Towards Exploiting The Dynamics Of Information To Cope With The Present And Catch Up With The Future

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1.0 Introduction

If access and utilisation of information is unnecessary, what about non access and non utilisation of information? Imagine a situation or a moment when you are indeed alive but incommunicado even for a while to the extent that you are not in any way aware of what is happening with you and others, around you and others, beyond you and others, about you and others and for you and others. Naturally, the state of unawareness of the happenings around us and beyond us can be conceived as manifestations of information deprivation, bankruptcy and impotence which can summarily lead to emergence of a congregation of isolated, stagnated, dead-but-living individuals, communities and societies. We have to be aware of the happenings around us and beyond us to be able to develop, progress and advance as people, community, and society to cope with the present, as well as successfully contribute effectively and efficiently to our individual and collective developmental advancements to catch up with the future sustainably. We are able to be what we are at anytime by virtue of our ability and capacity to continuously and timely access and utilise relevant information as well as communicate and associate with whoever, whenever, wherever and for whatever it is supposed to be.

1.1 Concept of Information

The concept of information and what it stands for is better imagined when it is viewed within the perspectives of the story of the seven wise blind men who severally tried to describe an elephant. Their descriptions were found to be within the context of the different parts of its body they each had successfully touched. Indeed, each of them could be said to be right in a way, but the actual description of an elephant is completed when their experiences are aggregated into one perspective to get the full picture of the animal. To a large extent, it could be said that the lack of universal uniformity in the definition, understanding, interpretation, and conceptualisation of the term 'information' is premised upon the variations of the needs, challenges, experiences, and expectations of the different individuals, professions, disciplines, vocations, communities, and societies. The intervening variables

associated with the emergence of such differences are mostly dictated by the nature and type of education and training, vocation, skill, trade, discipline, specialisation, profession, occupation, career, institution, establishment and organisation. In reality and for all intent and purposes, the term 'information' should mean different thing to different people at different times; depending upon the prevailing dimension and circumstance. Thus, while some may conceive information to be data, processed data, facts, analysed data, etc. others may conceive it as statement of fact and source of decision making.

By and large, information can simply be conceived as whatever sense, impression, idea, perception, conception, experience, feeling, meaning and understanding derived from any form of interaction, association and contact with whatever, whosoever, wherever and whenever through the five human senses. Thus, the type and extent of whatever decision is taken or conclusion made as the by product of the information (derived impression, idea, conception, perception, meaning, understanding, experience and feeling) made out of or derived from the five human senses' contacts, interactions and associations with whatever, whoever, whenever and wherever largely depends on its timing, relevance and appropriateness. In other words, the timing, type, and relevance of the information at hand greatly influence the type and nature of decisions and conclusions made on whatever, whenever and wherever. By and large, it can be submitted that an aggregated set of information gives birth to knowledge which is consequently committed into human and machine (Computer) memories and also in print and electronic formats to facilitate their custody/management and ease of retrieval, access, transfer/dissemination and utilisation whenever, wherever and for whatever purpose.

In contribution to the debate on the concept of information, Mohammed, Z. (2012a) remarked that, ironically, some see information as data, processed data, fact, analysed data, etc. useful for discussion, decision-making and making a difference in life and in all human endeavours. He added that, perhaps the difference in the perceived meanings of the concept of information allow for coping with the inquisitive innate tendencies of not only man, but all living beings to explore and adjust to the world around and beyond them and also make any expected difference to meet up to expectation. In another dimension, Mohammed, Z. (2012b) further observed that , like facts and data, information can be: acquired, classified, stored and preserved in different media (print and electronic), etc. and made relevant and useful or otherwise for discussion and decision making that makes a difference in life and in all human endeavours. He concluded that information is simply a by-product of the interfaces/ interactions within, between and among the physical space, virtual space and human space. Within this framework and context, the difference in the perceived meanings of the concept of information allow for coping effectively with the inquisitive tendencies of not only man, which characteristically is inelastic and multidimensional, but also of all living beings to explore the world around and beyond them for one reason or the other. The core fact about any type and source of information is that it must be reliable, relevant, dependable, supportive, consistent, complete, meaningful, current, defendable and package able in any format for ease of identification, location, access, retrieval, transfer and dissemination far and wide.

In another dimension, Losee (2002) observed that the term 'information' has been defined, understood and interpreted differently across a vast array of disciplines that use them. That it is actually difficult to define because it has different dimensions and means many things to different people. To some, its news, fact, data endowed with relevance and purpose. Also, its used interchangeably as news, facts, data and knowledge. Kaniki (2001) viewed information as ideas, facts, imaginative works of the mind and data of value, potentially useful for decision making, question answering, etc. Miller(2002) argued that information as such is static and lifeless, simply existing in a variety of formats like magazines, TV, Compact Disc-Read Only Memory, (CD-ROM), letters, and so on. That only when human beings assign meaning and interpretation does it become knowledge which is that we know. Westbrook (2000) added that by analysing information it becomes knowledge which can result in some form of action. However, Capurro (2003) opined that in its modern context, the term is used in the sense of 'to instruct, to furnish with knowledge'. In another dimension, Smith (2009) is of the view that the term is a property of matter, any message, document, or information resources, any publically available symbolic material, or data.

Arising from the multifaceted definitions, understandings and conceptions of the term 'information' it can be conceived as whatever impression, perception, understanding, meaning, idea, feeling, and sense derived or made out of whatever contact, exposure, connection, involvement, interaction, and association with anything, event, situation, environment, media, and action that adds to the existing knowledge, experience, understanding, competence, know-how, and expectation in whatever form and level. This concept presupposed that information is simply whatever is derived or made out of any direct or indirect, conscious or unconscious, as well as intentional or intentional contact or association with any type of phenomenon, entity and environment without limitation to source, resource, media, channel, time, location, and nature of the outcome. Such outcomes tend to affect or impact positively or otherwise in various forms and levels on the existing predispositions of beings, environments and circumstances. It has been argued that, due to the pervasive nature and characteristics tendencies of information, it could be conceived as anything, matter, event or circumstance we physically or otherwise come across with or get exposed to consciously or unconsciously and accidently or intentionally that adds positively or otherwise to our existing knowledge, ideas, perceptions, and experiences. More often than not, we can make a difference and perform better in any circumstance to the extent that we are able and capable of retrieving and accessing relevant information about something, in something, and for something; as well as effectively utilise information as something, for something and in something (Mohammed, Z.: 2012).

Certainly, when viewed within the context of the concomitant effects of information dissemination, transfer and infection paradigms as well as theoretical and practical perspectives, whosoever is in possession of relevant and reliable information and strategically utilises it effectively and efficiently will always be at the upper hand over others without it, especially in planning, maintaining and sustaining a niche over the peers and competitors and in decision-making processes and execution. Essentially, information should be viewed within the perspective of: a vital prime capital and product that needs to be acquired and

managed effectively; a knowledge that needs to be acquired, managed and effectively utilised to meet up to expectation; a message from which necessary and relevant ideas, knowledge, experiences, etc. will be obtained; an idea of the structure of the systems that needs to be maintained and sustained; a factor affecting and influencing organisational and systemic operations; and a veritable foundation upon which organisational and managerial processes and advances are anchored and sustained. The type of information at our disposal and the extent of its effective retrieval, access and utilisation depict who we are, what we can do, how we can do things, when we can do things, where we can do things, how far we can do things, and for what we can do things.

1.2 **Information Needs**

As a by-product of human inquisitive nature and tendency, the need to know and the need to seek for information from wherever never end. Ceaselessly, there abound varieties of information from somewhere near, far and wide on something, from something, about something, and for something which is needed to satisfy given needs and expectations. Thus, in direct response to satisfy the human innate tendencies of curiosity, inquisitiveness and enquiry; the desire, urge and feeling for a need to access and utilise certain information regardless of where it might be located tend to push such persons to seek for the perceived information. Whereas, the ability to successfully locate, retrieve and secure the needed information especially at the material time of need serves to pull the individual to put in more efforts to look for more other relevant information. Mohammed (2015) submitted that one's urge and desire to seek for information can be conceived as push factor while the by-product of the ability to successfully secure the needed information is the pull factor which tends to continually encourage seeking for whatever information whenever, however and wherever . Within the perspectives of theory of motivation, it can be argued that motivation is what stimulates (pushes) someone to behave or do certain things to satisfy a given need, desire or felt gap. Whereas, the result, outcome or by-product successfully obtained information from the cumulative endeavours, efforts and energy expended to satisfy the prevailing need, desire, urge or felt gap (pull) continually encourages more efforts to meet up to the expectations. Conversely, it can be submitted that the more one succeeds in getting what is needed (pull), the more the urge (push) to seek for whatever, whenever, wherever and for whatever. In another dimension, efforts and energies dissipated to retrieve and access information can be viewed within the realm of what stimulates (motivates/pushes) someone to seek, search, locate and retrieve the needed information; and the success, satisfaction, discovery, pleasure , benefits, and whatever goody-goody derived or obtained in form of ways, strategies, outcome, and by-products of such endeavours (pull) serves to encourage the information seeker to continually put in variety of efforts to succeed in retrieving and accessing the relevant information needed (Mohammed:2015d). I have discovered with admiration the efforts of some private individuals' initiatives to establish in the North Eastern Nigeria, private media stations such as the 'Dandakura' Radio Station, and also the Gotel Radio and Television Stations by the Gotel Communications Limited to educate and enlighten the peoples of the region on national and international current affairs; and particularly issues related to the socio-political, cultural and economic affairs, security and stability of the region

in English, Hausa, Fulfulde and in other native languages spoken in the area. In like manner, the Nigerian Army also established similar outfit ('Soja Birgiman Hankaka' Programme of Quick Action Media) to further enlighten the inhabitants (and the Nigerians at large) on the happenings around and within their environment, particularly about the 'Boko Haram' saga and general security issues in the area and in the country at large.

In a study on the Influence of Push and Pull Factors on Information Seeking and Retrieval by The Academic Staff and Students in Ahmadu Bello University, Zaria by Mohammed and Abdulkadir (2016), it was discovered that what pushes the respondents to seek and retrieve information include: a) need to belong and participate in a network; b) cope with studies and academic work; c)contribution to the advancement of their profession; c)be ahead of colleagues and friends; d) win favour and recognition among colleagues and friends; e)be active in informal and informal social interactions; f)assert influence among colleagues and friends; etc. On the Other hand, what pulls the respondents include: accolade and praises from peers; reward, grade and money; promotion at work; goals achievement; positive reinforcement; etc. It was also discovered that there is no significant difference between the academic staff and students in Ahmadu Bello University, Zaria on the push factors that influence their information seeking and retrieval. However, there is significant difference between the Academic Staff and Students on the pull factors that influence their information seeking and retrieval.

The fore going discovery further points to the need to effectively manage information in all dimensions to facilitate the ease and effectiveness of its identification, verification, location, retrieval, access and utilisation particularly on 24/7 operational regime so that the push and pull factors influencing information seekers are actualised at convenience and at least cost. Within the perspective of the philosophy and practices of information generation, acquisition, management, dissemination, access and utilisation, I submit that: a) every piece of information, regardless of its format, content and location, is definitely useful in one way or the other and at one time or the other; b) every information user and seeker, regardless of the need and location, definitely has a matching information relevant to the need and expectation; c) every piece of information, regardless of the content and context, has its user and seeker regardless of the location; d) every information user and seeker definitely requires minimum time and effort to locate, retrieve and access needed information regardless of the format and location; and e) endeavours and efforts towards garnering and managing information must be dynamic to accommodate varieties of emerging paradigms of context of information, information users and seekers, and the characteristics and predispositions of the information seeker and user regardless of time and location. This is in line with the famous Shiyali Ramamrita Ranganathan (1892- 27th September, 1972) five laws of Library Science (2003): ‘’**Books ARE For USE; EVERY READER HIS OR HER BOOK; EVERY BOOK ITS READER; SAVE THE TIME OF THE READER; and THE LIBRARY IS A GROWING ORGANISIM’’**.

Generally, the fact that beings cannot do without information, no matter the quantum, for whatever purpose; and are continually involved in the generation and acquisition of information, it is expedient that information of whatever type needs to be effectively

managed for easy location, identification, retrieval and access for utilisation. It has been discovered by Mohammed (1997) that, in a typical establishment or system, information is required to design and modify its general and specific organisational structure; determine its hierarchical levels of leadership including division of labour amongst workers; establish procedures, rules and regulations governing its operations and inter-relationships with other establishments or systems within and outside its environment; etc. He further discovered that, even in a non-formal establishment or system, information is still needed to survive as it is necessary to know: what is happening around and in the neighbourhoods; what should be done to avoid the risk of being negatively affected/infected or subjugated by others; how to seize advantage of the happenings and other critical factors; when and how to be creative and innovative; how to maintain domineering lead among contemporaries and rivals; when and how to maintain and sustain networks, collaboration and cooperation between and among peers and contemporaries; and most importantly, how to maintain and sustain harmony within and outside the workplace and operational environment. Incidentally, the relevance and strategic importance of information has come to light in the current **total fight against terrorism and insurgency in Nigeria** when, through the print and electronic media, the general public is day-in-day-out continuously reminded of the absolute need and commitment:

> *TO SAY SOMETHING WHENEVER AND WHEREVER WE SEE SOMETHING, HEAR SOMETHING AND SUSPECT SOMETHING UNUSUAL; and*
> *BE ALWAYS VIGILANT AND ALERT SUCH THAT WHENEVER ANYTHING UNUSUAL HAPPENS OR IS ABOUT TO HAPPEN AROUND US, WE SHOULD RUNAWAY FROM THAT VICINITY FOR OUR DEAR LIFE TO A SAFE PLACE FROM WHERE WE SHOULD IMMEDIATELY REPORT TO THE APPROPRIATE/RELEVANT AUTHORITIES ACCORDINGLY.*

In another perspective to **checkmate and exterminate corruption and corruptive tendencies in Nigeria,** we have been positively encouraged and enticed to blow the Whistle and continuously do so :

> whenever we are confident that we see what is unusual at wherever; and
> whenever we confirm and are certain of whatever form of suspicious movements and actions at wherever.

This clarion call for strategic approaches to information access, disclosure, transmission and dissemination point to the fact that information should be treated as a strategic resource that should be effectively and efficiently managed like human and material capitals and resources such as money, manpower and other factors of production for better decision making and utilisation.

1.3 Information Resources and Sources

Conceived within the paradigm of vicious circle, it can be postulated that beings (humans and animals) by their nature, instincts and capacity of their sensory organs, are technically involved consciously and unconsciously in information creation and recreation, generation and regeneration, sourcing and acquisition, organisation and retrieval, dissemination and

transfer, access and utilisation. As a by-product, the relevant information available at their disposal are continually being utilised accordingly to take informed decisions for whatever and on whatever, whenever and wherever it is seen to be exigent so as to effectively and efficiently cope with the immediate and future needs, challenges and expectations. In effect and depending upon the circumstance, an information source can be conceived as resource and vice versa. In like manner, it can be argued that information source and resource can be conceived as an aggregate of any living and non-living being from which any type of impression, perception, idea, feeling, understanding, meaning, or sense could be made out of as a result of any type and level of intentional or unintentional contact, exposure, or association with it. Logically, information sources and resources can be animate and inanimate beings which include but not limited to: physical and material entity, human beings, animals, insects, environment and climate, print and non-print documents, places and locations of all sorts and types such as social places and joints, eateries and restaurants, social clubs, mechanic workshops, 'gidan dambe (wrestling centre)' and 'gidan chacha (gambling centre)', 'majalisa' and 'dandali (gossip centres), 'maishayi (tea)' and 'maitsire'(meat stake) corners /joints, 'mashaya (beer pallor)', recreation centres, sports arena, transportation stations, viewing centres, market places, worship grounds and places, palaces of rulers and heads communities, etc. Most often, the social places are unique social local spots conceived to preserve the traditional cultural settings of people in a community. They are useful for tracing the growth of human civilisations as well as historical and unrecognisable developments and changes of a rural, city community settings. Also, they serve as informal places for meetings and gathering of people in a community regardless of their socio-cultural, ethnic, tribal, religious, political and economic divide/strata to discuss and strategise on the way out for the overall benefits of the community. However, the extent to which information is obtained from the social places is a function of the perceived integrity of the individual, level of familiarity with members of the social group, type of information to be shared among the members of the social group, level of participation in the social activities and programmes of the social group, level of human and material assistance given to the social group, level of status of the members of the social group, the vocation and work place of the members, etc. Other strategic information sources include: legislative houses of assembly, government houses and offices, public and private offices, education and training, activities and services of public and private institutions and organisations, occupation and trade, teaching and learning, formal and informal activities and programmes of communities and societies, speeches and messages, lectures and sermons, whistle blowing and whistle blowers, community of practice, print and electronic media, audio and visual media, multimedia devices, computer systems, virtual network systems and platforms (e.g. Internet, intranet and extranet), libraries and information centres, museums and archives, etc.

Depending on the prevailing circumstance, Information resource could also serve as information source. Information resource serves as resource when conceived within the context of being a container, vase, medium or platform in which needed information is contained. Conversely, information resource serves as information source when viewed within the perspective of being a point of reference from which certain or other related information resources can be obtained. Generally, information resources could be of different

types and formats in which information of any type and content are contained for safe keep/preservation, identification, verification, location, retrieval, access, transfer, dissemination and utilisation. Information resource can be in form of: databases, print and electronic documents such as books, reference collections, textbooks and novels, ephemeral; periodicals and serial publication; government documents; correspondences and memos; and ICTs such as computers, telephones of different brands and make, Internet and other virtual network environments, etc.

Our study on accessibility and usage of scholarly information sources by Faculty Members and Postgraduate Students of Ahmadu Bello University (A.B.U.), Zaria, we discovered that the scholarly information sources available, accessed and utilised for scholarly activities by faculty members and postgraduate students in A.B.U. are: printed books, papers delivered at professional meetings, dissertations/theses, newspapers and magazines, printed abstracts and indexes, manuscripts and other primary source documents, printed journals, online abstracts, and indexes, online databases, e-journals, e-books, technical/scientific reports, discussion group, photographs, prints and other visual sources, current awareness services, selective dissemination of information , newsgroup, and alert services. We also discovered that there is significant difference between the faculty members and the postgraduate students in the A.B.U. in their respective use of the scholarly information sources. The print information sources were more preferred for scholarly activities by the scholars. The faculty members mostly use the print sources while the postgraduate students mostly use the online sources. Most of the faculty members still believe that print and traditional sources of information are more reliable for scholarly activities than the online sources. Whereas, most of the postgraduate students who are becoming more technology savvy, feel that the online sources are user-friendly, convenient and interactive (Ganiyu, Mohammed and Temboge:2010). It is necessary that universities as scholarly institutions embrace and incorporate ICTs for information sourcing, access and use such that the perception of the scholars on electronic information provision, access and utilisation for scholarly activities will positively change for good in line with the contemporary digital scholarly environments.

In the selection and acquisition of information resources and sources to meet the information needs of the target population, it is necessary to consider among other things: the vision and mission of the institution, organisation or society being served; the type and content of selection and acquisition policies; the nature and characteristics of the customers; the type of vocation, specialisation and profession of the customers; the existing and anticipated information needs of the customers; the quality, specialisation, and quantum of the staff/workforce; the type, quality, relevance and appropriateness of the information resources; the types, scope and levels of the existing and anticipated services to be provided; the nature and characteristics of the work place, space and environment; the systems requirements and maintenance; the costs of information resource acquisitions and maintenance; the extent of available alternative options for acquisition of the information resources; and the extent and levels of collaboration and cooperation between or among other relevant library and information centres within reach physically and remotely; etc.

