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Setting standards for qualitative and quantitative research productivity of Nigerian academic librarians: Issues, problems and prospects

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Abstract
This paper is an attempt to bring into focus the standards required for research productivity of Nigerian academic librarians in terms of quantitative and qualitative research reporting. The paper started by looking at the definitions of the variables, and relying on literature raised some criteria that could be adopted as standards of research reporting for Nigerian academic librarians. Problems and prospects of setting standards for qualitative and quantitative research productivity were enunciated. The study concluded that predetermined standards can be seen as a starting point when defining reporting requirements for the Nigerian library and information research community; that applying these standards should not be restricted to the writing stage of a particular study, and that Journal editors should assist in the review procedure by providing reviewers with the standards and implementing them, thus laying out more clear expectations for quality and acceptable research reporting.

Keywords: Academic librarians, research, qualitative research, quantitative research, research productivity, standards.

Introduction
Every educational researcher, including academic librarians in Nigeria, needs to be aware of different research traditions in order to choose which approach to take when conducting a study. The study of the social and personal worlds can be approached from one of two main traditions. These research traditions are qualitative and quantitative. The application of research paradigm and theory in academic inquiry is widely seen as a sign of a discipline's academic maturity. However, it is crucial to comprehend how research paradigms and theories are used in the Nigerian library and information science (LIS) research. This is because every research process is guided by research tradition, which also provides special contribution to the body of knowledge.

The adage "publish or perish" has been used for many years to describe the harsh reality that an academic must face; and in order to succeed in academia, one must publish frequently. However, according to research productivity indicators (Nygaard, 2017), the majority of academics who conduct research appear to do more perishing than publishing. Statistics revealed that a minority of academics create the great bulk of publications, whereas the majority of researchers write little to nothing at all, across board in almost every higher education or research context (Teodorescu, 2000, cited in Nygaard, 2017).

Dongardive (2013) claims that research is a process in which a problem is perceived, dissected into its component parts, and analysed within the context of some fundamental presumptions while valid and pertinent data are gathered, hypotheses are tested objectively, and, if necessary, are either rejected, modified, or proven. Another way to put it is that research is the methodological effort to uncover new facts, groups of data, or novel relationships between facts through the development of a preliminary explanation or hypothesis that is put to the test by an appropriate inquiry to confirm or refute it. The principle of objectivity is the fundamental guideline that controls research.

Research is equally the recording of direct observations or experiences that can be analysed quantitatively or qualitatively and it could be empirical or theoretical. Accordingly, Yilmaz (2013)

described research as a sort of empirical investigation into a social phenomenon or human issue that tests a theory made up of variables that are quantified and statistically analysed to see if it can explain or predict events of interest.

The fundamental essence of research results is examiners of research reports probing to know the contribution to knowledge particular research has made. Without this contribution to body of existing knowledge, such research is in futility.

In order to reveal in descriptive terms, the meanings that people attach to their experiences of the world, Yilmaz (2013) defined qualitative research as an emergent, inductive, interpretive, and naturalistic approach to the study of people, cases, phenomena, social situations, and processes in their natural settings noting that qualitative research is not based on a single methodology and does not belong to a single discipline. Since qualitative research focuses on the stories and narratives of lived experience, Berg (2018) claims that when empirical research is taken into account in this context, it is more widely accepted. In contrast, quantitative research is frequently conspicuously absent from the general tenor of conversations within the scholarship of critical librarianship (Berg, 2018). On the other side, quantitative research is a study that uses numerical data that is analysed using mathematically based approaches, particularly statistics, to explain phenomena.

Individual academic staff members' advancement and reputation in academic institutions are mostly based on the volume and quality of their research output. In the context of Nigerian universities, academics are teachers ranging from graduate assistant cadre to professorial cadre (Okiki, 2013 citing Okebukola, 2002).

