilson, F. (2012). The quality maturity model: Your road map to a culture of quality . *The 2012 library assessment Conference: Building effective, sustainable, Practical Assessment*, October 29 - 31, Charlottesville, Virginia.
- Wilson, F. (2015), "The quality maturity model: Your road map to a culture of quality", *Library Management*, Vol. 36, No. 3, pp. 218-267.
- Wilson, F. and Town, J.S. (2006), "Benchmarking and library quality maturity", *Performance Measurement Metrics*, Vol. 7, No. 2, pp. 75-87.
- Zhang, Q., Vonderembse, M. A. and Lim, J. S. (2003). "Manufacturing flexibility: defining and analysing relationships among competence, capability and customer satisfaction". *Journal of Operations Management*, Vol. 21, No. 2, pp.173-191.