It is worth noting that, publishing enterprise is one of the oldest business venture in Nigeria. The first publishing house was established in 1846 (before 1914 amalgamation of Nigeria)by Rev. Hope Waddle in Calabar; followed by another in 1859 by the Church of Mission Society(CMS) in Abeokuta; and thirdly, by Onibonoje in 1959. With this rich historical background, it could be assumed that publishing business in Nigeria would have been a role model for other emerging businesses in the country to emulate. Basically, it is expected that the publishing industry of a country, guided by an articulated vision and mission, employ inclusive approach to meet the yearnings of the varying customers such that the publishers publish all forms and types of information resources ranging from school textbooks to other forms of ephemeral works for all categories of people in a society and made available to them at affordable prices and attractive formats. While I have discovered that the publishing industries in Nigeria are not doing badly when compared to those of some of the African countries, there are yet still some mushroom printing houses mostly owned by private individuals struggling to make ends meet (Mohammed, Z : 1984a). However, my further study on publishing in Nigeria revealed that a majority of the publications are not only scarce for acquisition, but are not easily affordable to the average Nigerian families and students at all levels of educational programmes. The shortcomings mostly result into readers' continued over-photocopying of the information resources without due regards to copyright laws and intellectual property infringements as well as adoption of unending varieties of unlawful, unethical and scandalous methods and strategies of manipulating the much needed publications in libraries and information centres to satisfy their ulterior motives (Mohammed, Z: 1999). Furthermore, my analysis of the strength, opportunities, weaknesses and threats of publishing in the Northern Nigeria and indeed across the country reveal that: a) their strengths include but not limited to numerousity of themes for publication, policy on publishing in local languages in schools, readily available contributors/writers, and availability of electronic publishing equipments and facilities; b) their opportunities include but not limited to low density reading culture and literacy promotion campaign, upsurge of public and private non-formal, elementary, secondary and tertiary students' enrolments, cultural rejuvenation, integration and custodianship and readily available critical mass of readers/customers; c) their weakness include but not limited to lack of articulated vision, mission and objectives, lack of strategic plans and plans implementation, and unreliable sources of funds, lack of literary agents/agencies for scouting hidden talents, and lack of environmental scanning and needs assessment ; and d) their threats include but not limited to increasing rise in authors' personal publishing endeavours, rising cost of publishing equipments and consumables, declining economic capacity of the customers, electronic publishing, social media publications, lack of literary agents/ agencies, and steady hike in piracy activities (Mohammed, Z. : 2017a). I am of the position that the extent to which publishing in Nigeria flourishes as a successful business enterprise will largely depend upon how the weaknesses and challenges identified are eliminated or ameliorated to a greater extent; while more efforts are being put in place for increased areas of strength and opportunities.

1.4 Information Management(IM)

Essentially, attempts to effectively manage the dynamics of information can be traced back to the historical oral settings of the ancient times when strategic information are passed orally from one person, a generation of people, culture, family, community, and clan to the other. The oral information are transferred and disseminated formally via designated media such as: the town-criers and messengers; religious, clan, community and family heads; and sometimes informally through rumour mongering, gossips and public utterances. Such information transfer efforts were augmented with the introduction of writing on variety of items such as leaves, skins, parchments, papyrus roles, stones, walls, clay tablets, carvings, boards, etc. to document whatever it is. This is to overcome the transiency of oral cultures which are heavily dependent on the living and are subject to manipulations and contradictions as well as lost as the person passes away as a result of death, incapacitation, being no more in the scheme of things, or has gone into oblivion and wilderness. The availability of scribes and courtiers especially in palaces, places of worships, schools, courts, etc. has further facilitated the writing and documentation of information for posterity and for easy identification, retrieval, access and utilisation.

From all indications, it can be argued that information as it were, is a natural phenomenon which exists on its own at all times without any imaginable meaning or importance attached to it until when it is consciously or unconsciously contacted or contracted due to one instance or the other to give it a meaning and interpretation based on the impression, meaning, idea, feeling, understanding and experience derived or made out of it. This, subsequently, leads to its production and documentation in different media and formats to further create, generate, collect , acquire, process, organise, store, retrieve, transmit or disseminate it far and wide for one reason or the other until it is finally disposed of whenever it is found to be irrelevant and inconsequential or it has been committed into knowledge base. From managerial perspective, information is said to be effectively managed when there is effective production, storage, retrieval, access and dissemination of information in any format and on any medium to support the functions and objectives of individuals, public or private establishment, institution and organisation. Leidner, (2006) is of the view that IM is a life cycle of processes that support the organisation's learning activities, identifying information needs, acquiring information, organising and storing information and using information. In his contribution, Gomez (2007) opined that IM depicts a comprehensive approach to managing the flow of information's data from creation and initial storage to the time when it becomes obsolete and it is deleted. Simply put, IM comprised of three basic activities and processes:

a) information input- generation, gathering, collection and acquisition of relevant information irrespective of the type, nature, category and source regardless of the methodology employed or adopted to secure the information needed;

b) information processing and storage-arrangement, organisation, control and safe keep of information according to a given principle, order or standard for easy identification, location and retrieval ; and

c) information output-information distribution, sharing, dissemination and transfer for easy access and utilisation, i.e. ways and means through which the needed information would get to the right customer at the right time and in the right package (Mohammed:2003a).

By and large, Information Management (IM) can be conceived as the systematic adoption, adaption and employment of standardised or modified methods and processes of planning, acquisition, organisation, control and coordination of efforts and activities aimed at facilitating the location, identification, verification, retrieval and access to information, regardless of the format, content and location; using standardised information handling techniques and skills, and information systems and technologies. This is needed for effective provision, retrieval, access, transfer, dissemination and utilisation of information sources, resources and services. Essentially, achievement of the basic goals of efficient information handling and processing for effective access and utilisation especially in contemporary world institutions and organisations require specially designed and innovative information systems, technologies and solutions. Hence, effective IM should involve planning, organisation and control of information resources based on defined methods and standardised management processes of planning; procedures of control; and interrelated organisational arrangements suitable and supportive of the management functions, practices and expectations of the relevant institutions and organisations in focus. This is to facilitate easy identification, location, retrieval, access and utilisation of information for the fulfilment of desired vision, mission and goals and aspirations/objectives. In effect, the basic aim of IM in any or for any organisational or institutional setting should be to facilitate adoption and application of standardised procedures or methods of processing, storage, retrieval, dissemination, access and utilisation of relevant information regardless of the format, content and media to satisfy a given need and meet up to challenges and expectations. When information is effectively managed, both the internal and external information conceived or identified to be relevant to an organisation or target audience is:

- easily organised, retrieved and accessed for effective utilisation as the information system architecture will be better integrated for better and enhanced utilisation;
- the relevant human and material resources and technologies needed will be cost effectively managed and utilised; and
- the information systems will be better designed to cope with the information needs and expectations of the organisation.

However, in perspective, the extent to which an organisation's IM is effectively implemented will largely depend on:

- reorganisation of the existing management structures and approaches to integrate the new system;
- commitment and support of the management of the organisation to ensure successful implementation and sustenance of the information system;
- availability of defined policy on system implementation and management procedures;

- strategic plans and training of the organisation's personnel and other stakeholders on attitudinal and philosophical change to effectively embrace the new paradigm shift;
- review of the vision, mission, goals and objectives of the organisation to cope with the contemporary and long-term challenges and expectations of the organisation;
- readiness to deploy, maintain and sustain the relevant technologies for effective IM in the organisation; and
- ability to put in place effective structures and mechanisms for monitoring and evaluation of the system(s) development and implementation.

Since time immemorial, libraries and information centres of whichever type, be it Institutional, Private, Royal/Palace , Monastery, School, Academic , Research and Public; are being established to house and manage varieties of information sources and resources regardless of their format, content, and packaging for easy location, identification, verification, retrieval, dissemination, and access to satisfy varied information needs and challenges. Such information needs include but not limited to academic/educational, social, cultural, religious, economic, political, inter-relational, integrational, developmental, technological and technical needs and expectations. By and large, as veritable gates to unhindered access to essential information resources for socio-economic, scientific, educational, political and cultural development and advancement of nations and societies, libraries generally serve to maintain and sustain the development and application of intellectual freedom, safeguard democratic values and universal civil rights, and promote social inclusion devoid of any form of segregation amongst the target customers. It is within this context that the modest activities of the International Federation of Library Associations and Institutions (IFLA) and that of the United Nations Educational Scientific and Cultural Organisation (UNESCO) are instructive (ifla@ifla.org/www.ifla.org). Such endeavours include:

a). IFLA/UNESCO Public Library Manifest(1994) manifesto in which public libraries are conceived as gateways to knowledge and conduits for provision of basic conditions for lifelong learning and independent decision making, and also as veritable avenues for socio-cultural, political and economic development of the individuals and the society.

b). IFLA/UNESCO School Library Manifesto in which school libraries are expected to serve as dependable sources for providing all forms of education, teaching and learning services especially the provision of all relevant print and electronic books and other information resources useful to the members of the school community. This is to make them critical thinkers , innovative, creative and effective users of information and information systems, resources and services.

c). IFLA Glasgow Declaration on Libraries, Information Services and Intellectual Freedom(2002) in which IFLA proclaimed the fundamental right of the human beings to both access and express information without restriction. Together with its worldwide membership, IFLA supports, defends and promotes intellectual freedom as contained in the United

Nations Organisation (UNO) Universal Declaration on Human Rights. It is conceived that intellectual freedom entails the gamut of human knowledge, opinion, creative thoughts and intellectual activities.

Arguably, and depending on the type, vision, mission and objectives, libraries and indeed information centres are generally established to provide varied opportunities to effectively :

- access all available and relevant national and universal information and information resources irrespective of the forms, types, packages, locations and access time;
- access the contemporary and traditional national, cultural and scientific knowledge;
- employ varieties of technologies including network platforms and systems to facilitate easy identification, retrieval and access to information and knowledge sources and resources;
- explore viable avenues for information and knowledge utilisation for self development, learning, innovation, creativity, and sustenance especially through formal and informal information, knowledge and skills acquisition, Information and Communication Technology (ICT) literacy;
- utilise relevant information sources and resources to facilitate the mobilisation and integration of peoples of different strata economically, politically, and socio-culturally regardless of their location; and
- support , promote and sustain individual, societal and national development and advancement through the provision of varied general and specialised print and electronic information resources and services especially in the areas of education and literacy, rural development and socio-cultural integration; manpower training and skills development; professionalisation and networking in workplaces; political, legislative and economic endeavours; and national and international relations and integration .

In a similar mode, museums and archives are also being established at public and private establishments and institutions to house varieties of endearing past information records, sources, resources, documents and objects of lasting and continuing values for present and future consultations. Essentially, records and archives are being established as repositories by individuals and families, communities, societies, private and government (public) institutions/agencies and nations. Principally, they are to house, preserve and secure strategic and sensitive documentary information resources, source, systems, and objects identified to be of significant historical value and relevance to the evolution, heritage, development and advancement of civilisations, societies, communities, public and private systems, organisations, and institutions. They serve as veritable sources for location, identification, verification, retrieval, access and utilisation of such vital information resources and sources. My study of the private collections of some eminent individuals (Mohammed, Z: 1980 & 1998) and the contributions of philanthropic organisations towards literary and library development in Nigeria (Mohammed: 1983) confirmed that libraries have been embraced as a

veritable avenue for effective information and information resource management, access and utilisation. Such perceptions could also be said to have led to the establishment of the first ever Presidential Library in Nigeria and perhaps the first in Africa, Olusegun Obasanjo Presidential Library, Abeokuta formally commissioned in 2017. It is hoped that, the library will teach children and young adults the essential concepts of leadership and citizenship through the example of a former President. By upholding the critical worth of good governance, the exhibitions would inspire future leaders of Nigeria (Marcel Mbamalu, *et al*, 2017).

It is within the context that, during my tenure as the University Librarian, Ahmadu Bello University (ABU), Zaria, I spearheaded the Design, Development and Installation of ABU **Institutional Digital Repository (IDR)** on the ABU Local Area Network and on the Wide Area Network (**http://kubanni.abu.edu.ng:8080/jspui)** in 2010 for easy location and access within and outside the University. The IDR is to serve as the main source for identification, location, retrieval and access to the academic and other literary contributions of the academic and non teaching staff and students of the University. As a reservoir of generated and acquired information, information resources and sources to accommodate/house relevant and reliable information resources for, by and about and individual, a family, a community, a society, an institution, an organisation and a nation; and depending on the perceived vision and mission of the endeavour, a digital Information Repository (IR) can be established strategically designed and structured as: Personal Digital Repository(PDR), Family Digital Repository (DFR), Community Digital Repository (CDR), Neighbourhood Digital Repository (NDR), Institutional Digital Repository(IDR), and National Digital Repository(NDR) as the case may be. However, regardless of the type of organisational structure and design of a digital repository, it should have provisions for: convenience of access and use, geographical proximity of database, assured local network and Internet connectivity, availability of requisite infrastructure and facilities which include scanner and binder, interoperability of the system in allied network environments, policy on access and utilisation, systems security, backup facilities, availability of competent, skilled and ICT literate staff, easily managed metadata for description of the deposited and preserved information resource and sources, capacity to accommodate both print and electronic information resources and services (Mohammed, Z. :2009).

However, the extent to which libraries' and information centres' collection of information resources and sources are effectively managed, accessed and utilised will largely depend on the extent of availability, relevance, and style/principle of resource management (organisation) adopted. Guided by the vision, mission, goals and objectives establishing the library and information centre, in order to cope with the increasing demands for varieties of information resources, sources and services, the management of libraries and information centres have to device effective strategies and best practices for information resources and sources acquisitions which include but not limited to: direct purchases from publishers, authors and book agents; solicitations for gifts, donations, bequests, and endowments from well-meaning individuals, philanthropists, agencies and institutions; engagement in borrowing/lending, renting, and exchange with interested parties, agencies and institutions;

invocation of legal deposit policies; consortium building, networking and resources sharing ventures among willing collaborators and partners; formal and informal internal information resources and sources generation endeavours; and the type and viability of the technology including the locally designed content employed for managing information systems, resources and services. It has been observed that the websites of most of the Ministries, Departments and Agencies (MDAs) in the country are found to be obsolete as 25% and 37% of the websites have reachable telephone numbers and e-mails; they are registered on the .GOV.NG domain; they do not have complete list of website links of the Agencies under them; and their contents outdated (Victoria Onehi:2017). Robust and regularly updated websites are needed for transparency, effectiveness, efficiency, and ease of access and utilisation by the stakeholders and indeed by the general public.

In the contemporary sense, libraries and information centres can be conceived as veritable portals of organised information useful for coping with varieties of information needs, expectations and challenges. Be that as it may, libraries remain strategic platforms for: reading and relaxation in safe and serene environment; individual study and consultation; formal and informal peer group study; Internet access and use (e.g. Web browsing and emailing); meeting and socialisation; academic and non-academic support services such as teaching and learning, tutorials, research, and finding solutions to study challenges and tasks; eating and refreshment; visiting and touring; exhibition and displays; film and slide shows; debate and discourse; socio-cultural and political networking and integration; and formal and informal consultations; etc. Unfortunately however, my autopsy of the role of libraries as agents of education in Nigeria (Mohammed, Z: 1984, 1985a & 1985b) still shows till date that, with the exception of the tertiary educational institutions, most of the primary and post primary educational institutions in the country, including the Adult and Mass literacy educational programmes; lack functional libraries. However, where they are in existence, there is nothing tangible to show for it especially in terms of the their funding and finance, management, strength of information resources and sources collections, staffing and development, and type and mode of services. Furthermore, my assessment of the state of public libraries and rural information services (Mohammed, Z: 1986) has shown and is still showing that they are elitist and urban dominant in framework, structure, and outlook. They are mostly designed for those who attained some levels of formal education rather than also for those who are products of non-formal systems of education. Only an insignificant proportion of their information resources collections are published in Nigerian languages and in non- printed formats. Not much appreciable effort is still being put in place towards harnessing and providing the prevalent unwritten and non-printed information sources and resources pertinent to the overall development and advancement of the people especially in the rural communities. Our study on the information dissemination, Access and utilisation for socio-economic empowerment of rural people in the Northern States of Nigeria revealed among others that the channels through which the respondents' access information is inadequate. Unlike the radio, they hardly rely on libraries and newspapers to access information as they are urban based sources and channels of information retrieval and access (Hannatu, Daudu and Mohammed, Z. : 2013).

However, it can be argued that writing as means communication between and among people, communities, societies, institutions and nations, gave birth to records creation and recreation (being documented information with long lasting memory of significant importance and relevance). This may range from but not limited to written letters and memoranda, financial and business records, educational institution records, personal affairs records, staff records, project proposals and implementation records, transportation records, health records, environmental records, governmental records, family records, administrative/ management records, progress reports, services records, etc. The strategic importance of records creation and maintenance requires the need for the writers and copiers to acquire some multiple skills, innovative and creative capacities as well as an understanding of the subject matter, theme and issues on ground . While some individual writers and copiers could be said to possess some elements of innate writing capacity (natural writers), others have to formally and informally nurture the art of writing to possess the requisite skills, competencies and perfections. This is to avoid or reduce the negative consequences of misconception, misunderstanding, misdirection, misinformation and miscommunication. Such instances may rarely occur with persons with strong writing competencies. Hence, there is the need for writers and copiers to be able to write accurately for defined and specific purposes, organise the needed message to suit the target audience, eliminate all forms of biases, and maintain neutrality in the write up. In another dimension seen to be a panacea to the inadequacies of script writing, it could rightly be argued that the advent and developments in printing and publishing technologies, the computer and digital/virtual technologies, and the print and electronic mass media platforms in the contemporary world have massively impacted much on the variety of endeavours to effectively and efficiently manage the dynamics of information for easy verification, location, documentation, identification, retrieval, access and utilisation for sustained growth and advancement of individuals, nations and societies in different perspectives.

It has been discovered that, in the Nigerian scene, there is still scarcity of requisite published works at all levels of educational systems and for the literate and neo-literate populations in the society (cite). The situation is further aggravated by continued increase in the prices of relevant published works. The unabated scarcity/ shortages and escalating costs of the needed published works often lead to noncompliance with copyright laws and policies, pervasive piracy and plagiarism of published and media works as well as other formats of information resources especially. It is seen to have permeated at all levels of educational systems and establishments, and in public places in the society to the extent that copies of whole books are sometimes illegally photocopied in business centres without due regards to copy right policies. In the same vein, audio visual resources are daubed in disregard of the patent laws (Mohammed, Z: 2001). It is therefore expedient that, the academics and indeed the information providers, librarians and other stakeholders in education and information provision and services are seen to be supporters and promoters of legal and ethical acquisition, retrieval, access and use of information systems, resources and services of any sort, from wherever and for which purpose without infringing on the rights and privileges of the authors, composers, designers, publishers, etc. of the intellectual properties/works. They should be seen as strategic agents and agencies for managing and enforcing copyright laws

and legal deposit laws as well as for prevention of intellectual piracy, plagiarism and other forms of copyright infringements (Mohammed, Z:2013a).

In another dimension and within the perspectives of library and information services provision in educational institutions, unlike the tertiary educational institutions' libraries which are effectively flourishing due to the emancipatory financial life-line from the TETFund, the Primary and Secondary school libraries which are expected to be catered for by the State Universal Basic Education Boards, and in part, by the Local Government Areas to effectively meet the academic and information needs of the pupils, students and staff are mostly non-existent or are performing far below expectations. What can fairly be considered as school libraries are mostly obtained in the Private Schools and in the Unity Schools under the edges of the Federal Ministry of Education. It has been discovered that library and information services provision is not strategically included and effectively catered for in the schemes of the 'Tsangaya/Almajiri Education' programmes by the Universal Primary Education Commission; the Agency for Mass Literacy Commission for adult and non-formal education programmes; the Nomadic Education Commission programmes; the National Orientation Agency programmes; the National Agriculture Extension Research and Liaison Services; the State and Local Government agricultural extension services, and virtually all the Federal and State socio-economic empowerment programmes such as the N-Power, N-Creativity, etc.