Research output is the total number of publications produced by an individual, organisation, institution, or nation over a specific time period. The significance of these publications is frequently gauged by the frequency with which they are cited by other researchers (Sife and Lwoga, 2014). When evaluating higher education, Bottle et al and Hattie et al in Sawai (2017), added that the individual productivity (output) of librarians can be measured and used as a unit of analysis. This viewpoint is supported by the fact that academics' output (productivity) can be determined by counting the number of publications they produced over time. Calculating an academic's standing based on published publications is possible.

According to Adetomiwa and Okwilagwe (2018), research productivity in any university is the sum of all research that academic staff members carried out over a specific period of time. This productivity includes writing of books and book chapters, publishing in scholarly journals and conference proceedings, gathering and analysing original data, collaborating with postgraduate students on dissertations, and teaching courses.

Not paying attention to or adhering to standards in any human endeavour, including publishing, among other things, leads to application of unethical methods to reach expected goals. Standards serve as tools for refining and evolving various formulae and approaches of library and information sustenance to science, contributing to the enhancement in the organisation and management of scientific and information actions (Kozlova and Antoshkova, 2018). Setting of standards is done on international, regional and national levels (Akidi, Osedo and Chukwueke, 2021). International standards are developed by the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC) (Matysek, 2015). International Publishers Association in 2021 assisted in developing international standards for content identification, description, development and the facilitation of e-commerce with a view to promoting open, non-proprietary standards that can easily be implemented by large and small publishers around the world. According to Akidi, Osedo & Chukwueke (2021), standardisation plays important roles in library and information science (LIS), because it gives rules to identify, select, classify, exploit, communicate, provide access and retrieval methods, exchange and preserve information.

After defining what makes academic librarians' qualitative and quantitative research productive, the goal of this paper is to distinguish between qualitative and quantitative research methods. It also highlights the mixed-method research that many academic librarians use, looks at the difficulties academic librarians in Nigeria

encounter, and suggests standards that can be adopted for research productivity. In addition to highlighting the factors that spur academic librarians' increased motivation for research productivity, the paper makes an effort to provide solutions to the problems that have been highlighted.

Conceptual clarifications

Academic librarians

Academic librarians are professionals that work in academic institutions like universities, colleges of education, polytechnics and research institutions, among others, to make information and knowledge resources easily available and accessible to students, staff and faculty of such institutions. Academic librarians are responsible for selecting, acquiring, organising, managing, evaluating and disseminating information and information resources, as well as proving support to members of academic community. Their role equally encompasses supporting students and staff to develop relevant skills needed for effective navigation of the library and carrying out research. Such skills may be in the areas of information literacy, literature searching, referencing and copyright law, among others. Dawra in Sawai (2017) defined an academic librarian as a qualified professional responsible for maintaining academic library's care, which includes material selection, processing, and organisation as well as provision of information, instruction, and loan services to satisfy users' needs. The duty of the librarian in the internet world is to manage and mediate access to information resources that might only exist in electronic form. Academic librarians are thus professionally experienced and educated people who oversee the activities and services of libraries associated with academic institutions that engage in formal education for students who wish to complete a certain course in accordance with a set curriculum. To satisfy the demands of their diverse users, these operations and services also include the creation of their contents through selection, processing, and arrangement of resources as well as the delivery of information, instruction, and loan services. Additionally, academic librarians oversee and mediate internet access to contents that are available in electronic formats.

Research

Research is an intellectual process in which an issue is recognised, broken down into its component parts, and analysed in the context of some fundamental presumptions; valid and pertinent facts are collected; and any hypotheses (if any) are rejected, modified, or proven through objective testing. Through the use of scientific methods, research aims to find answers to open-ended questions. Dongardive (2013) asserts that research has traditionally been an activity of question-answering process through the accumulation and assimilation of facts that results in the formulation of generalisations or universals that extend, correct, or verify knowledge defined in terms of its sequential acts. Finding truth that is hidden and still to be revealed is the major goal of research. Scientific research is the subject of innumerable scholarly publications and papers, as well as nearly equal numbers of definitions. Determining what scientists do to establish new knowledge is a challenge that fascinates both scientists and philosophers or historians of science.

