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Research Paper

The Effects of Emerging Technologies in an Emerging Economy: The Case of AFE BABALOLA University in Nigeria

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Abstract: *Events within the last decade showed that emerging technologies will continue to dominate popular discussions all over the world. This dominance is visible in all sectors of life especially in Higher Educational Institutions (HEIs) across Nigeria. Of great concern to the research is exploring different ways of managing emerging technologies for the realization of value for money and learning in the most efficient and effective manner in higher educational institutions in Nigeria. The research uses qualitative and partly quantitative research methodology to present, evaluate and analyze several management strategies and techniques for benchmarking positive engagement of emerging technologies using information communication technology (ICT) tools and metrics. It concludes by showcasing the potency of information technology management as a tool for using the overhead of emerging technologies for enhancing productivity in private higher educational institutions. It recommends possible ways by which these management perspectives can be leveraged upon.*
Keywords*: Emerging technology, emerging economy, ICT, management, HEIs*

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I. INTRODUCTION

The use of emerging technologies has become commonplace in Higher Education. The emergence of radically new industrial technology has become a powerful competitive force with significant strategic implications. Emerging technology is defined as tools, concepts, innovations, and advancements utilized in diverse educational settings which include physically collocated institutions, virtually collocated institutions and hybrid forms of education to serve varied education-related purposes (e.g., instructional, social, and organizational) as opined by Veletsianos, (2010b).

Today's colleges and universities are bedeviled with increasing tuition fees and pressures of educational reform (Lederman 2008; Atkinson 2010; Lynch 2013; Nisen 2013). Advocates of educational reform argue that students are disengaged from the learning process, with an insufficient value placed on teaching, pressure to assign overinflated grades, and incentive to teach content only, without critical thinking skills.

The higher education institution students themselves tend to support the push for an educational reform. McKinsey, and Chegg (2013) opined that present-day graduates feel unprepared for the "real world" and ill-equipped with the requisite technical skills to be competitive in today's job market. The stakeholders in today's higher education system recognize the dire need to better engage both students and teachers in classroom teaching and other extra-curricular activities as posited by Gutting, (2011) and Shulevitz, (2014). Schneider, (2008) argues that the turn-over from the higher education institutions is largely disproportionate to the amount of national gross domestic product.

These challenges have been to a greater extent complicated by the engagement of emerging technologies. Technology has the greater potential to alleviate most of the challenges facing today's higher education system. Some of the emerging technologies engaged for enhancing learning achievement in this jet and net age includes but not limited to computerized grading; electronic textbooks (E-textbooks); simulation technology; gamification; flipped classrooms; active learning classrooms; massive open online courses (MOOCs); collaborative distance learning environments (virtual collocation); the active learning forum platform; social media platforms as suggested by Reuben, (2008); blended learning environments; mobile technologies; and learning management systems (LMSs – blackboard, moodle, coursera, edx etc.,) while other emerging technologies available for higher education institution includes the engagement of nanotechnology,

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biotechnology, educational technology, cognitive science, psychotechnology, robotics, and artificial intelligence.

The trend toward globalization of all industries, including higher education, warrants thought and planning in the area of engagement of emerging technology. Competition among higher education institutions, revenue sources, and relevance for digital natives is all factors that demand emerging technologies. Cultural characteristics, at the macro, societal level, as well as the micro institution level also place great demand on staff to adapt to modern methods for learning, teaching, communication and interacting with one another. Among the micro adaptations is the need to match the advancements in the administrative services with curriculum delivery at an institution (Sadykova&Dautermann, 2006). While Martinez, Liu, Watson and Bichelmeyer (2006) agree with Sadykova and Dautermann (2006) regarding the significant factors on use of emerging technologies, they include another important point. The reputation of the institution was recognized as significant and defined as providing innovative research and development opportunities for both staff and students.

The availability of computers in classrooms has increased four-fold within the last two decades. Emerging technologies engagements have been focused on easing faculty workload, for instance, the use of online assessments and archiving systems. In order to fully exploit the positive impact of emerging technologies on studentsachievements, they must be genuinely integrated into day-to-day instruction (Kopcha, 2010). In 2005, nearly all large higher education institutions offered some online course delivery. Enrolment in online programmes has been on a sharp rise.

The population strength of a higher educational institution has a great influence on the amount of funds that will be invested on emerging technology and its effective usage (Chen, 2005). While Saeed, Yang, and Sinnappan (2009) observed the role of learning styles in achievement, they found technology preferences as having a much greater impact. They suggest that contemporary students are far more flexible with learning styles that involves emerging technology than the old age ones.