It has been observed that the National Library of Nigeria (NLN) reading campaign supported by the Nigerian Library Association (NLA) is yet to yield an appreciable outcome due spiral costs of published books, journals, and other periodicals; the economic hardships being experienced by the average Nigerians, especially the youth; and the very poor state of reading information resources and services in the school and public libraries. In the same vein, the Nigerian Book Foundation (NBF) established in 1991 with the sole aim of saving books from extinction in the country in view of the critical crisis facing the book industry in Nigeria and also the ineffectiveness of the governments' sporadic approaches to remedy things so as to make books easily available, reachable and accessible to the average Nigerian public yielded no appreciable results. Since its inception, the NBF is surviving under the mercy of the international donor agencies to execute it laudable projects. These predicaments have great consequences on the efforts aimed at the promotion and sustenance of reading culture in the Nigerian society. It is within this context that the 'Book Bank' initiative by some young Nigerians around Lagos and Abuja who voluntarily engage in contacting individuals, families, publishers, etc. to donate their books including school text books to be distributed to needy schools' libraries for the benefits of students is worth commending , encouraging and support. The aim is to add value to education by constant recycling of knowledge to breed innovation and creativity. Some schools in Lagos and Abuja have already benefited from the venture.

Viewed from another dimension, it has been discovered that the application of ICTs have largely affected the state of the reading culture of the Nigerian people, particularly the youth who tend to find it more convenient to access, transfer, and utilise information especially through the mobile phones, SMS and social media such as the Facebook, WhatsApp,

YouTube, Instagram, etc. where much reading is not required as it would have been the case with printed and electronic books. In fact, this negative trend is gradually affecting how students write and answer written examinations in educational institutions. The modest attempt curb this shortcoming through the launching of "Bring Back the Book (BBB)" programme on 20th December, 2010 yielded no appreciable result as it was marred with political undertone and lack of funds and formal structure and authority to anchor it. At the launching of the BBB show, not even libraries and information centres were formally considered in the scheme of things. The BBB programme was aimed at revitalising and restoring reading culture in the society by making reading resources (materials) easy available, reachable and accessible to all and sundry in the country.

A viable alternative to access to timely information should have been the print and electronic media. For all intents and purposes, the media is seen as the last hope and source where the general public can easily access unbiased news and information; a strategic channel through which the public is educated, socialised, idealised, and informed of the happenings within and outside the country; an important and dependable channel for socio-political and cultural mobilisation and national integration; and a viable platform and avenue through which the members of the public, albeit their socio-economic, cultural and political status, make their views, impressions and positions on local, nations and international issues known to the general public. Unfortunately, some of the Nigerian print and electronic media houses have significantly compromised the ideals and ethics of the information profession and have tended to be deliberately irresponsible and continuously biased with some elements of cultural, religious, sectional, ethnic and political colourations and postures in their operations and services under the banner of 'who pays the piper dictates the tune'. While some of the media establishments are complete sell-outs to political parties and politicians and thus exhibit some tendencies of political prostitution; some of them manifest and maintain some strategic and tactical approaches to support and promote partisanship, ethno-religious, sectional and political hegemony and jingoism. Thus, they tend to progressively loose public confidence and trust in their disseminated information, news, reports, documentaries and featured information. As such, they are being patronised with some elements of scepticism.

1.5 Knowledge Management(KM)

Conceptually, knowledge is a domesticated information cumulated in different perspectives reflecting different aspects and predispositions of physical and non-physical beings, structures and formations. Typically, knowledge can be transient in form of personal experience, insights, know-how, understanding, ability, capability, competence, expertise, and other forms of predispositions that can be transferred, disseminated and shared in form of information for the benefit of others especially through direct: speech, discourse, chat, conversation, lectures, debate, teaching, sermon, dialogue, admonition, declaration, etc. Similarly, knowledge can be explicit when it is documented in any way and format, such as in printed and electronic/digital formats, for ease of identification, retrieval, referral, access and utilisation. Basically, knowledge, education and experiences are acquired through access and utilisation of relevant information in whatever format, package, location, context and content such as from libraries, information centres, archives and museums, and virtual

platforms. It can also be from formal and informal modes of teaching, tutelage, apprenticeship, induction ship, orientation, training and learning; irrespective of the settings. Similarly, through acquired knowledge, education and experiences from whichever means, information is obtained as by-products and utilised subsequently for other purposes.

Essentially, one is said to be knowledgeable, educated and experienced to the extent of the person's willingness, capacity and ability to identify, locate, retrieve, access and effectively utilise relevant information needed at the right time and perspective. In effect, it can be argued that information is a vital and strategic resource that shapes and impacts on our daily life as it is all over us and around us especially due to: a) its pervasiveness in our thinking about the world around and beyond us; b) its virtual and no predefined attributes and characteristics; c)the fluidity of its concomitant influences, effects and impacts; d)its discrete, distinctive and multidimensional nature; e)its intertwined influence on teaching, training and learning; and f) also its effects on acquisition and utilisation of knowledge, skill and experience. Hence, the need to not only seek, acquire and secure information regardless of the type, nature, quantum and location, but manage, package and disseminate it far and wide irrespective of the media to meet the yearnings of the target audience regardless of the time and location (Mohammed, Z.: 2012c).

Conceived as an organised and systematic process/ technique/ method of acquisition, processing, organisation, preservation, security, communication, transfer, dissemination, retrieval, and knowledge access, Knowledge Management (KM) facilitates: ease of access to knowledge by the needy individuals/ people; creation of order in knowledge acquisition, management, access and utilisation; effective application of technologies for knowledge management and provisions; effective collaboration and networking for knowledge sharing and utilisation; value addition through confidence building and relationships among knowledge seekers; visionary outlook through knowledge utilisation and enthusiasm creation; and complementary knowledge applications through integration of acquired knowledge with other relevant knowledge domains.

Consequentially, knowledge of any sort should be managed for ease of: generation, acquisition, identification, capture, validation, referral, realisation, preservation, embodiment, adoption, adaption, application, access and utilisation. By and large, the channels and media through which knowledge can generally be acquired, transferred, disseminated, communicated, shared, accessed and utilised include but not limited to formal and informal education system, training programmes, skills acquisitions, apprenticeships, learning programmes and schemes, library and information systems and services, print and electronic documents, online and off-line databases, and virtual/online networks, focused group/forum discussion/ interactions, orientation programmes, workshops, conferences and seminars, etc. Some of the technologies useful for knowledge management include: groupware (for information collaboration and sharing), workflow (as tool for creation, use and maintenance of organisational knowledge), document/content management systems (web and content automation, editing, design and modelling, and functions), enterprise portals (websites and web links), eLearning and transactions (customised software for education and training, and business/operational records), virtual networks (for on-sight and off-sight face-to-face

discourse/ dialogue/chats), expert system (software for event and work schedule sand planning).

Consciously or unconsciously, human thoughts, ideas, characteristics, behaviours, attributes, predispositions, plans and activities are mostly classified (grouped, divided, assorted or compartmentalised)in like and unlike entities for easy determination, identification, management and decision making. In like manner, human endeavours, plans, and agenda are carried out orderly and procedurally as dictated by the features, characteristics and attributes of the varying classified entities. This is needed to ensure effective management, monitoring and evaluation of the implementation of given strategic schedules of operations, plans and agenda. In the same perspective, the management of the dynamics of information can and is taking place through the classification of knowledge such that pieces of information regardless of their format and package are grouped into knowledge disciplines and subject specialisations for ease of identification, organisation/ arrangement, location, retrieval and access. Methodically, classification can simply be perceived as the process of identifying the subject matter of an information resource document, assigning them the relevant subject classification number related to the subject treatment/content of the document (notation) for orderly arrangement according to their respective subjects (classified entry).It can also be seen as a procedure of orderly grouping of similar items and objects into defined (subject) groups.

By and large, information and information resource classification facilitates the clustering, compartmentalisation and classing of whatever type and content of information, irrespective of the source, type of package and format, into their respective knowledge disciplines and subject specialisations essential for sustained information location, access and retrieval for national and societal development and advancement. In a typical library and information service provision environment and platform the major functions are: selection, acquisition, organisation and dissemination of information/ knowledge in print and electronic media such as books, periodicals, audio-visuals, computer aided devices and virtual technologies . Such functions are succinctly facilitated and sustained with the application of information/knowledge classification is useful to maintain a systematic subject control of information resources and sources by their peculiar characteristics; determine the strengths and weaknesses of the collection of information resources by subject discipline; determine areas of emphasis or otherwise in information resources development and databases subscription; and identify areas of information services provision and collaboration. Some of the classification schemes formulated to facilitate dynamics of information management, access and utilisation include:

Dewy Decimal Classification system (DDC) developed by Dewey Melvil in 1876 (2016).Its 23rd revised and expanded edition with about 1,000 classes in 4 volumes, managed by the Online Computer Library Centre(OCLC), was out in 2011.The DDC classified knowledge into 10 major classes : 000-General works, Computer Science and Information; 100-Philosophy and Psychology; 200-Religion; 300- Social Science; 400-Language; 500-Pure Science; 600-Technology; 700-Arts and Recreation; 800-

Literature; and 900-History and Geography. The scheme is mostly adopted by public, school and private libraries and information centres.

Library of Congress Classification (LCC) invented by Herbert Putnam in 1897(2016). It became fully developed by the Library of Congress, USA. It is seen as an off-shot of the DDC and the Cutter Expansive Classification. It classified knowledge into A-Z classes: Class A-General Works; Class B- Philosophy, Psychology, Religion; Class C-Auxiliary Sciences of History (General); Class D-World History (except American History); Class E- American History; Class F- Local History of the United States and Britain, Dutch, French, and Latin America; Class G-Geography; Class H- Social Sciences; Class J- Political Science; Class K- Law; Class L- Education; Class M- Music; Class N- Fine Arts; Class P- Language and Literature; Class Q- Science; Class R- Medicine; Class S- Agriculture; Class T- Technology; Class U-Military Science; Class V- Naval Science; and Class Z-Bibliography, Library Science. The scheme is mostly adopted by tertiary academic institutions' libraries and information centre.

Universal Decimal Classification (UDC)developed by Paul Otlet and Henri La Fontaine towards the end of the 19th century with its first edition in 1905.It is seen as a new analtico-synthetic classification system with a significantly larger vocabulary and syntax that enables very detailed content indexing and information retrieval in larger collection (2016).It classified knowledge into 10 main classes: 0-Science and knowledge. Organisation. Computer Science. Information Science. Documentation. Librarianship. Institutions. Publications; 1- Philosophy. Psychology; 2-Religion. Theology; 3- Social Sciences; 4- Vacant; 5-Mathematics. Natural Sciences; 6-Applied Sciences. Medicine. Technology; 7- The Arts. Environment. Sport; 8- Linguistics. Literature; and 9- Geography. History. The scheme is mostly adopted by research and scientific institutions' libraries and information centres.

Some of the other knowledge classification systems adopted in some libraries and information centre include National Library of Medicine Classification (NLM); British Catalogue of Music Classification (BCM); Cutter Expansive Classification; Putman Classification System; Colon Classification Scheme, etc. Viewed from library and information service provision practices paradigm, it can generally be argued that information/ knowledge classification facilitates: systematic arrangement of information resources collection; replacement of removed information resource to its original location; filing of new information resource in its related group/class; display of information resources by their relevant classes at shows and exhibitions galleries; compilation of classified bibliographies, indexes, references, abstracts and catalogues; and identification and withdrawal of information resource from a set of collection.

In addition to classification of information resources and sources as dictated by their contents and contexts, their physical features/outlook are also described according to given rules and standards for ease of compartmentalisation, filing/arrangement, identification , verification, location and retrieval from file cabinets, treasury vaults, shelves, and printed and electronic library and information centre catalogues. Simply put, a catalogue is a set/list /inventory/

compilation of systematic entries of given information resources with the physical description of the records and their locations in the area of domicile. In Library and Information Science parlance, a catalogue can be conceived as a complete list of all the information resources and sources of a library (or a set of libraries -Union Catalogue) regardless of the type and nature with their full physical description and location. A catalogue effectively serves as an information resource guide and finding or retrieval tool as it brings together related documents/works for ease of identification , location and retrieval. From a catalogue, an information resource availability in a given set of collection and location can be confirmed. Also, the title, author/editor, publisher/printer, date of publication, edition/ impression and subject treatment of the content of such information resources and source can be identified. To this end, and for the convenience of the customer, catalogue entries are usually systematically arranged in alphabetical order by author/title, and/or in classified order by subject group according to an adopted classification scheme. Catalogues can be in catalogue cabinets, book catalogue, striped desks, electronic form, and in any other format found to be easily exploited and convenient for use by the customers to identify, locate and retrieve the needed items.

Generally, the cataloguing rules assist to provide needed information about or on a document to for the users to easily identify and find the information resource(s) needed. It allows for the description of the physical characteristics of the information resource(s) as well as the means of linking (access point) similar information resources together. The commonest cataloguing rule adopted especially in English speaking countries is the Anglo-American Cataloguing Rules (AACR).The rules, which are designed for use in the construction of catalogues and other lists in libraries and information centre, and where feasible in archives and museums, provide for coding and arrangement of library and information resources to be arranged in either alphabetical or classified orders in print and electronic catalogues. The 1998 revised edition (AACR2) primarily covers all types of known information resources as a direct response to the changing information needs in the society in a consistent approach to ensure standardisation, uniformity and universality in the framework of national and international networks for bibliographic records such as the International Standard Bibliographic Description (i.e. ISBD (M) for books/monographs, International Standard Serial Bibliographic Number (ISSN) for serial publications, and the General International Standard Bibliographic Description (ISBD(G).While the application of the AACR rules contain instructions on the formulation of description of library and information resources which also cover abbreviations, capitalisation and treatment of numerals; the entries allow for easy citation, location, retrieval, exchange and acquisition of printed and electronic library and information resources wherever and whenever.

In order to bring people and information much more closer thereby facilitate the identification, retrieval, pursuit, location, utilisation, expansion and access to knowledge and information; also in line with the developments of technology to cope with the management of the dynamics of information, and more particularly in digital environment, cataloguing is being done using the Machine-Readable (MARC21) Format (MARC online version: http://www.loc.gov/marc/umb/). As it were with the physical catalogue, in the online

environment, different information resources can be related as well. However, the online indexing and displays may present such information differently. The MARC format structure usually organises information on documents in a way that allows the online catalogue to store and display electronic data describing information resources in a collection. Arguably, the MARC21 format could be said to be standard, the actual display of data may vary from system to system (e.g. OCLC, Alice, Bibliofile and Virtua). Though the AACR2 and MARC21 may probably describe same document in different ways, in virtual systems, both formats could be closely entwined in an automated environment. The AACR2 tend to define three levels of cataloguing: brief(level 1), comprehensive (lelvle2) and detailed(level3). Whereas, the online cataloguing environment evolved 12 input standards. For instance, the LC and the OCLC each its own format coding manual (LC Standards: http://www.loc.gov/marc/bibliographic/nr/ and OCLC Standards: http://www.oclc.org/bibformats/en/onlinecataloging/). Hence, in order to effectively exploit the potentials of online catalogues for enhanced management of the dynamics of information, the education, training and skills acquisition of library and information centre should focus on : opening of MARC editor; Creation of MARC records(original cataloguing; Edit an existing record; MARC record; Edit Fixed Field data (e.g. 006, 007, 008 tags), Delete MARC records; Copy MARC records; Save MARC records to database; Archive MARC records; Use Vericat to validate MARC records; Add ,modify and delete item records, Configure the Impact Tool; Batch load MARC records using the Import Tool; Copy MARC records between databases; Add information to the adopted system locally defined tags (e.g. 039.999 tags); Edit local records, Append local records to an existing file; Modify labels in the MARC label; Produce individual spine labels; and Edit State Records.

In another dimension, it has been noted that, as at the time the AACR2 was published, the catalogues of libraries and other documentation centres were designed to mostly cater for physical information resources. The AACR2 has heavily emphasis on printed books and strong bias to Anglo-American inclination. Considering the advances in ICT, it became obvious that the ACCR2 required revision, especially to accommodate digital publications. In order to cope with the short comings associated with the AACR2 particularly with regards to incorporation of electronic/ digital publications, a theoretical based framework with broader scope than the AACR2, Resources Description and Access (RDA) was designed/created to accommodate digital environments through the definition of the shape, structure and content of digital publications. It is built on the foundation of AACR and its instructions were derived from AACR2. It was based on the conscious effort to maintain compatibility with AACR2 records as the RDA data can be encoded with the same MARC21 standard used for AACR2 records. The overall purpose and scope of RDA is to provide guidelines and instructions on formulating data to support resource discovery. That is, to support the production of robust, well-formed data that can be managed using both current technologies and newly emerging database structures and technologies of the future. The RDA is based on the conceptual model of Functional Requirements for Bibliographic Records (FRBR) and Functional Requirements for Authority Data (FRAD) all aimed at understanding bibliographic universe. That RDA is designed with the user in mind, utilising terminologies that make sense to a broader audience, and to be more consistent and flexible frame work for describing all types

of resources whether they are physical text-based materials or not, it strives to describe resources in such a way to promote users' general tasks which include finding, identifying, selecting, and obtaining needed information resources(Teressa:2014). According to Chris(2010), the FRBR and FRAD provide a theoretical and logical cohesion basis on which to build an improved resources-discovery experience for the user. It tends to answer questions such as : what data to record, how should it be recorded as it defines the elements required for description and access and provides instructions on formulating the data that is recorded in each element. The RDA is not tied to a single encoding schema or presentation style. Rather, it the data can be encoded using existing schema such as MARC21, Dublin Core, MODS. It can also be mapped to other schema, current or future ones. In addition, RDA data can be encoded, stored, and transmitted using existing technology and databases such as MARC records in traditional library catalogues; used in networked environment of the web and in new types of data structures; and used as basis for a metadata element set that makes data visible and usable in a web environment.

Efforts being made by libraries and information centres to manage their systems and information resources for effective exploitation of the dynamics of information to cope with the present and catch up with the future, similar efforts are being made severally and collectively by some intellectuals, information services providers, and academics such as scholars, researchers, students, etc. through creation of databases, desiderata, thesaurus, bibliographies, indexes, abstracts, footnotes and reference citations to their publications. There can be a bibliography; an index, abstract; a footnotes and references for a particular publication and also for a collection of publications orderly arranged either in alphabetical order (author/title) or in classified (Subject) order. Some other effective systems, facilities and tools for creation, sharing, transfer and management of the dynamics of information and knowledge for their effective exploitation especially in the 21st century context t include but not limited to: a)Academic and Socio- Economic Networking Systems, Platforms and Fora; b) Print and Electronic Systems and Media; c)Artificial Intelligence Management systems and tools; d)Content Movement Systems and tools; e)Management Information Systems(MIS); f) Audio-Visual facilities and equipment, Internet and other related networks; g)Knowledge transcribing systems; h)Library, Learning and Information Commons; i)Wikis; j)Social Media Platforms and Tools; k)Expertise Locator; l)Simulation Systems, Suits and Tools; m)Online Computer Library Centre (OCLC); n) Wildcat; o)Knowledge/ Information Portals; p)Fixed and Mobile Communication Systems and Devices; q) Virtual Systems, Facilities and Technologies; r)Computers and Computer Aided Systems and Technologies/ Devices; s) Decision Support Systems; t)Reference and Information Systems and Centres; u)Help Support Systems and Centre/Desks; v) Institutional Digital Repositories (IDRs); w)online communities of practice platforms; etc. Some of the retrieval devices relevant and useful in the management of the dynamics of information for enhanced exploitation particularly as it relates to information search, identification, location, retrieval and access include: references, bibliographies, abstracts and indexes (at the end of publications and as published documents), all forms of printed and electronic library catalogues (e.g. Online Public Access Catalogue-OPAC and Computer Output Microform-COM), Internet search engines and directories, see and see also' references in texts, glossaries, guides, menus of

ICT based devices and systems, as well as directional, locational, identificational, operational, positional, descriptional, compositional, and cautional signages, etc.