Qualitative research

It is often believed that the use of research paradigm and theory in academic inquiry indicates the academic maturity of a discipline (Abdulkareem, Ismaila, and Jumare, 2018). Approach for studying and understanding the significance that individuals or groups attach to a social or human situation is what Creswell (2013) characterises as qualitative research. Objects are examined in their natural settings as part of qualitative research in an effort to comprehend or interpret phenomena in terms of the meanings that people give to them. According to Kankam (2019), qualitative research is often restricted to in-depth small-group or individual studies. This methodology collects information through focus group interviews, unstructured in-depth interviews, and observation. As a result, qualitative research is equipped with all the necessary instruments to elicit recall and promote problem-solving. Researchers that use a qualitative research methodology are better able to understand the surroundings in which they operate. This claims that understanding "values, beliefs, and experiences

of people" is the primary objective of qualitative research. Consequently, it may occasionally become more adaptive over the research process (Kumar, 2011). Accordingly, the qualitative research methodology can continue to be adaptable for any changes, which is advantageous (Lapan, Quartaroli, and Riemer, 2012).

Along a continuum, a qualitative method may be inductive or deductive to varying degrees. Qualitative research enables researchers to "conduct in-depth examinations about a broad range of subjects" (Yin, 2011) further emphasising that a qualitative research approach is more suitable when the characteristics of the research problem are complicated since it "provides greater discretion in selecting topics of interest" and is a "form of research in many different academic and professional sectors". Certain aspects of symbolism, meaning, or comprehension in qualitative investigations "often entail a consideration of the individual's own views and subjective apprehension" (Berg and Lune, 2012). By applying induction to possible explanations of observed occurrences, a qualitative method is used to contextualise and understand results (Lapan, Quartaroli, and Riemer, 2012). Yin (2011) outlined five characteristics of a qualitative research approach:

- Studying the significance of people's lives in the context of real-world situations;
- Representing the opinions and viewpoints of the people;
- Addressing the social and cultural contexts in which people live;
- Providing insights into established or developing concepts that may aid in explaining human social behaviour; and
- Attempting to use several sources of evidence rather than relying solely on one.

When conducting qualitative research, information is acquired from subjects in their natural settings by "observing, asking open-ended questions, conducting in-depth interviews, and taking field notes" (Eyisi, 2016). The objectives of qualitative study are to clarify the arbitrary motivations and connotations that underlie social behaviour. In qualitative research, theory can either emerge as the conclusion of a study or it can show up from the start of the study, acting as a lens to direct the inquiry.

According to Hanson, Creswell, Clark, Petska and Creswell (2005) and Tuli (2010), this lens transforms into an advocacy perspective that influences the kinds of questions posed, guides data collection and analysis, and issues a call to action or change. The most popular data collection techniques for researchers who adopt the qualitative research tradition include in-depth interviews, focus group discussions, and naturalistic observation. These methods do not predefine dependent and independent variables but instead concentrate on the full complexity of human sense-making as the situation develops (Abdulkareem, Ismaila, & Jumare, 2018).

Quantitative research

Quantitative methods, which have a lengthy history dating to the 1930s, are difficult to define because they are usually used to refer to the research plan that reflects the "configuration of independent and dependent variables linked with data collection," Harwell, 2011). The measurement of quantity or amount is the foundation of quantitative inquiry. It applies to situations when there is a measurable expression (Dongardive, 2013). In the analytical and data gathering stages of quantitative research, numbers and figures are prioritised. However, according to Payne (2011), research quantification takes place across a wide variety of research and analysis. Because it uses methods of inquiry including experiments, correlation, and surveys, the quantitative approach to research helps to ensure that research findings are objective, reproducible, and generalizable (Harwell, 2011).