This implies that engagement and utilization of emerging technology cannot be overemphasized and desirable to enhance learning achievement of any higher educational institution. Emerging technologies will assist to achieve excellence in teaching, research, employability and international mobility that will culminate to a world class higher education institution. The new technologies are transforming markets, businesses, higher education institutions, and society at an ever increasing rate thereby causing a critical need for better roadmaps for managing them. Day, Schoemaker, and Gunther (2000) assert that managing emerging technologies represents a "different game," requiring a different set of management skills, frameworks and strategies than those used by established firms to manage existing technologies. The existing strategies, framework, management skills and concepts will be reviewed so as to provide better, streamlined and multi-faceted phenomenon of managing emerging technologies in private higher educational institutions for maximum educational, economic and social impact.

Emerging technology is an ever-growing area in education policy-making, professional development, and daily practices. While advancements like these are not new to education, the speed, reach and implication of current innovations are. The abilities to interact, collaborate, challenge, engage and connect have reached new heights and continue to branch to even more unusual possibilities.

A major attribute of emerging technologies is,"fast growth" (Cozzens et al., 2010), or at least"growth" (Small et al., 2014). Growth may be observed across a number of dimensions such as the number of actors involved (e.g. scientists, universities, firms, users), public and private funding, knowledge outputs produced (e.g. publications, patents), prototypes, products and services, etc. As with the major innovative attribute, the fast growth of a technology needs to be contextualised. A technology may grow rapidly in comparison with other technologies in the same field(s), therefore relatively fast growth may be a better term.

Emerging technologies has coherence property that persists over time. This property of convergence as separated research streams" (Day and Schoemaker, 2000), convergence in technologies" (Srinivasan, 2008), and technologies that"have already moved beyond the purely conceptual stage" (Stahl, 2011). Alexander et al. (2012) discussed the role of an expert community of practice", which embraces and reiterates the theories underlying the particular emerging technology. The concept of a community of practice submits that there are a number of people and professional connection between the necessary people. The coming together, intertwining and staying together are all entailed in coherence. Coherence refers to internal characteristics of a group such as 'sticking together', 'being united', 'logical inter-connection' and 'congruity'. The status of external relations is also important. The emerging technology must detach itself from its technological 'parents' to some degree to merit a separate identity.

Furthermore, it must stay detached for some period of time to be seen as self-sustaining (Glanzel and Thijs, 2012). As we stated above, emergence is a process and coherence, detachment and identity do not characterise a final state, but are always in the process of realisation, presenting challenging issues of boundary

delineation and classification. Perspective matters since an analyst may see an exciting emerging technology about to make a major economic impact in something a scientist sees as long past the exciting emerging phase.

Another great feature of emerging technologies is the benefits to many sectors which include the higher educational institutions (Martin, 1995),this either create new industry or transform existing ones (Day and Schoemaker, 2000), exert much enhanced economic impact" (Porter et al., 2002), or change the source of competition" (Hung and Chu, 2006) posited that the universality of the impact that the emerging technology may exert by crosscutting different levels of the socio-economic system, as well as knowledge production processes and technological regimes. Accordingly, we identify prominent impact as another key attribute of emerging technologies. Most of the core articles conceived the prominent impact of emerging technologies as exerted on the entire educational system. In this usage the concept of emerging technologies becomes synonymous to that of general-purpose technologies' and so excludes technologies prominent within a particular field. We wish to include relatively smaller scale prominence in our definition. For instance, a diagnostic technology may emerge and significantly reshape the clinical practices associated with a given disease, profoundly acting one disease domain but not others.

Emerging technology can contribute to universal access to quality education, equity in education, the delivery of quality learning and new teaching technologies, faculty's professional development and more efficient education management, governance and administration. The role of emerging technologies in education is even more significant in emerging economy or rather poverty-stricken regions where mobility and access to already non-existent educational facilities is a fundamental challenge. Emerging technologies can provide easy access to education with rapid delivery, extended outreach, personalization of learning and interactivity, even at a much lower cost if well managed.

This importance of management cannot be overemphasized especially in Strategic Information Technology (IT) Management. The ability to read and understand the happenings in one's organization showcases a key managerial competence a worker (leaders, managers or the led) must learn. Morgan (2006); Bolman and Deal (2013) suggest that learning how to generate, integrate, and use the insights of learning technologies is significant to managing emerging technologies. Engaging these to understand and shape the organisation requires better management of emerging technologies that have become a veritable tool for enhancing the productivity of an organization. Technology is key to the health of any higher education institution since it enables multi-modal teaching, changing curricula and spawning rich forms of online research and collaboration.