Some of the challenges that could negatively affect effective information search especially using print and electronic based search tools and devices may include but not limited to: the searcher's lack of skills and ignorance, type and nature of information needed, nature /essence of information need, information search policy, information retrieval and access policy, location and availability of the information needed, functionality of the search tools/devices, poor maintenance of search tools /devices, and the staff and customers' poor state of information and ICT literacy. Thus, what is essentially needed for effective information search for ease of access and utilisation, particularly using search tools and devices, is the acquisition of information search skills which can be acquired through, say, formal and informal class lessons, training, orientation, induction, tutorial, mates and peer group interactions, information service providers- especially librarians, and personal reading and efforts such as trials and errors.

Arguably, it can be submitted that the extent to which information retrieval devices are effectively utilised to identify, locate, verify and retrieve any given information is largely dependent upon: the information seeker's internal and external motive for seeking for the needed information; the expected intellectual, socio- cultural, political and economic advantages; honours, accolades and benefits to be derived from the efforts and energy involved and expended; the effect of the intensity of the seeker's curiosity and uncertainty; the psychological and environmental dispositions of the information seeker; the extent of the availability or non-availability of effective optional retrieval devices; the mastery of the requisite formal and informal operational , managerial , strategic and tactical skills to effectively utilise the devices; the concomitant effects of the previous experiences in the utilisation or non-utilisation of the devices; the formal, informal, social, political and cultural expectations before the information seeker; and the information seeker's attitudes, characteristics, and behaviours towards utilisation of the devices. It could thus be said that the extent to which an information seeker adopts, accepts, and utilises an information retrieval device for information identification, verification, location, retrieval and access is a by-product of the type of device available, ease of use of such device, ease of access to such device, the temperament of the information seeker, the social and environmental expectations and predispositions, and the expected benefits and advantages to be derived from access and utilisation of the sought after information.

1.6 Information Security and Safety

One aspect of information management which has to do with effective exploitation of the dynamics of information is security and safety of lives and properties. This is especially when conceived from the perspective of the importance of its availability, adequacy and scarcity at all the times versus its unending demand by varied stakeholders for varieties of purposes and needs. Viewed from the perspectives of demand and supply, especially in the regime of scarce (limited) resources and facilities versus unlimited varied demands, it is a necessity to secure and preserve the available scarce resources and facilities at hand to cope with the

multitudes of customer needs and demands. It has been discovered that the extent which it can be said that the information services provided to meet the information needs of customers is satisfactory, is largely dependent upon: the extent to which the authority concerned effectively responds to the provision of the requisite human and material resources and facilities needed to achieve the desired mission and goals; the extent to which the information needs of the customers are being effectively satisfied and kept in focus continually; and the extent to which the information service provider is willing, capable and able to secure effectively the available limited resources and facilities to meet up to expectation ceaselessly (Mohammed, 1984b).

In another dimension, our study on the remote causes and consequences of the fire incidence that engulfed President Kennedy Library, Congo Campus, ABU in 2010 and the Administrative block of the Institute of Agriculture, ABU revealed that the valuable items affected by the fire disasters included books, office files, computers and printers, stationeries, and book and file shelves. We discovered that the effect of the incidences were monumental due to the inability to effectively contain them due to: (a) lack of safety knowledge, lack fire fighting equipment and facilities; (b) lack of adequate training and education on safety, inadequate exit points; and (c) lack of safety instructions and signs. Our recommendation to prevent future incidences include: setting up of disaster management committees at all locations, provision and location of duplicate soft copies of vital documents in the cloud and in other locations, periodic education and training of staff and other stakeholders on preventive measures and vigilance (Mohammed, Z, et al:2009). The cloud computing has today facilitated the effective conservation, preservation and security of information resources and sources as they can be digitised and uploaded on to the Internet and other reliable digital systems such as online digital repositories and networks to be retrieved and accessed whenever and wherever.

Generally, regardless of the type and nature of the setting of an organisation, establishment, institution and society, the major threats to the security and safety to the exploitation of the dynamics of information especially as it relates to information access, information systems and services rest with: the management of the establishment especially as it relates to manifestations of non commitment to the funding and provision of the necessary human and material resources and facilities to secure the information resources, systems and services; the humans in terms of carelessness and other types of negative attitudes of both the staff and customers translated in the form of lack of commitment to the course of achieving the objectives of the venture, thievery, collusion and collaboration between and among the staff and customers to commit different types of crimes and prejudices; environment and natural habitat especially as it relates to the internal and external location and atmosphere of the library and information centre, the resources, the systems and the service centres and points as well as the nature and extent of their vulnerability; climate and weather particularly as it relates to the issue of excessive heat, cold, wind storm, rain storm, dampness, seepages, etc and their concomitant effect and impact on both the humans and material resources all the year round; war and terrorism; socio-political, cultural, ethnic and religious conflict and crisis; and animals especially insects and rodents which by their nature and characteristics are

nuisance in the environment and cause different types of harms to the information resources and systems which tend to have spill-over effects and impacts on the staff, the customers and the services being provided.

Other threats to security and safety for effective exploitation of the dynamics of information include but not limited to: natural disasters such as incidental fire outbreak, cyclone, flood, earthquake, typhoon, building collapse, land tremor, landslide/avalanche, tsunami, tornado, etc. which have long lasting devastating effect and impact on the environment, people and information resources, systems and services; the type and nature of the information and the information resources and systems as it relates to the extent of their vulnerability during storage, retrieval, access and utilisation; the nature and levels of information and ICT literacy and fluency of the staff and customers; Cyber terrorism and crimes in form of hacking, phishing, virus attacks on individual computer sets and networks, kill switch to disable malware, shadow Broker hacking, ransomware-laden email, malicious malware attachments, WannaCry and WanaCryptor 2.0 and WCry delivered via emails to spread bugs around etc.- by 12th May,2017 more than 300,000 computers in about 150 countries around the globe have been attacked (Edward; 2017); war and socio- cultural, political and economic crisis and conflicts; the nature and type of information and services policy adopted; the nature and type of information and general security and safety policy and protocol adopted; type, nature and extent of cooperation and collaboration with other related information services provision agencies and establishments particularly as it relates to information resources and services sharing endeavours and projects; the type, nature and extent of the security and safety cooperation and collaboration arrangement and protocol with other relevant security and safety agencies and institutions; the quantum of the financial resources available to cope with the challenges of varied aspects of security threats and safety; the natural tendencies and socio-cultural orientations of the staff and customers; the effects and impacts of shared peer group influence and empathy on the staff and customers; the level of the economic disposition of both the staff and customers; and the type and feature of the security and safety mechanisms and devices adopted and employed.

The 2017 Cisco Annual Cyber-security Report (ACR) submitted that, servers have become 43% more vulnerable to attack, compared to client (8%) and network (20%) in 2016. It added that the Chief Security Officers (CSOs) cited budget constraints, poor compatibility of systems and lack of trained talents as the biggest barriers to advancing their security postures (Adeyemi, Adepetun:2017a). The Juniper Research Report, 'The Future of Cybercrime and Mitigation 2017-2022' estimated that within the next 5 years, the cost of global data breaches on businesses will be about $8 trillion in fines, lost business and remedial costs, and global cyber security spending will reach nearly $135 billion in 2022, up from an estimated $93 billion in 2017 (Vincent Lemuwa:2017). On its reaction to the WannaCry attacks, and the fact that simply protecting the network does not absolve it from attack and greater care must be taken, the CBN raised concerns on the effective implementation of Nigeria's Cybercrime (Prohibition and Prevention) ACT2015 as deterrent to potential criminals (Chris, A. : 2017a). It has also been reported that ironically, the CBN cashless policy introduced in 2012 brought about some side effects. The expected safety and security guaranteed on transactions made

through such cashless platforms as Automated Teller Payment (ATM), NIBSS Instant Payment (NIP), National Electronic Fund Transfer (NEFT) and Point of Sales are being threatened by fraudsters and third parties whose ultimate aim has been to divert money from legitimate owners ,even as the money passes in non-physical form through electronic channels . In a related development, Chris, A.(2017b), culling from the Nigeria Electronic Fraud Forum(NeFF) release, reported that electronic payment space transaction fraud rose by 82% in 2016 with an estimated N2.19 billion lost to cyber criminals. This is when compared to 2015 and over 1200% compared to 2014. However, the industry was able to reduce fraud by 2.7% compared to the 2015 figure.

According to National Information Technology Development Agency (NITDA), Nigeria lost about $450 million to computer and Internet-related fraud annually. Also, Mr. Adebayo Shittu, Communications Minister, asserted that about N78 billion is lost to all forms of cybercriminal activities annually (Omoba, Azeez: 2016). After years of the end of my tenure as the University Librarian, A.B.U., I still remember with some elements of nostalgia how the WI-FI gallery established for online wireless services in Kashim Ibrahim Library (the main university library) was destroyed, the facilities carted away. As a way out, the tops of the reading tables designed as carrels for the convenience and comfort of the customers have to be removed due to excessive vandalisation of books and other information resources. By and large, in order to tolerantly stay safe from multitudes of cybercrimes and terrorism, there should be a realistic policy, contingent plans and strategies by institutions and organisations on: patching viruses and backing up files at regular intervals especially on daily and weekly bases; regular updating of security software patches; ensuring running anti-virus software all the times especially on introduction of foreign products; backing up data in multiple locations, including offline; avoidance of opening unknown email attachments and/or clicking on links in spam emails; and quick reporting of fraudulent actions and moves to the relevant quota for immediate remedy.

However, I have observed that the effective adoption and exploitation of the state-of-the-art ICTs for security and safety purposes especially in developing countries are systematically being affected by variety of challenges which include: costs of computer hard ware and software acquisitions; costs of systems upgrades; systems malfunction and costs of maintenance; heavy online access traffic jam especially on popular networks and websites; information overload on thematic topical issues and search; lack of sustained sources of electric power supply; the administrators', operators' and users' phobia for technology applications, especially the computers; physical challenges to ICT systems usage especially when charging them; preponderance of unsolicited advertisements on the Internet sites; costs of Internet and related computer networks connectivity; dwindling budgetary allocations, access and utilisation; Internet/online information search difficulties and frustrations; administrators', operators' and users' bankruptcy in information and computer literacy/ fluency; inadequate and sometimes absence of technical support from systems suppliers due to non-renewal of systems maintenance agreement contract or deliberate collusion to sabotage the smooth operations of the systems; lack of adequate genuine spare parts; inadequate expert technicians; human errors and inequities; inadequacy of time to effectively

access and utilise the ICT tools and services due to the users' personal pressing commitments and engagements; environmental and other natural disasters; non-compliance with the terms of contractual agreements between the service providers and customers/ consumers; oversubscription of inadequately available computer systems and bandwidth due to over populated students' enrolments; and inadequate time for practical teaching, learning and familiarisation with the technologies' potentials(Mohammed (2015b).

The foregoing, point to the centrality of Knowledge Management (KM)/Information Management (IM) in managing the dynamics of information for easy identification, location, retrieval, access and utilisation. Knowledge management can simply be construed as the endeavours, activities (or discipline) that aim at spreading far and wide the information/knowledge of or about a phenomenon, individuals, communities, societies, and institutions in order to bring about direct positive change in the state-of-the-art of a system, institution, organisation, community, society; especially as it relates to its productivity, effectiveness, efficiency, and performance to achieve the desired short and long term goals, aspiration and mission. The critical factor in KM/IM comprised of identification and analysis of the available and required information/knowledge assets and other information/knowledge assets related processes (such as knowledge/information creation, knowledge/information preservation and archiving, knowledge/information use and sharing) and the planning and control of actions and activities to develop both the assets and the processes for the advancement and fulfilment of the objectives and goals of an organisation or system at the short and long terms (Mohammed,Z:2003). The basic questions begging for answers for effective management and exploitation of the dynamics of information and indeed knowledge are: How can the process of information and knowledge creation, sharing, retrieval, access transfer, dissemination and distribution are effectively managed? How can the initiatives to successfully survive and advance in the information/knowledge-based economy be supported and sustained, especially within the framework of managing and exploiting the dynamics of information? How can the individuals, and public and private organisations and enterprises swiftly move and catch up with the present knowledge/information-based economy?

2.1 Information and Communication Technology (ICT) In Information Access And Utilisation Information

Conceptually, ICT can be viewed as the computer-based and other allied automated information and communication systems and devices employed to acquire, generate process, store and transmit data. The ICTs are generically considered as technologies used for collecting, storing, editing and passing on or communicating information in different forms within an environment, between and among given environments. In another perspective, ICTs can be conceived to include telecommunication technologies such as satellite systems, radio and television, telephony and digital technologies such as information networks, computer hardware and software, digital network, and the Internet. By and large, ICTs can generally be conceived as automated and virtual products (including software applications) and services that facilitate information generation, identification, location, storage, retrieval, dissemination, access and utilisation. Some of the early ICTs include: television, radio,

telephone, still camera and slide projectors. Whereas, the contemporary ICTs include: cabled television news networks, digitised radio and television sets, computers, digital camera and projectors, satellite and wireless systems such as smart phones, tablets, the Internet, Local Area and Wide Area Networks, and e-information resources. Fundamentally, the concept of ICT can be tallied with that of technology which can simply be conceived as an instrument; equipment; device; infrastructure; and tool used to support, facilitate and sustain effective and efficient performance of a system, an operation; a duty; a task; and a function as well as provision of a varied service(Mohammed:2014a).

The emergence of Information and Communication Technologies (ICTs) has further opened varieties of landscapes and vistas for effective and efficient management and exploitation of the dynamics of information globally without restriction of location and time. This is even more pertinent when the endless potentials of the Internet are viewed in perspectives. Generally, the basic objectives of digitised information systems and services delivery especially through adoption and utilisation of the potentials of the Internet is to ensure more effective and quicker access and transfer of information from the sender to the receiver irrespective of the location and time (Mohammed, Z:2001).In fact, the advances in ICT technologies and ICT applications especially in digitised network and networking platforms from the threshold of the 21st century has made information access, retrieval and dissemination much more easier and available irrespective of the location, time, package and user. Paradoxically, it can be argued that the barrier to information access, dissemination and utilisation can be likened to inability to access and utilise the relevant ICT-based information systems and services (Mohammed, Z: 2003).With the adoption and application the relevant ICTs, information and knowledge can easily be accessed and transferred far, wide and near at fast speed and less human and material costs.

The ICTs, particularly computers and the Internet have provided wide spectrums of media and platforms for effective management and exploitation of the dynamics of information more especially within the perspectives of information retrieval, availability, dissemination, transfer, storage, access, and utilisation, directly and remotely regardless of time of information need and location of the information seeker. With availability of information in variety of digital formats, the ability and capacity to effectively and efficiently access and utilise information will be limited only by the type and capacity of the ICTs in use, the format in which the information is contained, and also by the user's ICT and information literacy skills and competencies (Mohammed, Z :2014a). Thus, it is un debatable to state that the ICT has and is continually impacting on all human endeavours in all dimensions regardless of the society, institution, location and environment especially as it relates to what we do, how we do things, where we do things and when we do things irrespective of the purpose to ensure cost effectiveness, cost benefit and efficiency.

The network environments, especially the Internet, are being effectively utilised by interest groups of specialists, practitioners, and professionals, whose members could be geographically scattered, to communicate between and among themselves with the view to collaborate, exchange, promote and share information and knowledge between and amongst them without barrier to the members' location and time differences especially through

utilisation of Online Communities of Practice(OCP). Generally, OCP which can be organised through online forums, mailing list, social media, and websites such as WhatsApp, Facebook, Twitter, LinkedIn, You Tube, Websites, Web links, Web Portals, etc can be conceived as veritable platform through which sets or groups of interested individuals can easily and effectively communicate, promote, exchange, share, discuss, debate and reflect on given information, knowledge, ideas and experiences germane to them and to their career, profession, vocation, culture, philosophy, doctrine, community and society. The arguments about costs, timing, difficulty of access and differences and dispersion in location of the interest groups on OCP platforms have been overcome with globalisation trends and advances in ICTs, particularly the Internet which allows the members of the OCP to talk asynchronously or in any other ways found most convenient. As facilitators of scholarly communication, the ICTs, particularly the Internet and other associated online networks and databases, have the potentials and capacity to reduce significantly the efforts and time traditionally spent in search of and access to wide varieties of relevant and related information resources and sources. Taking Lagos, being nerve centre of commercial activities in Nigeria as a case study, it has been estimated that in the first quarter of 2016, in Lagos, voice subscribers stood at 19.04 million, representing 12.8% of the country's subscribers. The Lagos state accounted for 12.62 million Internet subscription being 13.65 % in the country. The campaign on telecommunication consumer rights launched in March,2017 to address customers' continued complaints of unsubscribed services and deductions from the telephone services providers in Nigeria led to activation of the 'Do-Not-Disturb' short code using designated 2442 facility. Over 1 million consumers were found to have activated the 2442 'Do-Not-Disturb' code and more subscribers reported their unresolved complaints using the National Communications Commission's (NCC's) 622 toll-lines in the same period (Nwobodo, Chidiebere:2017).

It is an undisputable fact that the advent of Information Technology (IT), especially the computers, have revolutionised the management and exploitation of the dynamics of information, information sources and resources at local, national and global levels. Information storage, retrieval, dissemination, management, and varieties of library and information services have greatly been influenced by application of ICTs. Computerisation (automation) of information and information systems has assumed global dimension such that small and large public and private institutions, establishments, libraries and information centres, offices and homes, business centres, hospitals and clinics, hospitality and tourism establishments, and private individuals have graciously embraced and exploited the potentials of ICTs particularly through the application of computer technologies in their systems, operations, services, and management. In the case of library and information centre establishment, they are said to be fully automated when their computer systems can perform at least all the basic library operations and processes such as: cataloguing, acquisitions, circulations, online information dissemination and access. Automated library system should at least have such modules as: circulation control, cataloguing, serials control, ordering and acquisition, Open Access Catalogue (OPAC), inter-library loans and collaboration, and management information systems (Mohammed: 1995a&b). Even though absence of adequate funds, costs of systems acquisitions and upgrade, and poor levels of information and ICT

literacy and fluency has continued to impact negatively on the levels of automation in Nigerian libraries, of resent, we have discovered that a majority of the library application software being employed for library operations and services in Nigerian libraries, especially in academic libraries and particularly in the university libraries are: KOHA, Virtua, E-Lib, DSpace, and Greenstone (Ayodele, R. O. and Mohammed, Z.: 2016). Ideally, library application software package should have modules for acquisition, cataloguing, circulation, serials management, union catalogue, system management, Internet suite/interoperability, inquiry, and other necessary adaptive capabilities such as for MARC, Barcode, multilingual, OPAC, networks. Automated/digitised library systems and websites should be supported by anti-virus and firewalls, maintenance agreement and data capture/backup/storage facilities.

It is obvious that automated library and information systems and services have enormous potential and capacity to effectively accommodate and manage increasing library and information workload arising from increasing print and electronic publishing, online networked information environment, decreasing qualified and competent staff strength. This is to counter the increasing information needs of varying customers who are also on the increase. This state of affairs is evident in the Nigeria mass-driven educational institutions with their unprecedented spiral student population. In the library and information services provision scene, especially in Nigerian scene, it has been discovered that the 1971 NLA conference at which a theoretical demonstration of the application of computer technology in library system was fully discussed greatly stimulated and influenced the interests of the library administrators in Nigeria to automate their library systems and services (Abubakar: 1971) and Mohammed, Z. (1990). Much earlier, my survey of the computer-based circulation control systems in Nigerian University libraries (Mohammed, Z.:1987) revealed the inverse relationship between the continued astronomic growth in students' population vis-à-vis the shrinking work force. To some extent, it resulted to the merging of some service areas to cope with the increasing demand for varieties of information and information resources and services at the quickest time possible. This added to the impetus to automate the library systems and services. It is believed that such moves would effectively cope with the increasing demands for varied information services from the mass of library customers.