Quantitative research is stated as being "specific, highly structured, evaluated for validity and reliability, and may be explicitly described and recognised" Kumar, 2011). According to Johnson and Christensen (2012), "a quantitative variable is a variable that varies in degree or amount," whereas Bryman in Kankam (2019) concurs that a quantitative approach is structured with pre-set variables, hypotheses, and design. Usually, there are numbers involved. The idea that a researcher will put aside their "experiences, opinions, and biases to assure objectivity in the conduct of the study and the findings that are obtained" is fundamental to quantitative research approach (Harwell, 2011). This

method can therefore be "sub-classified into inferential, experimental, and simulation approach" and is best suited for testing a theory or explanation (Kankam, 2019). According to Harwell (2011), many quantitative studies use instruments like surveys and tests to collect data and "rely on probability theory to test statistical hypotheses that correspond to research questions of interest." These are key characteristics of many quantitative studies. Quantitative approaches are deductive in nature, in the sense that inferences from tests of statistical hypotheses lead to general inferences about characteristics of a population. The deductive process, according to DePoy and Gitlin (2019), entails "going from a basic principle to understanding a specific situation". Five benefits of the quantitative research approach were listed by Eyisi (2016):

- Statistical data is a technique used in the quantitative research approach, which helps researchers save time and money.
- Generalisation is made possible by this approach's use of scientific techniques for data collecting and analysis.
- It can be replicated because it is based on testing hypotheses.
- Utilising control and study groups is possible when using a quantitative research approach.
- Research biases are eliminated by the quantitative approach's researcher separation characteristic.

According to Abdulkareem, Ismaila, & Jumare (2018), the collection of quantitative data lends the quantitative approach a more "positivist worldview, experimental technique of inquiry, and pre-test assessments of attitudes. This is because researchers advance the relationship between variables and pose this in terms of questions or hypotheses, Creswell (2014) saw quantitative research as the best approach to use and test a theory; similarly, Hanson, et al (2005) and Tuli (2010) came to the same conclusion. Researchers in quantitative research use theory deductively and place it toward the beginning of the proposal for a study.

Differentiating qualitative research tradition from quantitative research tradition

Abdulkareem, Ismaila & Jumare (2018), believed that qualitative research tradition differs from quantitative research in that it holds that reality is subjective, multifaceted, and socially constructed by its participants. They contend that social constructions like language, consciousness, and shared meanings are the only ways to access reality (whether it is given or socially constructed). The four crucial factors of epistemology, theoretical perspectives, methodology, and methods must be taken into consideration when separating qualitative research paradigm from quantitative research paradigm. As a result, Yilmaz (2013) suggested the following as fundamental structural issues of the design of a research study: (a) Which paradigm or worldview will guide the design of the study? (b) What or who is going to be studied? (c) What research techniques will be employed? and (d) What research techniques or instruments would be employed for data collection and analysis? It is sufficient to state that the epistemological, theoretical, and methodological foundations of qualitative and quantitative research paradigms differ.

- Qualitative research is based on constructivism and explores what it assumes to be a socially constructed dynamic reality through a framework that is value-laden, flexible, descriptive, holistic, and context sensitive, whereas quantitative research is informed by objectivist epistemology and thus aims to develop explanatory universal laws in social behaviour.
- While qualitative research emphasises understanding how social experience is created and given meaning, quantitative research emphasises measurement and analysis of causal relationships between isolated variables within a framework that is value-free, logical, reductionistic, and deterministic, based on prior theories.
- In contrast to the quantitative approach, which supports the idea that psychological and social phenomena have an objective reality that is independent of the subjects being studied, the qualitative perspective views reality or knowledge as socially and psychologically constructed, implying that

the relationship between the knower and the known is inextricably connected.

The following table provides a summary of the epistemological, theoretical, and methodological distinctions between quantitative and qualitative research designs, as well as the underlying presuppositions, goals, strategies, and roles of the researcher.