The implication is the increased overhead and huge capital investment that will be required to deploy these emerging technologies. However, adequate management of these emerging technologies will not only enhance value for more but also bring about a better return on investment which is far better than emerging technologies procurement and deployment unmanaged.

Statement of the Problems

The private universities in Nigeria like every other public higher education institution are unique in their leadership and management approach though slightly different from the structural and bureaucratized method of management entrenched in other sectors of the system.

However, funds are not provided to the private universities by the government. The rate at which enrollment is falling due to the present recession and stagflation is very worrisome. This has reduced the income from tuition in most private universities. The huge investment in the procurement and deployment of emerging technologies has become a moral imperative. Knowing full well that the future of higher education today is being shaped by technology and technological innovation which has become the hallmark of academic research which may now be changing the way universities faculties teach and students learn. The fact remains that emerging technologies acquisition and deployment is highly capital intensive and calls for proper management and concern if the university desires to remain an academic institution with a great level of academic reputation in response to globalization and markets. This informs the decision of selecting a private university as case study.

The Objective of the Research

The purpose of this research is (i) to examine the use of emerging technologies in an emerging economy using a private university as a case study; (ii) to determine the extent of the usage of the technologies in the teaching and learning procedures; and, (iii) to evaluate the extent to which emerging technologies has been relevant to teaching in higher educational institutions.

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Research Questions

This research is meant to thoroughly investigate different management paradigms and proffer an efficient and effective method of managing emerging technologies in higher educational institutions for better educational skills, learning, economic and social impact.

The research questions are as follows:

(i) What are the existing technologies being used in the teaching and learning situations of higher education institutions in Nigeria?

(ii) How could these emerging technologies be integrated into existing technologies for effectiveness?

(iii) How could interdisciplinary research, teaching and learning be managed and aligned to leverage on emerging technologies in the most educational institutions to leverage on student/learning?

(iv) How can government policy help in aligning emerging technologies to meet educational goals of today's Nigeria?

Research Hypothesis

Based on the research questions, the research hypothesis are as follows:

(i) **Ho**: There is no significant relationship between existing technology and learning and teaching in higher educational institutions

(ii) $\mathbf{H_1}$: There is a significant relationship between existing technology and learning and teaching in higher educational institutions

(iii) **Ho**: There is no effective significant relationship between existing technology and emerging technologies.

(iv) $\mathbf{H_1}$: There is an effective significant relationship between existing technology and emerging technologies.

(v) **Ho**: There is no significant effect of government policy on emerging technology.

(vi) $\mathbf{H_1}$: There is a significant effect of government policy on emerging technology.

Significance of the Study

The study of emerging technology management is significant for several reasons. It has been well established that use of contemporary technologies for teaching purposes has great impact on student engagement, learning styles, student-faculty interactions, faculty satisfaction, demands for technology use as well as learning outcomes (Elzarka, 2012). However, bearing in mind that funds are not always provided to the private universities by the Nigeria's government, the rate at which enrollment is falling due to the present day recession and stagflation which has reduced the income from tuition in most private universities and the huge investment in the procurement and deployment of emerging technologies has become a moral imperative.

Knowing full well that the future of higher education today is being shaped by technology and technological innovations necessary for attaining high level of academic research which may now be changing the way universities faculty teach and students learn.

There is the need to effectively manage the emerging technologies in a most productive way; efficiently and effectively in order to meet the basic technological requirement for attaining the level of a world class university.

Consequently, the managers and directors of Information technology of private higher educational institutions would benefit immensely from this research work, as the conceptual clarification and theoretical framework of the research would enhance and enrich their knowledge and understanding of the subject matter. It will also assist the management of the private higher educational institutions to provide minimal resources to achieving greater technological result and effectiveness in the face of emerging technologies in an emerging economy.

Scope and Limitation of the Study

The research has both the spatial and temporal dimensions. The spatial dimension of the study is seen to cover all the six colleges of Afe Babalola University, Ado – Ekiti. The temporal dimension of the study will cover the late 70's of technological advancement up until the present day of emerging economy and technologies. However, the limitation largely depends on the spatial dimension of the research which will prevent an investigation into about six other private universities across the six geopolitical zones of the Nigeria so as to thoroughly validate the investigation. However, future work would cover these zones.