My study on the Application of Technology to library and information systems and services in 12 University libraries and 12 Research Institutes in Nigeria (1982-1989) in 1990, discovered among other things that it takes an average of between 15-20minutes and sometimes 30 minutes to successfully satisfy a reference query at the reference section/departments of the libraries manually (Mohammed, Z :1990). Similarly, I have also discovered that there is an inverse relationship between the spiral increase of students' population versus the decreasing library staff strength mostly due to death, transfer of service, change of cadre, retirement , etc. This I discovered, continued unabated in Ahmadu Bello University library and information service Complex. However, around the years 2011 and 2012, during my tenure as the Librarian of the University, we adopted the NUC approved Academic Staff/ Students ratio (FTE),and the UNESCO and IFLA standards for library staff / customer ratio to support our request for increase in the library staff strength and it was graciously approved. Although it is true that with the application of ICTs, the effective

management and exploitation of the dynamics of information is assured and can be achieved at relatively minimum costs, human capitals of different cadre are however still needed to effectively manage the functionalities of the systems and entice the customers to passionately accept and effectively utilise the ICT potentials to their advantage. Much earlier however, the findings of our study on the factors influencing the levels of library automation have been summed up to be: inadequate funding, lack of staff technical know-how (computer illiteracy), fluidity of computer configurations, costs of computer technologies and spare parts, and electricity power fluctuations (Comfort, A. and Mohammed, Z: 1995/96).

In spite of the decades long assertions of paper less libraries due to the emergence of ICTs and particularly the Internet, university libraries and indeed other libraries especially in developing countries, have to maintain hybrid modes of operation where both print and electronic information resources and services are being provided to cope with deficiencies in technology development, acceptance and adoption in such establishments and institutions. However, as the university libraries and similar other type of libraries are being automated and networked and their collections are in both print and electronic formats, it is increasingly making it possible to provide both physical/hard and online services to their teaming customers, within and outside the campuses, in line with their information and knowledge needs and demands. However, the extent to which the ICT based products, systems and services can be effectively utilised for information access and utilisation is largely dictated by the level of the ICT/computer literacy of the faculty members, students and other customers concerned to effectively manage, access and utilise information physically/directly and remotely. Such ICT/computer literacy/fluency needed for effective information access and utilisation must include but not limited to: the capacity and ability to effectively operate computer systems, networks and accessories; effective utilisation of web portals, websites, and web links; ability to exploit automated environments for varied formal and informal interactions, associations and information management to enhance personal and institutional development and productivity. Also, it should include effective operation and utilisation of relevant software application packages and online databases for administrative and academic purposes, and for information sharing and exchange to facilitate scholarly communication as well as for teaching, learning and research.

My study on the readiness of the Nigerian Libraries to effectively automate and Internet their systems and services in 1996 (Mohammed, Z : 1996) revealed that a majority of the libraries across the board in the country were rarely ready to effectively exploit the potentials of ICTs and the Internet due to varieties of challenges which include: lack of funds, inadequacy of competent ICT literate staff and users, irrational electricity supply, inability to effectively cope with the costs of ICTs deployment , updating and maintenance. As a follow up, my study on the status of ICT availability and applications in Nigerian libraries and information centres in the year 2002 (Mohammed, Z: 2002), still discovered that a majority of the libraries have not fully embraced the application of ICTs in their systems and operation. As such, their systems and services have not been fully automated. Also, they have not been effectively connected to the Internet on 24/7 hrs regime. They are still grappling with vital challenges such as: inconsistent electricity power supply, systems maintenance and upgrade

costs, none availability of genuine equipment and spare parts, rapid changes of ICTs features and obsolesces of existing technologies, inadequacy of the requisite facilities, inadequacy of ICT savvy experts and technicians, manpower training and retention costs, and insincerity of some ICT systems and services suppliers and service providers, etc.

My investigation on the funding and financing of Nigerian libraries and information centres in 1994 and 1996 revealed that, due to the state of depression in the Nigerian economy, it is rarely impossible to effectively maintain any systematic planned growth rate of library and information systems and services provision for the customers. It has also been discovered that, in addition to the strategic masquerading of the institutions' Chief Executives who are always readily at hand to tactically manoeuvre the spending of the meagre funds administratively allocated to the libraries including those from government and donor agencies for something else, some factors are still negatively influencing their funding. Critical among the factors were and are still: the Nigerian economic predispositions, policy and policy implementation, the concept of library and information work, and the training and education of library and information workers/ professionals (Mohammed, Z: 1994 & 1997).

In like manner, I have also discovered that, within the perspectives of library and information services provision in educational institutions, luckily, the tertiary educational institutions' libraries are effectively flourishing due to the emancipatory financial life-line from the TETFund (former ETF). On the contrary, the Primary and Secondary school libraries which are expected to be catered for by the State Universal Basic Education Boards and in part by the Local Government Areas to effectively meet the academic and information needs of the pupils, students and staff are mostly non-existent or are performing far below expectations. The primary schools are even worst off as there are really no school libraries in the sense of it particularly in the public schools. Like the Public Library Services, a majority of the school libraries and particularly those in the rural areas and semi-urban areas are essentially more of reading, resting, chatting or gossiping rooms and centres. The members of the school community mostly utilise the so-called libraries for their individual or private needs rather than for educational and information needs. The nature and type of their collections and the so-to-called library and information services left much to be desired due the evident human, financial and other necessary material starvations. However, what can fairly be considered as school libraries are mostly obtained in the Private Schools and the Unity Schools under the edges of the Federal Ministry of Education (Mohammed,Z.:2017b). They tend to have some elements of financial allocations for library services.

In the contemporary world of the digital age, University libraries, like other types of academic and research libraries, are increasingly challenged to effectively provide for the needs of the numerous customers including those who may prefer not to be physically present to access the information resources and services of libraries especially on 24/7 services regime. It is no longer a news to state the obvious that the University libraries, like other types of academic libraries, are painfully faced with some compelling predicaments such as: increasing customer population, decaying infrastructure, declining financial position, mass turnover of specialist staff, overzealousness of domineering Chief Executive of educational institutions, compromising library administrators in dear need to concealed their

administrative incompetence and managerial weaknesses and prefer to silently remain on acting capacity, and the need to continuously cope with the dictates of the emerging digital technology and society (Mohammed, Z :2016a).

For all intent and purposes, funds availability is unequivocally needed for libraries to occupy a niche in ICT applications for their systems and services . However in Nigerian scene, in spite of the establishment of education funds intervention agencies such as the PTDF and TETFund to carter for the funding and financing the educational institutions" programmes and library services provision, the Universities and indeed other tertiary institutions in Nigeria are more than ever before, continually metamorphosing into mass-based educational institutions. They tend to be operating under severe financial crisis and bankruptcy largely due to socio-political jingoism; inappropriate management policies and policy implementation; spiral annual increase in students admission without commensurate human and material teaching and learning facilities; acute shortage of staff to meet up the NUC carrying capacity for programmes being run in the institutions; and miss management of funds by the administrators especially through lack of accountably and misappropriation of funds; etc. You can imagine the plight of the libraries of such institutions aiming to have fully automated systems and services along with relevant and updated print and electronic information resources collections; where the Chief Executives are systematically fond of milking the library funds directly and indirectly without due processes; and are systematically and progressively retaining the Librarians on Acting Capacity so as to effectively emasculate their hands down to dance to the tune of the music of the time. This is even when it is crystal clear from all indications that such persons staying on acting capacity lack the requisite working experience, professional capacity, managerial acumen, and are only making a caricature of the library systems and services (Mohammed, Z.:2016b).

In another dimension, I have discovered that, in addition to reducing undue pressures on libraries and information centres to provide the much needed information resources and services for their numerous customers, what adds impetus to the impact of technology on information access and utilisation at wherever and whenever is the Open Access Initiatives. The basic goal of Open Access (OA) doctrine is to ensure fair play in the levels of awareness, access, use, reproduction, dissemination, transmission, display and distribution of information and information resources in any medium and format legally and ethically without any economic and physical barriers to the target users/customers provided the original work is cited properly and the author is acknowledged accordingly. Open Access can be in form of either open access publishing or self-archiving of scholarly publications in open archives such as institutional digital repositories, home pages, websites/pages, disciplinary or subject specialisation repositories. A publication is said to be under the realm of OA when the author(s), contributor(s) and copyright holder(s) grant the users free, irrevocable, universal and perpetual right of access, use, distribution, transmission, dissemination, copy and display of such publication publicly; make and distribute derivative of such work in any digital medium for any responsible purpose; and subject to authorship attribution, the right to make small numbers of printed copies of it for their use. Open Access and indeed Open Source initiatives are all considered vital and necessary to: freely support and promote scholarly

communication among scholars, academics, researchers and other relevant target stakeholders especially through the publication and dissemination of research outputs and other types of intellectual works and contributions to knowledge; facilitate access to published and unpublished publications regardless of their formats and locations freely especially through the Internet and other types of online networks and services; and enhance the potentials of information resources access and utilisation specially through knocking down barriers of subscriptions , purchases, and other types of financial commitments(Mohammed, Z: 2013f).

2.2 Technology Acceptance and Application

Within the context of the application of technologies for effective management and exploitation of the dynamics of information, it is an undisputed fact that ICTs are rapidly revolutionising the world landscape to sustain the emerging vista of digital society that is continually impacting on all sectors of the economy which include but is not limited to socio-economic, educational, political and cultural growth and advancement of societies and their people. This is tenable especially through the exploitation of smart technologies and provision of cloud technology-oriented services to all and sundry regardless of their physical locations and times of access. While communication far and wide has been made easy through utilisation of smart phones, the Internet and other web technologies and tools, the common every day and routine activities have been transformed into online- based activities. Also, they have been transformed into platforms such as e- government; e-business; e-banking; e-marketing; e- commerce; cyber talks and squatting; e-document; e-library; e-ticket; e- services; e- transaction; e-mail; e-money; e-learning; and e-voting; e-conference and lecture; e-political campaign; e-examination and interview; e-application and registration; e-Community of Practice, and e-payment; etc. which can take place at the convenience of the stakeholders regardless of their physical locations (Mohammed. Z: 2015b). The emerging potentials of ICT technologies, particularly the computers and online networks, and more recently the Internet and mobile communication systems such as the smart phones and tablets have continually necessitate the need for their application on a host of varied activities, operations, organisation and management of public and private institutions, establishments and organisations. It is also readily needed in other workplaces such as homes, hospitals and clinics, legal establishments, educational institutions and scholarly activities, hospitality and tourism arena, and at social settings such as cultural centres, markets and petty business circles. Hence the need to transformation and redesign individuals' and organisations' functions and operations. This includes secretarial duties in traditional workplace settings in offices, businesses, libraries, museums, archives, educational and other types of formal and informal establishments. This should also include the ways and manners they are being managed and sustained to cope with the challenges and expectations of the globalised economy and revolution where time and physical location are not barriers to development and advancement.

From both theoretical and practical perspectives, I have discovered that the extent of technology acceptance, adoption and application to the management and exploitation of the dynamics of information and other public and private digital systems, operations and services

can greatly be affected by the consequences of the implications of the impact of the psychology of and theories of management and practices. This is even more evident especially when viewed within the context of behaviourism (human- characteristics and attitudes), cognitivism (brain-based- human memory and perceptions) and constructivism (management- administrator's and operator's own construct of fulfilment, achievement, experience and perspectives). In like manner, technology adoption, acceptability and application to information systems management, functions, operations and services can significantly be affected positively or otherwise by variety of factors such as: the peculiar predispositions of the management; the attitudes, characteristics and information/ICT level of literacy and fluency of the administrator and operator; the prevailing circumstances surrounding the systems environments; the stakeholders' perceived usefulness, relevance, availability, adequacy and appropriateness of the technology being adopted and adapted; and the type and functionality of the technologies in use (Mohammed, Z: 2015a).

In another dimension, the application and/or non-application of technologies to the management of information systems, operations and services can equally be influenced by: the operator's and user's characteristics, skills and experiences in using the technology; the type of technologies available, adaptable and useable; the type and feature of the systems environments; the users' perceived usefulness and relevance of the technology in actualising the mission, goals and aspiration of the project in one hand, and achieving their individual and collective objectives and aspirations on the other hand; the context of the vision, mission and objectives of the project; the level of access and ease of use of the technology by the stakeholders; the perceived attitudes, experiences and opinions of others on the usefulness, relevance and ease of use of the technologies to achieve the desired goals and target; the stakeholders' technology fluency, literacy and competence; the perceived levels and extent of the stakeholders' skills, potentials, motivation, capacity, ability, willingness and readiness to effectively utilise the technologies; the perceived implications of the cognitive outcome of applying the technology; and the methodology adopted to effectively queue in the stakeholders to accept, adopt and utilise the technologies to achieve the desired vision, mission, goals and objectives ahead (Mohammed, Z: 2015a). On the other hand, what could also constitute stumbling blocks to effective adoption of ICTs in organisation may include but not limited to: unstable electric power supply, lack requisite technical skills, inadequate requisite infrastructure, inadequacy of funds, unrealistic systems sustainable plans, negative attitude of staff towards ICT project, lack of collaboration with other similar institutions on the project, political and economic considerations, poor ICT project planning and implementation, lack of readily available options to fall back to, and lack of technical support.

In like manner, the extent of use and or non use of technologies, of which ICTs are included, for any purpose can largely be influenced by factors and challenges such as: type and nature of the available technology being employed; the type and nature of services being provided; the type, nature and environmental dispositions of the workplace; the type and nature of the managerial style, functions, operations and activities of the organisation/establishment; the type, skill, characteristic and attitude of the workforce; the type, skill, characteristics,

attitudes, socio-cultural milieu and needs of the customers/users; the type, nature and essence of the service/information needs; type and nature of the human effort involved in the access and utilisation of the technology; the extent of the financial commitment involved in the technology adoption, application and use; the extent of user technology fluency and competence; the type and nature of maintenance culture/policy adopted; the extent of user friendliness of the technology being employed; extent of compatibility of the technology with similar others; the level of user information literacy; the extent of readily available genuine spare parts and expert technicians; the level of access and utilisation of the technology by both the service providers and users; the type and nature of the environment for operations and service provision; the type and nature of security provision; the extent of availability of funds for the general management of the systems; the level of availability or non-availability of alternative or complementary technology; the users' ignorance of the associated benefits of the technology being employed; the extent of user repugnance of the technology being employed; the extent of user general anxiety of technology adoption and acceptance, and particularly that being employed; the extent of the coverage and relevance of the technology documentation; and the type of user orientation and training provided.

By and large, considering the emerging craze for application of ICTs in all sectors of Nigerian economy, it can be argued that the country is steadily embracing digital technologies. For instance, in the banking sector, the systems and services have been digitised to conform with the Central Bank of Nigeria (CBN) directive of cashless society. With the aid of online banking and smart card facilities, customers can access their accounts remotely and perform needed transactions irrespective of their physical locations and time of need. With the introduction of Bank Verification Number (BVN) customers' varied accounts within and in other banks are harmonised for ease of management, especially by the CBN. In the public and private establishments, web portals and websites are being created to facilitate their operations and management. One important aspect of such endeavours is the introduction of the 'Treasury Single Account' (TSA) to reduce financial wastages and leakages in Government spending thereby checkmate incidences of corruption and corruptive tendencies such as payment of ghost workers salary, duplication of expenditure on goods and services, etc. In the transport sector, travellers can book, cancel booking, reschedule bookings and confirm fight and other vehicular schedules, and also pay for their tickets online irrespective of their physical locations and time of booking.

In the media and entertainment sector, television and radio programmes and services as well as the newsprints, films and drama are being digitised thereby make access to them at will, irrespective of the time of access, such that previous broadcasts or programmes can be recorded especially in digital formats or replayed as the need arise. The potentials of the ICTs particularly the Internet facilities and services made it easily possible to access previous television news and programmes, films and drama, newspapers and magazines on 24/7 service mode. However, it has been noticed that the Nigerian print and electronic media houses and outfits, especially the public/government owned, are faced with some peculiar challenges which include but not limited to: poor funding, subservience to undue government interference and influences, adequacy of financial and material resources resulting to

crippling of overhead programmes execution, snail phase in digitisation of processes and programmes, falling standard of content and programme quality, lack of independence in programme/ tasks execution, etc. Thus, in order to cope with the challenges of the present digital age and catch up with the future expectations, the media centres have to surmount the compelling challenges especially through thinking outside the box, collaboration with other media houses within and outside the country, outsourcing of programmes funding; and provision of enticing staff development programmes and initiatives; improved staff welfare and security packages; opportunities for rebirth, promotion and infusion of quality local content programmes and operations; and enhancement of capacity for initiation, promotion and maintenance of independent programmes and operations.

In response to digital expectations, publishing and book trade are being digitised such that books, journals and other printed documents are in digital formats and databases and are also online for easy acquisition, processing, access and utilisation at convenience. The successes of Podcasts has given rise to digitised audio downloads up to about 28% to the extent that publishers of physical books will want it accompanied with audio copies and rights. However, it has been observed that resent developments in the publishing industry saw the emergence of printed hard and paperback books like the 'Kindles' over the eBooks such that the sales of e-books have dropped by 17% against the rise of physical books sale to 8% (Theguardian.com). In addition to lack of prevalence of reading devices for e-publications, people are no longer interested in reading long-form fictions and books on their phones, smart notes and tablets. The average readers tend to opt for the pleasures of reading and physical turning of the pages of the books which gives room for systematic critical thoughts in relaxed mode. Besides, while the digital/e-books are increasingly being expensive, they are not celebrated embodiments of beauty, fashion and pride as it were with printed books which can be shelved, carried about, accessed and utilised without any device, conceived as additional costs. Also, due obvious socio-economic inadequacies of many families, especially in developing countries, effective access and utilisation of children's literature does not fit well on e-publications and e-readers. The clarion call is to get people to read not minding how to read. It is assumed that as people read continually, they will go for printed books which are cheaper and easier to utilise without hindrances. On related discourse, a cursory assessment of the state of e-publications available in the e-libraries of tertiary institutions in Nigeria point to the fact that due to costs of subscriptions, a majority of them rely more on Free Access Databases to provide services for their customers. In fact, while some of them, like the university libraries, have to resort to some form of consortium arrangement to even acquire Elsevier/ Science Direct databases, others have to rely more on e-Granary database to meet up to some levels of expectations.