Table 1: Differentiating qualitative research approach from quantitative research approach

Qualitative research (naturalist)	Quantitative research (positivist)
Assumptions	**Assumptions**
• Realities are multiple, constructed and holistic. Reality is socially constructed. • Knower and known are interactive, inseparable. • Primacy of subject matter. • Variables are complex, interwoven and difficult to measure. • Inquiry is subjective, value-bound.	• Reality is single, tangible and fragmentable. Social facts have an objective reality. • Knower and known are independent, a dualism. • Primacy of method. • Variable can be identified and relationships measured. • Inquiry is objective, value-free.
Purposes	**Purposes**
• Contextualization (Only time and context bound working hypotheses through idiographic statements). • Interpretation • Understanding actors' perspectives.	• Generalisability (Time and context free generalisations through nomothetic or generalised statements). • Prediction. • Causal explanations.
Approaches	**Approaches**
• Ends with hypotheses or grounded theory. • Emergence and portrayal. • Researcher is the instrument. • Naturalistic or non-intervention. • Inductive. • Searches for pattern • Seeks pluralism, complexity. • Makes minor use of numerical indices. • Descriptive write-up.	• Begins with hypotheses or theories. • Manipulation and control. • Uses formal, formal structured instruments. • Experimentation and intervention • Deductive • Component analysis. • Seeks consensus, the norm. • Reduces data to numerical indices. • Abstract language in write-up
Researcher's role	**Researcher's role**
• Personal involvement and partiality. • Empathic understanding • Etic (outsider's point of view)	• Detachment and impartiality • Objective portrayal • Emic (insider's point of view)

Source: *Lincoln and Guba (1985) and Glesne and Peshkin (1992) in Yilmaz (2013)*

Research productivity

Numerous academics (Sife and Lwoga 2014; Okonedo, Popoola, Emmanuel, and Bamigboye, 2015; Okonedo-Adegbaye, 2015; Ugwuona, and Dike, 2015; Yaya, Opeke, and Onuoha, 2016; Sawai, 2017; Adetomiwa & Okwilagwe, 2018; Urquhart, 2018; Shonhe, 2020; and Eruanga, 2021), who wrote extensively on research productivity agreed that recognition and advancement of academic staff members - including librarians - depend significantly on their research productivity. This includes the number of their publications, and is frequently gauged by the number of times they are cited by other academics. Hoffmann, Berg, and Koufogiannakis (2014) assert that all three categories (individual attributes, peers and community, and institutional structures and supports) have a major impact on research success, which is typically correlated with productivity and output. However, librarians' motivation and ability to build and maintain a scholarly record varies (Hoffmann, Berg, & Koufogiannakis 2017). While some librarians have excelled in this aspect of their duties, others have struggled (Walters, 2016; O'Brien and

Cronin, 2016). Research productivity can be a crucial component of librarians' career development and career advancement, and several factors influences the research productivity and output of individual scholars and academic librarians.

Meanwhile, Sife & Lwoga (2014) maintained that research productivity is a crucial factor in allocating resources, ranking of universities and research institutes, and determining workload decisions in universities and research institutions. Evaluating research productivity can reveal how individual scholars have contributed to the advancement of their field. Research output, also known as publication output, publication productivity, research output, and occasionally knowledge output, refers to the total number of publications produced by an individual, group, institution, or nation over a specific time period.

According to Schimanski and Alperin (2018) and Agarwal, Durairajanayagam, Tatagari, Esteves, Harlev, Henkel, and Bashiri (2016), an acceptable way to gauge a researcher's productivity is to consider the number of books, articles, and other publications that are published after being peer-reviewed, number of presentations made, and number of grants that are being awarded. From this definition, it implies that research productivity includes presentations at professional and academic conferences, seminars, symposia, and workshops in addition to scholarly materials published in authorised journal publishers. The impact of these publications is frequently assessed by counting the number of times they have been cited by other researchers (Okonedo, Popoola, Emmanuel & Bamigboye, 2015).

Standards and standardisation

Standardization is the process of creating and implementing guidelines for a systematic approach to a particular activity for the benefit of, and with the cooperation of, all parties involved, with a focus on the promotion of the best possible overall economy while taking functional conditions and safety requirements into consideration (Matysek, 2015). Standards in library and information science (LIS) provide guidelines on how to recognise, index, categorise, access, choose, use, share, and preserve information. Although qualitative research is getting more and more popular and esteemed, it can be challenging to assess its quality due to insufficient standards of reporting of important factors (Dunt & McKenzie, 2012). O'Brien, Harris, Beckman, Reed, and Cook (2014), averred that quality is multifaceted and takes into account the significance of the research topic, the rigour of the research techniques, the appropriateness and salience of the inferences, and the clarity and thoroughness of reporting.