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II. LITERATURE REVIEW

Introduction

A review of prior studies and literature was conducted to help identify the emergent themes regarding the alignment of existing technology with emerging technologies and their integration into enhancing teaching and learning in higher educational institutions. The areas covered include the emerging technology storyline, the history of the use of technology in higher educational institution, training and support requirements and implications, learning opportunities and teaching style, impact on the emerging economy, and implementation environments and strategies

Theoretical Framework

Emerging Technology Storyline

Emerging technologies have been the attracting much deliberations in academic research and a significant topic in policy deliberations and initiatives. Evidence of the increasing attention being paid to the phenomenon of emerging technologies is visible in the burgeoning number of publications being churned out on the subject matter and newspaper articles discussing emerging technologies (in their major headlines or technology led paragraphs). Increasing policy interest in emerging technologies, however, must be set against a literature where no agreement has appeared as to what is suitable a technology to be emergent. The definitions suggested by a many author overlap, but more often than not point to different characteristics. For instance, certain definitions underscore the potential impact emerging technologies tend to exert on the economy and ecosystem (Porter et al.,2002), especially when they are of a more 'generic' nature (Martin, 1995), while others give great importance to the ambiguity associated with the emergence process (Boon andMoors, 2008) or to the characteristics of innovation and growth (Small et al., 2014).

Emerging technologies also have some important implications for individual managers by involving them in dealing with the complexity caused by proliferation and diversity of factors and challenges in the environment (Miller & Litschert, 1994). This is turn escalates the perceived difficulty of making detailed changes (Smart & Vertinky, 1984) and intensifies the challenge of identifying key strategic success factors (Amit & Schoemaker, 1993).

The understanding of emerging technologies also depends on the analyst's perspective. An analyst may consider a technology emergent because of its novelty, originality and expected socio-economic impact, while others may see the same technology as an appendage of an existing technology. Often emerging technologies are often gathered together under 'general labels' (e.g. nanotechnology, information technology, learning technology), however, treating them separately under different socio-technical features (e.g. technical difficulties, involved actors, applications, uncertainties) might be the best.

According to Russell (2008), the higher education institution director of information technology, and the chief information officer's behavior in relation to adoption of more technology can be seen to be more diffused rather than being infused. The alignment of technologies and goals, and increased levels of innovation adoption produce better alignment required to manage the entire lifecycle of a student and at the same time manage the campus wide services.

The retrospective studies of emerging technologies inherently suffer from selection bias in that they place emphasis on widely known successes or failures but never discuss the myriad of cases where progress or fall back may be less noticeable. Day and Schoemaker (2000). Utterback (1994) opined that companies that have successfully understood different waves of technological change balance development of innovation with some major competencies of business.

Technological advancements in education have been vast, innovative and customer oriented. While most people would agree with this assertion, No one would agree that the subject matter has seen unanimous adoption of an innovation upon its release. This emerging technology has many components and requirements.

History of the Use of Technology in Higher Educational Institutions

While some revolutions can be hasty and crucial, others are steady and evolutionary. Technological developments in the field of education began some thousand years ago.

Communication began orally two centuries ago, wherein memorization was the only method totransfer knowledge and skills. The advent of written records was very cumbersome even among the then scholars. A worrying question was whether the written record would reduce the dire needfor human memory (Fahmy, 2004).A second revolution within the education discipline was the creation of campus life where students and faculty members share space and resources. This innovative education community led tocampus infrastructure

which supports scholarship in a great number of ways (Fahmy, 2004). This invariably led to adoption of practices from other disciplines. For instance, the use of hypertext technology by the militaryin the year 1940 supported the advent of presentation technologiesused in the 1950's., telecourses gained tremendous popularity as part ofthe distance learning movement.

The current demands for higher education learning and thediversification of the students' population have been primary factors in this movement. The populations served with this technological advancement include adult learners who cannot access the campus life as well as those seeking knowledge as against comprehensivedegree programs. This method was criticized by those who believe that traditional classroom environment learning and scholarship would be grossly compromised. However, the present-day challenges of having the basic infrastructures for the students within the bricks and mortar is fast becoming a time bomb which requires engagement of distance learning through the usage of emerging technologies. Also, in the1970's, computer-based instruction had started its journey. Again, with roots in militaryinnovation, those computer-driven devices were used for instructional diagnoses and engagement (Educational Technology, 2011). Further, computer technologyadvancements have also allowed virtual conferencing where much collaboration work can beaccomplished among people in different parts of the world (Southworth, Knezek & Flanigan, 2003). By the 1990's, the World Wide Web (WWW) had allowed for yet further advancementsin technology use in education practices.