In the contemporary world of ICT applications in library and information systems and services, there is competitive efforts by libraries to either adopt the use of Wi-Fi or Li-Fi technology for transmission of data and information electromagnetically. While Wi-Fi uses radio waves, Li-Fi runs run on visible light to perform its functions. As a Visible Light Communications(VLC) system, Li-Fi accommodates photo-detector to receive light signals and a signal processing element to convert the data into stream-able content using the

common household LED (light emitting diodes) light bulbs to enable transfer at a boasting speeds of up to 224gigabits per second (Christina, Mercer: 2016). As a semi-conductor light source, the constant current of electricity supplied to a LED light bulb can be dipped and dimmed, up and down at extremely high speeds without being visible by human eyes such that the tiny changes in the rapid dimming of LED bulbs is then converted by the receiver into electric signals. The Li-Fi systems are now being installed for gate passing at some high ways such as at the Abuja International Airport and Lekki Express Way, Lagos. One of the future library technology being aimed at and gradually being deployed is the Library Circulation Technologies (LCT) which comprises of Users Self-Check in-checkout systems, automated materials handling machines and security gates systems (Breed, Marshall: 2008). The LCT aims at employing computer and telecommunications technology to control the circulation of library information resources ,which may be integrated with other functions in an automated system. a)The Self-Service, like the ATM, provides for self-check stations which allows library customers to charge physical information resources such as books and journals in the automated circulation module and desensitise them for theft-detection system. The self-check stations mostly feature customised computer equipped with readers for the borrower's card and for the information resources/materials. b) Automated Material Handling (AMH) as an automated machine, is library integrated systems, applications, and machines for handling, processing, storing and controlling library information resources/materials to reduce or eliminate the need for humans to check-in, check-out. The system involves placing Radiofrequency Identification(RFID) tag, which is programmed with a unique identifier in each of the physical items. Usually, the RFID tags are read and updated without direct physical contact , offer opportunities for automation beyond self-check , and facilitates much of the workflow involved in book-return processes. The RFID systems are already being deployed on the doors of high profile buildings and hotels. Other technologies which libraries could and are already being deployed to facilitate and enhance their services include but not limited to :Augmented Reality(AR) that provides digital overlays (e.g. Google's eyewear) to reality that add information; QR Codes -graphical symbols that, when photographed with an appropriate application on smart phone, opens a specified link in a web-browser to provide additional information about the physical spaces (e.g. shelves, art works etc. on walls) in a library; SCARLET Project (an aspect of AR) as a tool for reading digital materials and for provision of additional information about a document (e.g. text, images, audio, etc.) to enrich the experiences of customers; Drone technology/system for quick transfer/ delivery of physical information resources found to be highly sensitive and secretive to reach the right destination and user at the right time etc.

In the commercial/business sector, especially the private business outfits such as shops, canteens, hospitality and tourism arena, estate, market and corner shops, etc., their operations, systems and services are being digitised and linked to the Internet such that they can easily be reached. Thus, businesses are transacted remotely, payment of goods and services paid online, and door step delivery of ordered products and services are made with ease. In addition, due to the lowering costs of mobile/smart phones, decreasing costs of Internet connectivity and provision of variety of discounted and unsolicited services by the service providers, as well as the increasing craze for communication mobility, the average mobile

and stationary roadside hawkers, mechanics and food sellers; taxi, bus, truck and lorry drivers; truck pushers, water and firewood sellers; menial workers and artisans; and even other petty traders and owners of eateries, social sites/corners/platforms; butchers and meat sellers; house wives and maids; craftsmen, herdsmen and fishermen; school children and youths in towns and villages etc. at wherever, including those in the semi-urban and rural areas, now own their mobile handsets for communication and information access. They also use them for audio and video recording of events to post them to whoever, wherever and whenever especially using the social media platforms and tools.

Similarly, like the large scale farmers, the medium and small scale farmers are found to have and encouraged to possess and utilise mobile telephone systems for ease of communication amongst them and also with relevant government agencies, marketers, and farm implement suppliers, etc. Some of the agricultural information the farmers tend to obtain or disseminate through their mobile phone include but not limited to: market prices of agricultural products; pest and disease control products; methods of herbicide control; farming systems methods; drought resistant crops; credit facilities; soil fertilizer; soil erosion control; harvest management; and live stock farming and management. Depending on their level of ICT literacy, some farmers communicate or receive information through email, SMS, voice call and Internet browsing. However, in the health sector, the functions, operations and services of some public and private hospitals, clinics and pharmaceutical stores are being digitised/automated. In fact, some elements of telemedicine are being practiced, especially in some specialised private and teaching hospitals in Nigeria. Interestingly, Adegunle Olugbamila (2016), reported that even the visually impaired persons are not left out in embracing the ICTs for their activities.

In the educational sector, some of the educational institutions, especially the tertiary education institutions, have their web portals and websites to accommodate all their operations and services which include but not limited to students registration, tuition fee payments, hostel accommodation allocations, and examination matters. In fact, due the astronomical rise in students enrolment at all levels of educational pursuits, many of the institutional internal examinations as well as the entry examinations for admission into educational institutions such as that conducted by the Joint Admission and Matriculation Board (JAMB) for the Unified Tertiary Matriculation Examination (UTME) are computer and Internet dependent (Computer Based Test-CBT). In a typical tertiary educational institutions, the students utilise online networks such as the Internet, Google, Yahoo, dedicated websites, social network platforms, e-conference, e-class, bulk-SMS, and digitised/ online publications such as e-books, e-journals, e-Newspapers and Magazines, e-bulletins, etc. to secure relevant information for their academic pursuits. In like manner, the academics use similar online resources and services for staff welfare, professional and academic development and tasks, which include but not limited to teaching and research. Similarly, the non-teaching staff in the institutions use same online resources and services for information on staff employment and promotion, institutional best practices, records management, wages and salaries, staff code of conduct and ethics, funding and financing, regulatory agency requirements, staff welfare and development, professional requirements, security matters,

banking system, etc. Also in the government circle, it has been reported that the Federal Government, through the Galaxy Backbone, has provided Internet access to about 400 Ministries, Department and Agencies (MDAs) even as it began plans for licensing of 5.4GHz and 70/80 GHz spectrums bands. Over 11,000 nodes of wireless Local Area Network have been linked to all the MDAs at the Federal Secretariat, Abuja. Whereas, the Galaxy Backbone has also provided 40,000 email addresses for government officials under the gov.ng and mil.ng domain. With the provision of 200 servers hosting 94 MDAs, it is hoped to ensure that government data is hosted locally on a secured website with data back-up to the MDAs (Chima, A.:2016).

I have observed with keen interest the positive revolution and healthy rivalry in the Nigeria's telecommunications sector especially in the year 2016. Apparently, almost all the major mobile telephone service providers such as the Globacom, Etisalat, MTN, and Ntel (owned by the consortium that acquired the assets of the Nigerian Telecommunications Limited - NITEL) have systematically migrated from their usual 2G (Gigabyte), 2.6G and 3G network to 4G/LTE (Long-Term Evolution) network services. The aim is to offer their teaming subscribers data intensive applications to carter for the individuals and organisation such as government establishments, banks, oil and gas industries, academic and health institutions, etc. who consume huge volumes of data and rely exclusively on seamless data transfer for their operations. It is envisioned that all categories of subscribers will enjoy optimised wireless 4G broadband and high-speed browsing experiences considered to be the fastest and most futuristic mobile Internet access across Nigeria. It is also to achieve the country's broadband penetration by year 2018. In effect, with the 4G/LTE, customers will not have to engage in SIM swap to get connected to LTE enabled. It has been predicted that with this development, Nigeria's telecommunications sector would have 222 million 4G mobile subscribers in search of high-speed broadband services like voice, video and data movements away from the usual 2G and 3G services. Adeyemi, A.(2016) remarked that the National Broadband Plan is to have 30% penetration by 2018. And that the broadband growth moved from 8% in 2014 to 10% in 2015, and 14% by 2016 with mobile broadband of 20% and Internet penetration of 93%.

From the foregoing, even though it could be said that Nigeria is already getting plugged properly into the ICT ecosystem, there is the need to evolve effective ways and means of harvesting the dividends. This will include having deliberate policies and strategies that will accelerate ICT penetrations through keying in the youth, government institutions, private establishments, academic and health institutions at all levels to fully adopt and employ ICTs in their systems, operations and services. This should be followed by provisions for training and retraining to cope with the contemporary and future challenges which include cyber crimes and security, indigenous software development, digital multimedia development and applications, etc. Such strategies are needed as the world is systematically moving toward deployment of the fifth generation (5G) network and Internet of Things (IoT) to catch up with the future. As found in some major cities of the world, it is with joy to note that some major cities in the Nigeria, particularly the FCT , are in the threshold of deploying municipal Wi-Fi with chains of hotspots for all and sundry to be connected through wired and wireless

backhaul system using a cluster of Wireless Access Points(APs) on paid or free basis as the case might be. Commenting on Internet subscription in Nigeria, Adeyemi, A.(2017b) reported that, it sustained downward profile as about 1,275,573 consumers appeared to have fallen off the radar in one month. That by the end of February, 2017, Internet operators are losing at the end of every 31 days. For instance, the figure which fluctuated between 93.1 million and 92.4 million between November and October 2016, declined to 91.8 million in December, 2016 and by the end of January, 2017, they lost 605,586 subscribers.

Generally, what can be said to constitute challenge to effective and efficient access and utilisation of Internet and other online network resources and services, especially in public and private establishments, institutions and organisations, include but not limited to: level of computer/ICT literacy and fluency, systems overload, fluctuation and slowness, rapidity in the advances of ICTs thereby making the existing technology obsolete, user time constraints, user duties/ work commitments, capacity of bandwidth, lack of easy access to Internet connectivity, frustrations in retrieving and accessing relevant information resources and services, instability in electric power supply, incompatibility of the system with other available technologies, non-availability of viable alternative technologies, the state of human and material security, resistance to change and fear of the unknown/certainty, the institution's management apathy to the management of project, lack of provision of effective and relevant expert and technical know- how education and training, inadequacy of funds for the management of the system and services. It is necessary that some provisions are made at all levels for ICT advocacy, training and retraining of existing and potential users.

Some of the concomitant effects of sustained dependence and over dependence on ICTs for information management, particularly computers and the Internet and their varied solicited and unsolicited platforms and services such as Databases Management, Management Information Systems, Decision Support Systems, Inventory Control Systems, Online Network Systems and Services, the Social Networks ,etc. are the emergence of basically four crops ICT users. The first crop is the set of ICT shy individuals and groups at all levels of functionalities and operations. They rarely see anything good about ICT applications. They tend to manifest some state of anxiety, suspicion, agitation, non-comfortability, nonchalant, and uneasiness to utilise the potentials of ICTs, especially computers and the Internet to perform any type of operations and function. They are mostly considered as the ‘Old School ' or 'Old Brigade' members who, even in the 21st century, do not believe in the powers of computers and the Internet for anything. Our study on Infobesity among the academic staff and postgraduate students of Ahmadu Bello University, Zaria identified the causes of anxiety among the respondents to include: lack of computer skills, pressure of work and study, too many irrelevant and relevant hits, too few relevant hits, sped of connectivity, over crowdedness, and lack of assistance (Abdulkadir Aliyu and Mohammed, Z.: 2012).

The second crop of ICT users are the’ info bests’ or moderate ICT users who only view ICTs as enablers. Thus, they utilise the technologies only when the need arises to effectively and efficiently perform some operations and functions which may be time bound in the face of non-available viable options. The third crop of ICT users are what can be called the technology savvy or wizards. They are so good in utilising the ICTs, especially computer

and Internet technologies to perform varieties of operations and functions far beyond their formal job descriptions and expectations. Through training and refresher courses certifications, they tend to possess the capacity and ability to effectively manipulate computers and Internet facilities, resources and services for any purpose. Formally, they cannot be officially considered as specialists in the area going by the tenants formal educational institution programme attainment and certification. The fourth crop of ICT users are considered to be the addicts. Their characteristics, attitudes and behaviours can be akin to drug, gambling and alcohol addicts and other forms of socio-economic, political and cultural savagery. These attitudes tend to influence whatever they do, how they perceive issues and do things in their formal and informal places of work, at homes and in their leisure times as well as their socio-cultural life patterns.

By and large, Internet addicted individuals generally tend to lose their capacity and ability to effectively control themselves to access and utilise the Internet and other virtual network platforms wherever and whenever. More often than not, ICT or Internet addicts manifest attitudes that may include but not limited to being: critically preoccupied with access and utilisation of the Internet; unsuccessful in attempts and efforts to control, stop or cut back Internet access and use; staying online longer than necessary on the Internet consciously and unconsciously; intentional and unintentionally get agitated, depressed, moody, restless irritated and irrational against efforts to get them drastically reduce access to and utilisation of Internet platforms and services; indifferent to risk the loss of even strategic opportunities at workplace, relationships, education, career progression, marital and socio-cultural life; indifferent to increasingly spend much money even on credit to continually access and utilise Internet platforms , facilities and services; and insincere in expositions on the extent of ICT/ Internet addiction to friends, family members, therapists, and colleagues. From my study on the impact of Internet, particularly the Social Media, on people and families revealed that social media is already impacting on matrimonial lives and homes. There are homes where husbands and wives are so married to their smart phones such as iPhone, iPad and Blackberry, communicating with friends not necessarily known to either of the couples. What is even more worrisome is when each of the couples is constantly engaged in chatting with opposite sexes unknown to either of the partners even at home, to the detriment of taking care of their respective family responsibilities and commitments. More often than not, their first and last points of reference are usually the subjects being discussed on Facebook, Twitter, etc. to the extent that to say 'goodnight or good morning' to each other may become a secondary issue. Thus, in order to make sense of everything, some families have to have ground rules on the use of phones at home especially during quality time to make room for family bonding and reunion after the day's work (Mohammed, Z: 2014c). This state of affairs calls for continuing counselling at all levels and places of work to support and promote moderation in the use of ICTs.

2.3 Library and Information Service Provision

Regardless of which type of library and the environment it is designed to serve, the basic mission and objectives of information service provision should be to support and promote natural and social justice, equity, fair play and democratisation of information access and

utilisation. It is within this perspective that the Universal Declaration of Human Rights and the United Nations Convention on the Rights of Persons with Disabilities under the principles of non-discrimination, equal opportunity, accessibility and full effective participation and inclusion in society become relevant and instructional for any type of library and information services provision. Library and information services agenda should make provision for freedom to seek, identify, retrieve, receive, access , impart and utilise information and ideas of all kinds and quantum on equal basis by all categories of customers, regardless of their physical and physiological features and challenges, for their information, enjoyment, education, research, entertainment, etc. through varied communication media most suitable to them and of their choice. This premise brought to light the need to adopt and embrace the Marrakesh Treaty (2013) in the provision of library and information services. The Marrakesh Treaty aims at dislodging all forms discriminative tendencies in the provision, access and utilisation of both print and electronic information resources and sources by all categories of information seekers irrespective of their physical and physiological features and challenges(WIPO:2016). In effect, whether the customers are physically able, disabled or differently able; there should be no discriminated services provided to satisfy their needs.

My infrequent cursory interaction with my distinguished customers when I was managing the ABU Library complex revealed that there are basically two circumstances that tend to ignite frustrations among them. The first causes has to do with the management of the library especially in areas related to: lack of availability of needed information resources (print and electronic) which can be traceable to inadequate funds as libraries have to heavily rely on the manner (funds) from TETFund and donations from well meaning organisations; non return of loaned information resources on scheduled due date; lack of staff's immediate knowledge about missed information resources; lack of immediacy in the shelving of consulted information resources left on the reading tables; wrong shelving of consulted information resources by the shelving staff due to utter negligence and charlatan attitude; lack of knowledge of the information resources domiciled in the reserve room area; non quick return of information resources sent to the bindery unit for mending; unfriendly posture of some staff especially at the circulation and reference desks; etc. On the other hand, the second causes of customer frustration from their angle can be attributed to: share ignorance of the workings of catalogue cabinet and the OPAC; deliberate wrong shelving of much needed information resources for selfish motives; lack of cooperation and understanding with library staff on duty especially at pick periods of work; inability to personally locate needed information resources sometimes due to self pride or secretiveness; wrong approaches to location of needed information resources; unethical attitude and behaviour to library staff; lack of basic knowledge(ignorance)of library functions and operations; lack of basic skills of interpersonal communication; lack of self confidence and inability to simply explain self; and mirage of conflicting needs and wants. The consequences of such customer frustration could positively result to direct asking of the library staff for assistance. Negatively, the frustration could lead to searching for alternative sources outside the library, go to other library around for salvation and/or give up the effort for good. On the part of the library management, I established the Quality Assurance Unit for monitoring and evaluation of performances and compliance to expectations; created a Bindery Unit for mending of

information resources; establishment of Photocopying Unit to ease customers' copying of information resources based on copyright laws; appointed Faculty Liaison Officers to oversee the on-goings in the faculties and departments; tacitly decongested the central library(Kashim Ibrahim Library-KIL) by empowering the Faculty/Department libraries especially through distribution of copies each of the information resources acquired through TETFund and securing and distribution of donated books from: Chevron Nig. Ltd-**189** titles (**202vols)**, Sabre Foundation-**739** titles (**15,709vols**), Mc Arthur Foundation-**90** titles **(244 vols.**), Gusau Institute-**819**titles **(989vols**),Books for Africa & Others-**325** titles (**2,435vols**); solicitation and support for the establishment of electronic banking system (ATM) in the premises of the University Main Library (KIL); re-design and re-Installation of ABU Library webpage to accommodate Social Network services, e-marketing and e-promotion; solicitation and secure of 120 fairly used computer sets and 3 servers from MTN Foundation for the ABU libraries; establishment of Media and Public Relations Division, ABU Library Complex; reactivation of ABU Library Online Public Access (OPAC); publication of **ABU Library Complex Handbook** for distribution to the library customers and friends; and Creation of hotspot (Wi-Fi) for Internet browsing .

The traditional and general perception of a typical library is a collection of varieties of information resources and sources housed in a building in an organised manner for easy identification, location, verification, retrieval and access for utilisation to satisfy an information need. In the same manner, it is also believed that in order to utilise any information resource in a library, the customer is expected to be physically present in the library to do so. To that effect, a library customer must have to comply with the library's operations time to effectively utilise it. However, in the contemporary 21st century digital/information age, due to information explosion in different perspectives, a typical library customers' expectations are continually changing such that they prefer to utilise library systems, resources and services at their convenience wherever, and whenever. That is, instead of the traditional yoke where library customers need to physically go to libraries to get their information needs satisfied; the reverse should be the case in the contemporary times where libraries must also have to go to the customers, digitally and remotely, to get their customers' information needs satisfied regardless of the time of need, their physical location, and their physical and physiological features and challenges. This brings to fore the emergence of two major types of libraries: conventional libraries (traditional/manual libraries) and contemporary/modern libraries (electronic and hybrid libraries). The conventional libraries are those which their systems, operations, services and management are manually inclined. Whereas, the contemporary libraries are those which majorly their management, systems, operations, resources and services are ICT inclined.

The common feature binding the conventional and contemporary types of libraries is the automation of their systems. Whereas , the dividing feature between them is the fact that , while the conventional ones allow the removal of information resources from the shelves for use at wherever for defined period, especially under loan schemes and to be returned on or before the due date; the contemporary ones, in addition, allow the for copying of the information resource onto the customer's personal computer, download to a reading device,

or stored in the customer's personal digital library, etc. (having met the copyright obligations), leaving the original resource intact in the library systems. Besides, in the contemporary library regime which is digital by design and structure and which digital library and information resources and services normally include: library website, online catalogue (OPAC), online databases, online information resources of all sorts, e-publications, online inquiry desk, etc., the customer may not necessarily have to be physically present in the library to access and utilise their systems, resources and services as all their needs can be met remotely. Thus, these complexities suggest the need for the library customers to be information and ICT/ digital/computer literates. Also, there is the need for training and retraining of the library and information personnel to cope with the exigencies of the time. This call is even more pertinent when the technical skills for sourcing and processing the knowledge assets, delivery and services, as well as for handling the ICTs and other infrastructure are put into consideration (Mohammed, Z :2013e).