There is much disagreement over the need for methodological rigour in qualitative research, but there is broad consensus regarding the importance of clear and comprehensive reporting (Barbour, 2001) but the best reporting would make it possible for editors, reviewers, other researchers, and practitioners to evaluate qualitative studies critically, apply the findings, and synthesise them (Network, 2014). Establishing and defining clear reporting criteria (standards) is a crucial first step in enhancing the calibre of reporting though they strive to add to a formal body of knowledge known as science, various research methodologies may differ in nature and objective, necessitating the use of various standards when evaluating the validity of claims.

The evaluation standards for qualitative research must be founded on entirely distinct presumptions with the following assumptions (O'Brien, et al 2014): (a) data were collected over time; (b) the study was conducted primarily using inductive reasoning; (c) data were presented in words; (d) all data are context-specific; (e) data analysis involves multiple transformations from raw data to theoretical statements; (f) generalizations occur abstractly through theoretical statements; (g) the value of a study is related to relevance for theory enhancement; (h) there are various layers to reality; (i) reality changes over time; and (j) the most crucial things to comprehend about occurrences are the meanings that are associated to them.

On the other hand, presumptions upon which the criteria of validity and reliability for quantitative research were established (O'Brien, et al 2014) are: (a) the data were collected cross-sectionally rather than across time; (b) the study's logic primarily followed deductive lines of reasoning; (c) the data were in numerical form; (d) the data were context-free; (e) analysis was carried out using statistical procedures; (f) the subjects are typical of the larger

population to which the findings can be applied; (g) generalizability is a crucial determinant of the significance of the findings; (h) there is a single, logical world that can be observed, quantified, and explained; (i) it is constant over time and can be quantified; and (j) the causes and effects of events are the most crucial concepts in understanding reality from a scientific perspective.

Given the aforementioned, it is obvious that context flexibility, or the capacity to switch between different research traditions or paradigms, is crucial. This indicates that in order to see things from a different perspective, perception must be altered. Every research tradition is based on a set of underlying assumptions about what is real. As a result of the creation of standards for the synthesis of both qualitative and quantitative research, a lot more attention has to be placed on enhancing the reporting of primary research results in the published literature. The approved standard formats for research reporting are listed in Table 1 below, along with descriptions, based on the literature review and standards for publications provided by various journal publishing companies; and are broadly grouped into four (4) items.

Table 2: Standards for reporting research

Num.	Item	Description
1	**Titles, Abstracts, and Introductory material.**	The reporting requirements for titles, abstracts, and introductory material (problem formulation, research question) in research are the same for both research paradigms, with the exception that authors rarely present a specific hypothesis and that the results reported in the abstract for qualitative research are narrative rather than numerical.
2	**Research Design and Methods**	Reporting on study design, data collection methodologies, and analysis techniques draws attention to various specific aspects of well-established research traditions. Many of the criteria place emphasis on both identifying and describing all aspects of the methods (such as approach, researcher characteristics and roles, sampling strategy, context, data collection and analysis), as well as on providing justification for each choice. This guarantees that writers be honest about their presumptions and choices. Because most quantitative researchers share positivist assumptions and typically agree on requirements for the rigour of various study designs and sampling methodologies, this norm is less frequently demanded in quantitative research. Several qualitative reporting criteria encourage authors to explain how they used methods like randomization and measurement validity rather than just mentioning the method. This is similar to how quantitative reporting standards encourage authors to explain how they used methods like randomization and measurement validity. For instance, authors frequently claim that data gathering continued up until saturation without mentioning how they identified and characterised saturation. Similar to this, authors frequently refer to an "iterative process" without providing any information about the specifics of the iterations.

3	**Results**	The key analytical findings should be mentioned in reports of qualitative study findings. These findings frequently include interpretation and contextualisation, which deviates from the conventional approach in quantitative studies where data are reported objectively.
4	**Discussion**	The explanation of research findings typically includes the extent and bounds of the findings (transferability), study constraints, and linkages to previous literature and/or theoretical or conceptual frameworks. It is advised that authors include the substance of each item regardless of the area it appears in because the boundaries between the results and discussion may not always be clear in some research traditions.