Expectedly, in the contemporary era of digital technology, the type and quantum of information resources and services provision is largely a function of the extent to which the relevant technologies have been accepted and adopted. Thus, in order to ensure relevance in the scheme of information services provision, librarians and other information professionals, regardless of which type of outfit they are serving, should be competent, capable, able and willing to: a) entice and draw the attention of their customers to the relevant varieties of information resources and services available, physically and remotely, to satisfy their needs; b)ensure the provision of current and relevant information resources, sources and services to satisfy their customers' needs which should include their professional and personal development; c)develop and maintain close relations with their colleagues in workplace, in other remote relevant workplaces, and ultimately the existing and anticipated customers; d)document and make available all relevant information, resources, issues, activities, events and programmes found to be instructional to both the staffs' and customers' aspirations; e)serve as clearing house or agent for demystifying customers' doubts and uncertainties; and f) provide varieties of physical and remote information resources and services. It is important and necessary that libraries and information centres embark on packaging and branding of their products and services to effectively cope with the competing environments of the information society which, characteristically, is open to variety of customers with endless and varied needs and expectations. In addition, in order to ensure and promote staff integration, sense of belonging, commitment and transparency, library management structure should have provision for strategic committees which include but not limited to committees on: appointment and promotion, staff welfare, quality assurance, ICT, budgeting and finance, maintenance and minor works, information resource development, advocacy and promotion, institutional collaboration and relationships, community and customer relationships, tender and procurement, staff ethics and discipline, security and safety, etc.

In like manner and more importantly also, there should be formally designed ethics and professional code of conduct available as guiding principles for staff ethical attitudes and behaviours, for the management of library and information centre as well as for access and use of information systems, resources and services. The IFLA (2012) rightly submitted that

librarians and other information workers should facilitate access to information; be responsible to the individuals and the society; maintain privacy, secrecy and transparency in dealing with customers and their personal matters; and support and promote Open Access and Intellectual Property. It is my conviction that such ideals will guide librarians and information professionals as well as other workers to maintain standards and ethical behaviours and attitudes in their places of work, in their relations with their colleagues and customers, and in information services delivery. The availability of such expectations are needed by librarians and information professional and others alike to understand their legal rights privileges and obligations; reawaken their sense of self-esteem, dignity, honour and moral rectitude; boost public's/customers' confidence on their competence, ability and capacity to meet up to their expectations; and build and promote strong moral and ethical values among the information service providers.

2.4 Education and Training of Information Professionals

The implication of the impact of technology, particularly the ICT, on information management, access and utilisation in the contemporary world points to the need to revisit the education and training of information managers and service providers to meet up to the unending expectations of the information society. The philosophy of library and information science education and training at all levels, in the present 21st century information society and digital age, should be to impart on the beneficiaries the requisite theoretical and practical education, training, skills and experiences for effective and efficient utilisation of the state-of-the-art ICTs for information management, access, and utilisation. This should be irrespective of the content, format and package of the information, and the users' physical location and time of information access. It should also include deliberate acquisition of skills and ability to focus on the needs and expectations of the society, employers of labour, and technology applications to acquire, organise, identify, verify, locate, secure, preserve, retrieve, access, transfer, disseminate and utilise needed information.

Over the years, I have keenly observed with deep interest that the IT and indeed the ICT shall continue to be an inevitable vital resource to all sectors of the economy including formal and informal workplaces and socio-political arenas; being the most effective and efficient media and facilities for managing and influencing information processing, storage, retrieval, access, dissemination, security and utilisation (Mohammed, Z: 1999a). This points to the sustained need for emergence and availability of crops of ICT savvy professionals, workers and managers to effectively exploit the potentials of the technologies for overall information management and utilisation/exploitation of the dynamics of information. Hence, it is my candid position that, the philosophy and vision of education and training in library and information science and indeed for other information professionals of the contemporary world is to get the beneficiaries to be theoretically and practically knowledgeable to be ready, capable and familiar with innovative and creative knowledge, skills and methodologies of effective and efficient management of information in a variety of administrative and organisational settings. In addition, they should have the capacity and ability to adopt and

adapt multi-disciplinary approaches to the study, technique and management of multiplicity of information dynamics regardless of the content, format, customer, establishment, location and time of information access and demand to cope with the dynamics of the time and moment (Mohammed,Z:2013c).

On the other hand, the vision, mission, goals and objectives of education and training of library and information programmes should be to produce professionals in information management for all types of libraries, information centres and documentation centres equipped with relevant theoretical knowledge, practical skills, experiences and techniques to develop and enhance their job performance and expectations. They should possess the relevant spirit, capacity and ability of inquiry and creativity among the information management professionals for better understanding, acceptance and adoption of the emerging technologies and concepts of the role of information in a complex multi-cultural, multi-ethnic and largely non -literate societies in developing economies like Nigeria. Also, they should acquire requisite entrepreneurial education, training and capacity for being self-employed and employer of labour. In addition, they should possess adequate and relevant professional background and intellectual acumen for adaptability to the changing milieu of the information society.

Our study on the challenges of teaching and learning entrepreneurship education in Library and Information Science Schools (LISs) in Nigeria revealed that: poor funding, insufficient teaching facilities for practical-oriented trainings, emphasis on theoretical knowledge, poor enabling environment, ineffective style of instruction, poor or ineffective planning, supervision, and evaluation of the programme across board, among others, have affected the successes of entrepreneurship education in the LISs. We emphasise the need for practical approaches to teaching and knowledge acquisition, establishment of entrepreneurship centres, provision of adequate funds and requisite teaching and learning facilities for practical lessons, and provisions for effective planning, monitoring and evaluation of the programme (Maifata, N.M. and Mohammed,Z.:2016). Basically, the goals and objectives of any Library and Information Science (LIS) school should be to educate and train persons who are employable where ever; are capable, able and ready to use their skills and competences effectively to make positive differences innovatively and creatively to meet up to the expectations of the society effectively and efficiently at least cost; and effectively employ their entrepreneurial skills and competences not only to be self-employed, but be employers of labour (Mohammed, Z.:2013d). Some of the entrepreneurship education and skills of the trainees could include but not limited to : publishing and book trade, information brokerage, museum, records and archives documentation/management, advocacy and promotion, audio-visual recordings and cinematography, event planning and organisation, intelligent information services, editing and proof reading, bibliographic and bio-bibliographic services, and library and information services consultancy.

It is of interest to record the increasing growth and advances in LIS education and training programmes in Nigeria. It ranges from programmes leading to the award of professional Certificates, Diplomas certificates, and graduate and postgraduate degree certificates from Colleges of Education, Polytechnics and Universities respectively. Many university-based

LIS programmes in Nigeria have been approved by the National Universities Commission (NUC) while a score of others are on the threshold of getting the commission's clearance. Contextually, the resent move by the LRCN (2016-2017) to have a unified curriculum and minimum benchmark for undergraduate LIS programmes in Nigeria which should also serve as background and working tool for the review of the existing NUC LIS curriculum and minimum benchmark used for resource verification and accreditation of undergraduate LIS programmes in the country should be applauded. In the same vein, there should be concerted effort for the design and implementation of quality assurance mechanism to maintain best practices minimum standard and benchmark in LIS education and training in Nigeria. The framework for quality assurance for LIS education should encompass : programme philosophy, vision and mission; administrative structure, staffing and funding; educational process such as admission and graduation requirements, carrying capacity, learning support facilities, course structure and content, student registration and examination regulations; internal and external programme monitoring and evaluation mechanism; quality of certification (Mohammed, Z.: 2006). Incidentally, and within the perspectives of pendulum movements, the expectations of LIS education and training for library and information professionals in Nigeria are better appreciated when conceived within the context and perspective of '**Push and Pull'** factors. As motivation factors, the push factors could be viewed as the knowledge, experiences, skills, techniques, strategies and all that it takes to be acquired by the products of the programme to be effectively capable, ready and relevant in the scheme of information and knowledge management irrespective of the customer, place and time of operation (internal expectations). Whereas, the pull factors could be viewed as what the employers of labour, the society and the customers expect from the products of the programmes to meet their information needs and demands satisfactorily (external expectations)Mohammed, Z. (2014d).

Essentially, and depending on the type, intensity and level of the LIS education and training programme established and sustained, and in order to ensure continued and systematic churning out quality, competent, visionary, innovative and creative products, the vision and mission of the LIS programmes at wherever, should ensure that the graduates possess the relevant theoretical and practical knowledge, skills and experiences to: appreciate, understand and apply modern theories, principles and practices of information and knowledge management; utilise appropriate skills, techniques and technologies in information management and services; be capable of being relevant in the scheme of information and knowledge management and services provision in any establishment and organisation; understand and employ information ethics and related social issues in information and knowledge management and services provision; demonstrate the capacity to effectively apply appropriate technologies, strategies and practical experiences and familiarity in information and knowledge management; have the aptitude to employ entrepreneurial skills, competences and techniques to satisfy the information needs and expectations of customers; and retain and attract new customers; and market and promote quality information products and services (Mohammed, Z. :2014e).

It is my conviction that the type of library and information services provided to a society and establishments is to a large extent a by-product of the type of education and training the information managers and service providers received both formerly and informally. Needless to re-emphasise is the fact that the ICTs have continually impacted much on the 21st century endeavours for information management, access, services provision and utilisation; to the extent that library and information services providers have to be dynamic and continually innovative in their approaches to information management and information services delivery irrespective of the category and type of the environments and customers. The type of education, training, skills and competences required for dynamic and innovative library and information service providers is obvious. This is especially when the premise is viewed within the context of the continued changing information needs and expectations of the traditional Afro-Nigerian settings in line with the contemporary 21st century digital African society and the world community at large. In this perspective and conceptually, library and information centre setting should be viewed not necessarily as 'not for profit' business enterprise. Hence, the curricula of the Afro-Nigeria library and information science schools and the methodology of teaching, learning and research must be deliberately geared towards developing dynamic and innovative information service providers with some knowledge, skills and competences in entrepreneurship and mastery of adopting and manipulating the ICTs to cope with the continued changing information needs and expectations of both the traditional and contemporary Afro-Nigerian societies within the context of the dynamics of the 21st century world digital age.

I have discovered that even though the stakeholders in the teaching, learning and research endeavours in the LIS schools in Nigeria are aware of the relevance, usefulness and the impacts of technologies on the scheme of education generally, this has not been adequately translated and reflected on the availability and effective utilisation of technologies in the LIS schools in the country. Thus, I submit that despite the obvious infringing factors inhibiting the adequate availability and effective utilisation of technologies for teaching, learning and research in the LIS schools in Nigeria, concerted efforts have to be made by the primary and secondary stakeholders to change the course of the ship to the right direction through the relevant authorities' direct human and material interventions; employment of diplomatic and managerial tactical strategies which should include appeals for assistance; deliberate provision of training and retraining of the stakeholders in the provision and management of technologies especially through special schemes; and re-engineering of the internal management structures, mechanisms and strategies in the LIS schools in Nigeria (Mohammed, Z: 2015b).

For long, I have observed with keen interest that the developing countries are caught up in-between the paradigm of development and coping with the dictates of developed societies which they have to catch up with in order to fit into the contemporary World of the 21st century and perhaps beyond. The information professionals and indeed the LIS schools in the developing societies are not left out in the quagmire. This is even more pertinent that they have to compete vigorously among other fields of study in attracting quality candidates into their respective programmes at all levels so as to produce graduates capable of coping with

the challenges of ICT applications, access and usage to meet the information needs of all the segments of the society. These unavoidable expectations have necessitated the need for continued review of LIS curriculum at all levels and the introduction of new programmes in the LIS schools in the developing countries such as Nigeria. This is with the view to attract quality students irrespective of their backgrounds so as to produce professionals that could launch the country into the contemporary information world. Expectedly, they should at the same time consolidate their gains and take care of their shortcomings. Similarly, they should also at the same time adopt strategic management and marketing options to attract quality students into the LIS programmes where there is cut throat competition from other fields of study to attract quality candidates that could met the changing milieu of the country on graduation and who could also cope with the challenges of the time (Mohammed, Z :2008).

It is in the light of the foregoing obvious perceived challenges that since 1996 onwards, when I became the Head of the Department of Library and Information Science in Ahmadu Bello University, Zaria and subsequently occupied some administrative positions within and outside the University, my initiatives have yielded some positive changes in the Department and the LIS profession in Nigeria at large. I continually receive encouragement and unflinching support from my colleagues in the Department and also from other merciful establishments, especially the National Library of Nigeria (NLN), and some donor agencies who kindly accepted and reacted favourably to my modest requests and proposals. Some of the results of my initiatives in the Department include but not limited to: restructuring of the Departmental programmes to be ICT compliant, 1997; setting up of a Management Committee for the Abdullahi Muhammad Public Library–former Samaru Public Library (Departmental Workshop/Laboratory in 1997; institutionalisation of two Departmental academic journals (**Samaru Journal of Information Studies** and **The Information Manager)** being cited by the **Africa Online Journal (AJOL)** in 1997**;** establishment of a Computer Laboratory in 1997; installation of Intercom in all the Departmental offices and a direct telephone line to the Department in1997; solicited from the NLN a N20, 000:00 prize for the Best Final Year Student in Cataloguing 1997 and a N300, 000:00 research grant on 'Readership Promotion'1997; connection of the Department with the Internet, courtesy of NLN, the first Department ever to do so in the University in1998; initiation of specialised postgraduate programmes (Information Science, Archives and Records Management, Publishing Studies and Communication Studies) at Masters and PhD levels in 1998; establishment of an academic linkage between the Department and the Emporia University, USA and also with the School of Oriental and African Studies (SOAS), London in 1998; solicitation of £600 worth of books from the British Council, Kaduna to support the 4 newly created specialized postgraduate programmes in the Department in 1998; registration of the Department with the Book Aid International (BIA) for book donation 1998; linked the Department with the International Federation for Information and Documentation Education and Training Committee (FID/ET) and International Federation of Library Associations and Institutions (IFLA) for professional linkages and associations with external bodies 1998; establishment of administrative-academic collaboration between the Department and the NLN leading to donation of computer sets for the take-off of the Departmental computer laboratory and an annual **National Library Day** programme in which symposia and other

literary discourse on contemporary Library and Information Science education and training, profession and services took place 1998-2000; establishment of administrative mechanism for monitoring and evaluating the Diploma in Library and Information Science programme in the Institute of Education, ABU in 2000; establishment of the Postgraduate Diploma Programme (Postgraduate Diploma In Information Management PGDIM) and Master in Information Management (MIM) in 2000 and that of the Master of Philosophy in Information Science/Management (M.Phil) in 2014; nurtured the take-off of LIS programme in the NorthWest University in Kano in the same year; and currently nurturing the take-off of similar LIS programme in the National Open University of Nigeria (NOUN).

Essentially, any education and training for library and information professionals should also address issues related to: employment of innovative and creative strategies and approaches for coping with the diverse and increasing needs of the target population/audience irrespective of their socio-economic and political strata and inclination; fostering of collaboration and partnership with other libraries, information centres and other related public and private agencies and organisation within and outside the country; building and strengthening knowledge and confidence in the trainee to cope with the present and catch up with the future; capacity for value addition services provisions; improved leadership and administrative orientations and styles; improved result oriented communication approaches; capacity for organising and implementing viable advocacy and promotion programmes; acquisition of better understanding of the nature and expectations of effective leadership; capacity to apply the concept of asset-based community development for positive change; capacity to form network of committed leaders in information provision and management; understanding and effective utilisation of opportunities for value addition societal change; and capacity to effectively adapt and utilise the potentials of the contemporary technologies for enhanced information services provision and management.

3.0 Catching Up With The Feature

You do not have to agree more with me that fundamentally, Nigeria is a country with diverse cultures, traditions and languages spoken by its over 180 million peoples with over 70% of them as youth of 35years and below. Majority of the Nigerians are still peasants, mostly living in the rural areas of the 774 Local Government Areas (LGAs) and are lacking in good quality of life. It has been argued that Nigeria is ranked low in human development, half the population are poor, unemployment is on the rise, while human inclusion in government, economy and businesses is low (www.sustainableconvos.com). Certainly, this is far less than ideal situation as majority of the population are living under poverty and squalor. A majority of the population are unlettered, particularly in the official language (English). The population of those who could read and write at least in some Nigerian languages such as Hausa, Kanuri, Fulfulde, Yoruba, Igbo, Ajami, etc. and Arabic are comparatively insignificant to make meaningful impact on the society. Thus, they have to rely more on the oral traditions of communication and access to information to have some sense of direction for inclusion in the schemes of things for quality life. This stance, calls for boldness to usher in a new era of universal access to and utilisation of information typical of the 21st century

digital age propelled by innovations and innovative tendencies and practices upon which the future lies.

It is observed that the conflicting diversity of the composition of the country and the observed inequality in access to all the good things of life especially as it relates to quality education, health care, welfare and other dividends of democracy from government programmes and activities tend to continuously have some adverse effect on the collective national unity, integration, cohesion, diffusion, progress and advancement of the country economically; politically; culturally; socially, scientifically and technologically. Some of factors inhibiting a majority of the rural and semi-urban people to have access to good things of life and indeed quality information include but not limited to: a) level literacy in the official language of communication; b) geographical dispersion of the communities; c) level of information literacy which can simply be translate as unawareness of where, when and how to access and utilise quality and reliable information; d) increasing level of socio-economic and political poverty; e) near absence of reliable and quality sources of health and education; f) dilapidation of transport and communication facilities such as good road networks and telecommunication infrastructure; g) poor state of habitat and environment such as rising tide of dilapidated houses, poor and unreliable sources of water and energy supply and environmental pollution as by-products of modernisation; h)seasonal and unreliable sources of income; i) socio-political and cultural crisis and conflicts; j) and increasing state of insecurity; k)unemployment and underemployment; etc.

The concomitant effects of the apparent socio-economic and political adversities including lack of easy access to quality education, health care and welfare services, and timely and relevant information continuously, led to the emerging varieties of unethical, uncultured, anti- progress and anti-socio-political and economic vices and acts. These are translated inform of lack of respect for constituted authorities and elders; corruption and corruptive tendencies and practices; ethno-cultural and religious crisis and conflicts; political prostitution and conflicts; kidnapping and banditry; thievery and thuggery; economic sabotage which include treasury looting, oil bunkering and pipeline vandalism; human trafficking and body parts sales; social prostitution and sex machining; all shades of child abuses including rape; all shades of insecurity and apprehensions; and youth restiveness and hooliganism; etc. Consequently, the continued prevalence of such ugly circumstances in all the nooks and cronies of the country is adversely affecting varying efforts to cope with the present and catch up with the future which is closely tied to all round development of the individuals, communities, societies and the nation at large.

Conceptually, development simply implies state of change, growth and transformation from one stage, level, status quo or paradigm to another. Depending on the prevailing circumstance, vision, mission and goal in view, development could be systematic, rational, strategic, gradual and/or radical. Development can be said to be negative, unacceptable and undesirable when the end result or outcome turns out to be from good to bad. In such cases, the prevailing status quo of things drifts from the state of prosperity to disparity, stagnation, non-progression and nothingness. On the contrary, development can be said to be positive when the end result or outcome shifts from bad to good, better and best. In such cases, the

prevailing paradigm or status quo becomes acceptable, desirable, encouraging, prosperous, progressive and exemplary. When viewed within the context of coping with the present and catching up with future, paradoxically, development is a continuum with no static end such that when the aimed status quo or paradigm is attained, it subsequently triggers the need to move further for the attainment of much better, much higher or more superior level or stage of developmental achievement all in the bid to get things better and maintain a niche over existing and anticipated compatriots or competitors. Also, development is a pendulum movement from positive to negative ends or the other way round; and a continuous process reflective of the prevailing circumstance, vision, mission and goals in view. Perceptively, development is better measured within the context of levels and stages of attainment, scheduled plans, and expected outcomes (Mohammed, Z. : 2017). It is of interest to note that while the world is being submerged into global village through the ICTs, China is trying to integrate the world physically through railway net of about 70,000 km to link the country with the outside world.

Within the perspective of national setting, national development implies strategic, systematic, gradual or radical shift from the state of national irrelevance, inconsequential, inactiveness, redundancy, degradation, slumber, nothingness, non-progression, belatedness, and retardation to the desired state-of-the-art growth and advancement in the strategic sectors of the nation. Such national strategic sectors include but not limited to the: Economy; Education and Literacy; Science and Technology; Law and Security; Politics and International Relations; reliable and Sustainable Water Supply; Sustainable Environment and Energy Supply; Social Welfare and Empowerment; Culture and Integration; Agriculture and Animal Husbandry; Health and Sanitation; Communication and Transportation; and Good Governance. Taking the case of the Nigerian scene, the lack of clean bill for national integration, development and advancement is being perpetuated by the disequilibrium in the observed levels of educational and information poverty, imprisoned consciousness, and general societal violence and insecurity. In addition, there are evidences of deep rooted intra and inter-community, regional, cultural, ethnical and religious tensions and rivalry; conflicts and apparent dissatisfaction with the order of the day; and illusion and mistrust for the government. Majority of the population are still grappling with the vagaries of poverty and ill-health; mistrust for the politicians and political office holders; lack of access to quality education and health services; rampant cases of unemployment, underemployment, and over employment; and lack of access to relevant and timely information. These unwanted state of affairs bring about the relevance and timeliness of the socio-economic agendas and programmes of the government such as the N-Power, N-Creativity, Future Assured, etc. to ameliorate things to strategically cope with the present and catch up with the future.

It has been observed in Nigeria that, much earlier, there have been several socio-economic plans programmes such as the 7-point Agenda(2007), Vision 20-20(2010), National Industrial Revolution Plan(2014), Nigeria Integrated Infrastructure Master Plan (2014), and the Strategic Implementation Plan for Budget for Change (2016) launched by successive governments. There is also the Government Enterprise and Empowerment Programme (PEEP) designed to strategically address the challenges of poverty and foster economic

development through Micro, Small and Medium Enterprises (MSMEs) being nurtured by the Bank of Industry (BOI). The primary groups and beneficiaries of the GEEP nationwide are the Market women and traders, Artisans and MSMEs, Enterprise Clusters/Youth and Farmers and agricultural workers. Seen in the public's imagination as a political manoeuvres and white elephant project, the mission and objectivities of a majority of such government plans and programmes were rarely met due to over politicisation and unrealistic approaches in implementation. It is within this parameter that it is hoped that the 'Nigeria's Economic Recovery and Growth Plan(ERGP)' launched in 2017 to restore Nigeria's economic status especially as it relates to employment, food security, energy, industrialisation, social investment and a 7% economic growth by the year 2020 will not be a repeat of the past gimmicks of the previous governments. The ERGP is seen as a panacea to Nigeria's economic recession (being the first in the last 25years) occasioned by sharp fall in oil prices from about $112 per barrel in 2014 to below $50 in 2016. It is to spur the country back to sustainable, accelerated development and restoring economic growth in the medium term spanning between 2017 and 2020 (www.templars-law.com). As part of the strategies to raise the country's non-oil tax to GDP ratio of 6% to 15% by 2020, the Voluntary Asset and Income Declaration Scheme (VAIDS) has been launched. The VAIDS, which is to last for one year (1st July 2017- 31st March, 2018), is a time limit opportunity in form of amnesty given by the government to defaulting taxpayers with overdue interest and penalties, an assurance not to face criminal prosecution for tax offences or be subjected to tax investigations, to regularise their tax status. To some extent it can be argued that the VAIDS will serve as veritable catalyst for income sourcing and financing of government activities and programmes such as the ERGP, etc. as about 40 million tax payers are envisaged to be on board by the end of 2017.

There is no doubt in the fact that an unlettered/illiterate society and individuals cannot participate actively and fully in any socio-economic and political agenda for enhancing development of a nation. In another dimension, certainly, lettered/literate and reading society and individuals are informed society and individuals that cannot be easily cheated, exploited, manoeuvred and toyed around. To this effect, it can be submitted that, the extent to which a nation is said to be advanced holistically or sectorially to cope with the present and catch up with the future is a function of its level of holistic or sectorial development. This suggests that nations must continually progress in all sectors to effectively meet up with the challenges of the contemporary and anticipated national, international/world scene challenges and expectation. As a way out, there is the need for nations and societies to have development plans, phases, targets, mile stones, and strategies to guide and support developmental agendas for the respective national strategic sectors aimed at achieving holistic national development and advancements to cope with the dictates of the present and future.

Reflections on the Millennium Development Goals (MDG: 2000-2015) revealed that its agenda centred on : eradication of extreme Poverty and Hunger, achievement of Universal Primary Education, promotion of Gender Equality and Women Empowerment, Eradication of Child Mortality, improvement of Maternal Health, combating of HIV/AIDS, Malaria and other diseases, ensure Environmental Sustainability, and a Global Partnership for

Development. Generally, the MDGs could be said to aim at overcoming the many dimensions of societal development challenges of coping with the present and catching up with future. These include but not limited poverty, hunger, diseases, ignorance, gender inequality, environmental degradation, insecurity, etc. The MDGs which served as framework for development agenda globally served to achieve an all round development of all the national strategic sectors for holistic advancement of the society. However, the extent to which such goals have been achieved across the globe is dependent on the prevailing circumstance of the respective regions, nations and societies. Though it can be argued that the MDG agenda has successfully served as reference point for global action against under development, particularly in relation to coping with the present and catching up with the future, the MDG albatross such as: gender inequality, widening gap between rich and the poor, increasing gap between the urban and rural areas in access to social amenities; difficulty in access to basic health care; continued environmental degradation especially due to deforestation; presence of poverty and hunger among the millions of people; difficulty in access to quality education; declining energy supply; and continued rural-urban migration, etc. are still eminent scares particularly in developing nations and societies. To some extent, it can be argued that the disparity between and among regions, nations and societies in the achievement of the MDGs led to the evolution of the 'Sustainable Development Goals (SDGs)' agenda at the 2012 UNO conference in Rio de Janeiro (Rio+20) to ensure the sustenance of what have been so far achieved while strategising on universal transformative agenda to overcome the encumbrances to development in the respective regions, nations and societies at the post-2015 development agenda era.

Basically, the United Nations Organisation (UNO) 'Sustainable Development Goals (SDGs: 2030)' also referred to as 'The Global Goals', centred on 17 goals. The Goals comprised of: eradication of Poverty, eradication of Hunger, provision of facilities for Good Health, availability of Quality Education, assurance of Gender Equality, provision of Clean Water and Sanitation, availability of Renewable Energy, assurance of Good Jobs and Economic Growth, promotion of Innovation and Infrastructure provision, Reduced Inequalities, availability of Sustainable Cities and Communities, Responsible Consumption, support for Climate Change, protection of Life Below Water, protection of Life on Land, maintenance of Peace and Justice, and assured Partnership For The Goals (https://sustainabledevelopment .un.org/sdgs). You do not have to agree more with me that the SDGs are essential ingredients for coping with the present and catching up with the future. A cursory assessment of the tenants of the SDGs point to critical issues related to the wellbeing of People and Planet, and assured Prosperity, Peace and Partnership around the globe which, if not properly managed, could be inimical to successful breakthrough in any development agenda to cope with present and catch up with the future globally and in any region, nation and society. When viewed critically, it can be argued that the Nigerian government's ERGP is an indirect interpretation and application of the tenants of the SDGs. To this effect, it can be submitted that the extent of the successes of any development agenda and strategy to catch up with the future by and for any region, nation and society largely depend upon the extent to which people are: a)free from the shackles of poverty and hunger; b) assured of good health, nutrition, quality education, socio-economic empowerment and inclusiveness; c) free from the bondage of

gender and social inequality; d) cohabiting in prosperous planet/environment with sustained water supply and sanitation, economic growth, security, vista of employment opportunities and innovations, planned consumption and production patterns, and reliable agenda for climate change, forestation and reduction of biodiversity loss; e)and free to promote and support peaceful co-existence, partnerships, justice and accountability within and outside their community, society, nation and globally.

The domineering factor in the attainment of any measure of success in development endeavours aimed at coping with the present and catching up with the future is the human factor (people) who by their nature and characteristics have the requisite capacity and ability to conceptualise, do and undo anything to meet up to expectation or otherwise. It is the humans/people as the role players and stakeholders that initiate, nurture, strategise, implement, support, promote, domesticate, sustain or vitiate efforts aimed at achieving global, national and societal development agenda. In effect, it beholds that those vested with the responsibility of executing development programmes at every stage are exposed to varieties of strategic information, information resources, sources, and services relevant to the development vision, mission and expectations. It can thus be argued that the extent to which the role players and stakeholders in development agenda in any setting have access to relevant information and services can effectively influence the extent of the successes to be achieved in and at every level/stage of development efforts. Hence, the ultimate need for the provision of library and information services to facilitate timely access and utilisation of relevant information resources and sources, regardless of the type, format and package, to meet up the development expectations and cope with the existing and anticipated challenges is of paramount importance and necessity.

The relevance and contributions of library and information services provision in the scheme of any development agenda to cope with the present and catch up with the future is better understood and appreciated within the perspective of cost benefit and cost effectiveness analysis. That is, the cost and consequences of having timely and relevant information at hand before, during and after embarking on development projects/programmes versus non availability of timely and relevant information before, during and after embarking on development programmes/projects. Thus, the nature, type and diversity of library and information services to be provided for global, national and societal development and advancement in line with the vision and mission of the MDGs, SDGs and by extension the Nigeria's ERGP must take cognisance of the typical national strategic sectors of any societal setting which include but not limited to the: Economy, Education and Literacy, Science and Technology, Law and Security, Politics and International Relations, Energy Supply, Social Welfare and Empowerment, Culture and Integration, Agriculture, Environment, Health and Sanitation, Communication and Transportation, and Governance. Implicitly, every type of library and information system ranging from public, academic, school, college, special/research, royal/palace and community libraries should be involved in facilitating timely access to the relevant information needed to meet the expectations of the role players and stakeholders in the respective sectors of the society such libraries are designed to serve. Hence, the type of library and information services to be provided must be a by-product of

the information needs and expectations of the respective sectors and role players/stakeholders they are meant to serve.

Under the 'Information For All (IFA)' scheme, the International Federation of Library Associations and Institutions (IFLA :ifla@ifla.org/www.ifla.org) position libraries as the heart of the information society. Thus, libraries should be seen as: place of wide-eyed discovery; tool for life-long learning; support for political and social enquiry; bank of ideas and inspiration; source of answers to factual questions; place to acquire new skills; community centre; local studies resource; and place of sheer pleasure and enjoyment. Hence, attempts to cope with the present and catch up with the future which essentially is in line with the 21st century expectations in coping with the dictates of information society and needs by all and sundry, should strategically focus on but not limited to determination of: a) the type and how many libraries and information centre are/should be involved in the development crusade; b) the type of information systems, resources, sources and services should be made available for the existing and anticipated customers; c) the type and extent of services to be provided; d) how should library and information services provision be better funded and financed; f) the type and extent of cooperation, collaboration, partnership and network that should be initiated, maintained and sustained between and among that libraries and information centres far, wide and near; g) the type of technology that should be employed, maintained and sustained in the provision of library and information services to the varied customers; h) the type and extent of education, training and motivation that the library and information centre staff should benefit from; i) how information resources and services provision, access and utilisation gaps can be bridged among the people in the rural, semi-urban and urban areas to generally improve their quality of life?; j) how advocacy and promotion agenda can be effectively undertaken for creation of better awareness and understanding of the right to timely access and utilisation of information resources and services; k) and how acquisition of information and ICT literacy can be facilitated and promoted for the benefits of the existing and anticipated library and information services customers.

In the light of the foregoing, what is needed to move the country to a vantage position in the scheme of human development and participation for the overall development of the country is inclusive approaches where all relevant stakeholders including the poor and less privileged are keenly involved in governance, businesses, education, security; and in other socio-economic and political activities and processes, so as to create senses of belonging, value addition, increased participation, enhanced reputation, increased growth, and promotion of sustainable development. Expectedly, in the spirit of inclusion, all the three tiers of governments, public and private organisations, institutions and businesses should provide systemic and innovative solutions to the challenges of the poor, low income earners and other less privileged in the society; especially, through creation of decent jobs, improvement of income and social welfare, and provision of essential goods and services as well as easy access to timely and reliable information, regardless of the format of packaging, physical and remote location of the needy, and on 24/7 operations/service regime for effective utilisation.

It is within the context of inclusive approach to information dissemination, access and utilisation by all and sundry; irrespective of their socio-economic and political status, cultural lineage, physiological peculiarity, intellectual capacity and other primordial disposition, that the necessity to establish and sustain 'Smart Neighbourhood Information Commons -SNIC (also to be referred to as Virtual/ Digital Neighbourhood Information Commons-VNIC/DNIC)' at different layers of operations, as the case might be, in and/or for clusters of institutions, organisations, communities and societies in the Local Government Areas(LGAs) and the states in Nigeria becomes expedient. By design, the SNIC systems, management and services should be digitally/electronically or hybrid driven to derive value addition in their overall management and utilisation by all and sundry regardless of their physical and remote locations. The SNIC, which should be properly furnished and equipped with state-of-the-art furniture and ICTs, and aesthetically beautified, can simply be conceived as more or less a centralised conducive natural settings (different from the usual harsh and unpleasing natural elements obtained in the general environment) incubation centre, civic centre, a platform, a forum, constructive avenues, and a place where peoples of different age brackets, educational and literary background; socio-economic and political strata; and cultural and ethnic divide in the society and community can formally and informally assemble to effectively and timely access and utilise timely, reliable and relevant information resources, facilities and services of the centre to: get inspired and be free to imagine and focus their mental energies productively; engage in the promotion of creativity, innovation and pioneering spirit; have quality time with mentors; spend quality time for productive discourse, experiments and studies; be free from the shackles of negative influences and intrusions; enhance their personal and collective development and advancement in their workplaces, homes, communities, social places and joints; be empowered to dream big with boldness to catch the bull by the horn and go for the impossible especially through innovation and creativity; and also to share their common experiences, stories, cultures, challenges, goals and aspirations. It affords them the opportunity to discuss and strategise on their individual and collective vision; issues, challenges, plans, ambitions. It will also include discussions on other developmental considerations on how to mobilise and strengthen the people to effectively contribute to planned development projects/programmes for the achievement of their individual and collective visions, missions, goals, aspirations, and objectives for the overall integration, development and advancement of the community, society and the nation at large so that they can effectively play their individual and collective roles in coping with the present and catching up with the future.

As a virtual/digital information environment, SNIC is more of an interconnected information environment in which the members of the neighbourhood can easily access and share information anywhere in the neighbourhood. It serves to create an information environment where the neighbourhood can easily access variety of information services anywhere and at anytime through utilisation of different kinds of devices. As a veritable integrated ICT and Internet of Things (IoT) technology in a secured environment for managing neighbourhood information assets, needs, access and utilisation, members of the neighbourhood can have an enhanced access to relevant information about and from the public and private establishments and services such as: commerce and business enterprising, banking and finance, education,

literacy and scholarship, archive and libraries, transportation services, health services, water and electricity supplies, fire services, legal and security services, sports and entertainment, culture and tourism, and other relevant neighbourhood services. Thus, through the creation of public website and portal, variety of information of interests are collected and delivered to the neighbourhood with ease and comfort of the members regardless of their physical locations. This approach creates an effective linkage and interactions among the people irrespective of their vocations, and in-between them and the public and private establishments and services around using different devices. The infrastructure are expected to be of standard and up-to-date. However, the structure and scope of a typical SNIC will largely depend on defined: a) vision, mission, goals, objectives and functions; b) nature, characteristics, predisposition and expectations of the neighbourhood; c) managerial and operational policy put in place; and d) level of involvement of the neighbourhood in the evolution and management of the SNIC.

Unlike the conventional library setting, SNIC has the capacity to draw members of the locality, community and society closer and integrally by offering suitable integrated environment that will facilitate addressing their strategic needs through the integration of technology, content and services in a serene physical space and atmosphere not easily tenable in normal typical library setting. It allows for effective utilisation of varied approaches to timely information access, retrieval and utilisation from both remote and physical locations, taking note of their intellectual, socio-cultural economic and political predispositions, in an integrated operational environment and regime. When lured to properly access and utilise the SNIC facilities which include information resources and services, the SNIC creates some sense of belonging, confidence and commitment to its development, security and sustenance among the members of the locality, community and society. Also, it serves as 'Bind-Forum' for evolving collective approaches to resolving disputes and crisis; solving locality, community and societal challenges; and also advancing their resolves to positively and effectively advance forward in the locality, community, and society to effectively cope with the exigencies of the contemporary period and future. Besides, the SNIC serves as catalyst that facilitates building in the locality, community and society, a reliable source and media for enhancing reading culture competencies and continuing education opportunities; socio-political and cultural consciousness; a culture of hard work and commitment; self-discipline, reliance and confidence; and an avenue for the acquisition of moral and ethical consciousness and accountability for the overall development and advancement of the locality, community and the society in all dimensions and levels of needs and aspirations; especially through effective exploitation of the integrated remote, physical, intellectual and socio-cultural approaches to information access and retrieval.

As a one-stop bus station, most of all, SNIC is to serve as a veritable source, platform, repository, and warehouse for access, retrieval and utilisation of variety of published and unpublished (electronic/online) information for the common good of the members of a locality, community, society and institution irrespective of their strata, age brackets, socio-economic, political, cultural, ethical and educational backgrounds; and regardless of their physical and remote locations and time of information access needs and demands. It is also to serve as a medium for securing facilities, tools and information resources for decision-

making; personal empowerment, development and enrichment; social mobilisation, integration and advocacy; and for policy formulation and implementation. Basically, the goals of SNIC is centred on the provision and deliverance of responsive, friendly and easy-to-access and retrieve current, varied and integrated primary, secondary and tertiary information in both print and electronic formats for utilisation of the targeted and allied members being served. The general objectives of SNIC are to provide cosy, physically adjustable and virtual spaces, forums and platforms where the citizens can freely speak; contribute, listen; mentor, negotiate; deliberate; evaluate; critique, debate and agree on matters and issues related to their individual and collective needs and aspirations. The SNIC information services provision initiatives and programmes should be holistic, inclusive, reliable, timely and integrative to allow for remote, physical, intellectual and socio-cultural approaches to information, access, retrieval and utilisation.

4.0 Concluding Remarks

In order to cope with the present and catch up with the future, the vision of SNIC and indeed libraries and information centres should be to serve as veritable sources and media for timely, reliable and sustained information provision, access and utilisation. Their mission should be to continually remain the prime drivers for the provision of standardised and value added information services; serve as strategic change agents for transformational information delivery; and enduring stakeholders in the adoption and utilisation of the state-of-art technologies for information management, provision, access and utilisation. In like manner, SNICs and Libraries and Information Centres should operate in consonant with the expectations of their constituencies while taking note of their common identity which is information management and service provision. The passion of library and information professionals should be to be dynamically innovative, creative and accommodative; and continually contribute to societal strategic transformation in compliance with professional code of conduct, ethics and excellence. The basic objectives of the library and information professionals should be to promote the ideals of information management and provision in compliance with universal best practices and professional discipline. Similarly, the strategic business of the Library and Information Science Schools (LIS) and indeed the LIS regulatory body(s) (e.g. the LRCN and the NUC) should be to develop professionalism in information management and provision, regulate information management and provision practices, and promote standardised information management and provision culture. Essentially, the LISs and the LIS regulatory body(s) should share common vision, mission and values anchored on integrity, transparency, responsibility, accountability, equity, fairness, relevance, efficiency and effectiveness. Severally and collectively, they should support and promote team work, cordiality, and be focussed and result-oriented in orderly, systematic and professional manner in line with the accepted best practices. While being repugnant to under-achievement, the LIS professionals, LISs and indeed the LIS Regulators should embrace democratic tenets, dialogue, decency, decorum, sense of reasoning and logic on issues of information management, provision, access, utilisation, education and training.

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