Source: *Culled, adapted and adopted from O'Brien, Harris, Beckman, Reed, and Cook (2014)*

Problems of setting standards for qualitative and quantitative research productivity

Setting standards for qualitative and quantitative research output in Nigeria has been bedevilled with challenges, which are of course not insurmountable. The problems are but not limited to the following:

- Non-adherence to research standards and journal guidelines.
- Inconsistencies in Journal publishers' requirements.
- Publish or perish syndrome and the quest for meeting promotion requirements.
- Publish or perish and the influence of predatory journals and publishers.
- Dichotomy in appraisal standards in Nigerian academic institutions and its effect on quality of publications of library and information science (LIS) professionals.
- Inability of some LIS professionals to register with google scholar, researchgate, adacemic.edu, among others that would project the visibility, productivity and research impact of their publications.
- Publishing only in print journals without considering digitizing and making them available online or publishing with quality online journals that are linked to indexing agencies and engines.

Prospects

Setting standards for qualitative and quantitative research output and adhering to such standards has a lot to offer academic librarians, which include but not limited to the following:

- Standardized research articles will be published and results of the findings will be impactful to the society.
- Citation index of LIS professionals in Nigeria will be improved upon.
- Visibility of the authors and their affiliated institutions would be achieved, while the prestige of the academic institution will be measured and positively enhanced.
- Predatory journals and publishers would be pushed out of market.
- LIS professionals would actively compete favourably with other professionals and be productive in their chosen career.
- Research outputs of LIS professionals would actually add to existing knowledge and impact of research would be felt as results of findings would be applied to solving societal problems.
- Uniformity of journal requirements, publication and promotion requirements and promotion standards would be stipulated and applied in LIS profession nationally and even globally.

Conclusion

Adopting the standards for research indicated in Table 2 and considering its prospects in publishing and research productivity for Nigerian academic librarians' qualitative and quantitative research

output is vital in addressing the issues with publishing research reports worldwide, which Onyanhca (2011) identified as being scarce and fragmented. As a result, the following should be taken into account while adopting and using the prescribed criteria:

1. Predetermined standards can be seen as a starting point when defining reporting requirements for the Nigerian library and information research community. The explanations provided are broadly applicable across disciplines, methodologies, topics, study participants, and users, enabling both experienced and inexperienced researchers to use the prescribed standards. The information on the list reflects what must be included in a research report, but it is important to note that neither a rigid format nor standardised content should be inferred from it. It may be necessary to organise or sequence the material differently than what is suggested consequent upon individual study needs, author preferences, and journal requirements.
2. Application need not be restricted to the writing stage of a particular study; rather, it can help researchers plan their studies and meticulously record the decisions and processes they made throughout the study.
3. Journal editors help the review process by supplying reviewers with the standards and enforcing them, thereby laying out more clear expectations for research. Despite the fact that these suggestions do not advocate for any particular methodologies, techniques, or quality standards, they do assist reviewers in pieces of locating information that are not found in the manuscripts.
4. Readers will have more full knowledge about a particular study as authors and editors apply the criteria, facilitating assessments of the reliability, relevance, and transferability of findings to their own context and/or to related literature. Complete reporting will also enable effective results synthesis across research.

In order for any specific report to best adhere to the principles enunciated, authors should focus their efforts on the information that is pertinent to the readership, context, and subject at hand. It is also expected that over time, such transparency will aid in identifying previously underappreciated shortcomings in the rigour and applicability of study findings. Furthermore, researchers, editors, and instructors should at this point, cooperate to correct any prevailing flaws and thereby raise the general standard of both qualitative and quantitative research productivity of academic librarians in Nigeria. By adopting these recommendations early, researchers may be more likely to select the paradigm and strategy best relevant to their research, examine and implement strategies for assuring trustworthiness, and keep track of procedures and decisions.

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