This allows the relationship betweeninstructors and learners to remain direct while making use of the latest technologies to augmentthe learning experience (Educational Technology, 2011). David Wiley built on the work of Stallmanin the late 1990's by creating a system of learning objects. This allowed the integration of opensource capabilities into education scholarship (Wiley & Gurrell, 2009). This deep historical background shows that educational technology is ever-evolving and emerging technologies are dominating. It is difficult to identify astarting point of this innovation and it is clear we remain in the midst of further growth andpossibilities.

Training Requirements, Supports and Implications

Samarawickerma and Stacey (2007) examined the adoption of learning managementsystems in a multi-campus university in Australia. While some participants had used web-basedteaching tools prior to the study, the innovation was the tool used at this institution following auniversity-designed training protocol.

Data sources included in-person interviews withparticipants, examination of teaching artifacts and field notes describing participants and theirteaching materials. Of particular interest are the university technology policies and themaintenance and support of technology resources available on campus. This profile of managing technology means management of faculty time and workload, funding for theadditional technology-related mechanisms and the propensity for learning new things with this technology.

Within this framework, the authors concluded that university policies regarding technology use impacted onfaculty action. To facilitate technology adoption in higher learning, policies need to be adaptive, and must address the on-going needs for professional development, training and mentoring and must be driven by clear visions and expectations. Santilli and Beck (2005) set out to help identify creative reward systems to encourage the adoption of technology by graduate level faculty.

Among the benefits of online instruction identified by these faculty members were student-to student interactions and the venue for providing feedback tostudents. The discussions boards-built learning communities comprised and led by students.

Santilli and Beck (2005) determined that the use of learning management system technologies help to focus on individual student needs. They suggest that future studies on this topic devote energy on matters of student work authenticity, learning assessment as well as examining facultywith more diverse backgrounds. Successful implementation of technology must be holistic, addressing issues regarding pedagogy, formative evaluation and learning approaches. Peer pressure was found to be important. Robust training increases user confidence which increases technology adoption (Samarawickerma and Stacey, 2007).

Bennett and Bennett (2003) explored characteristics of educational technology that impact faculty adoption. This was done through the design and deployment of faculty training program aimed at encouraging use of the course management software (CMS). The findings suggest that the training program enhanced each of the constructs of interest including faculty'ssense of technology efficacy, positive attitudes towards computers and plans to use computers to facilitate student learning. As with Santilli and Beck (2005), Jones and Laffey (2000) identified the importance oftraining support and a rewards system to encourage the use of emerging technology. Their study included 16 MBA students and data were collected through observation and a series of surveys.

The foci of this study were on the impact of interdisciplinary and collaborative technologies on student learning andfactors promoting emerging technologies. The authors suggest that collaborative technologies may

help counter theindividualistic environments that permeate higher education. Such tools might enhanceorganizational power as opposed to the abundant individual power. Key requirements based on collaborative goals seem pertinent to evolving of emerging technology. These include a cooperative organizationalculture, value reorientation and benefits derivable from the new system, adequate training, robust usability platform, adequate support from top management, enough experimentation and adaptation time and a robust reward system (Jones and Laffey, 2000).

Adopter Qualities

Tabata and Johnsrud (2008) examined faculty attitudes toward emerging technology that supports it research, learning and teaching. Emerging technology management was used as the theoretical framework. With the advances and plethora of technology tools since then, this added workload issure to be much greater. Suggestions for future research might examine this item as well asresearching how early technology adopters acquire their interest and skills (Tabata and Johnsrud, 2008). Since each of these groups has different reasons for adopting an innovation, the implementation ("marketing") techniques must cater to the respective needs. This alternative approach might include a transition space, allowing the various adopters to integrate andcollaborate.

This would allow adopters to enter the adoption cycle at any point during the collaborative practice. Hansen and Salter (2001) studied adoption of web technology into mainstream teaching. This was a descriptive study focused on the need to use adopter-centric approaches to technology rather than the developer-centric approaches. The authors suggest this "bottom-up" approach produces more successful technology adoption practices, although the upfront time and effort required is greater.

The user-centered method of adoption entails five steps:
1. Identify the potential adopter;
2. Measure the relevant potential adopter perceptions;
3. Design and develop a user-friendly product;
4. Inform the potential adopter (of the user-friendliness); and
5. Provide post-adoption support.

Emerging Economy

An emerging market economy describes a nation' economy that is advancing toward becoming more developed, usually by means of exponential growth and industrialization. These countries experience an increasing role both in the world economy and on the political boundary. It can also be referred to as emerging markets or developing countries. These are countries that are investing in more productive capacity by moving away from their traditional economies that relied on agriculture and the export of raw materials. However, the leaders of emerging economies desire to create a better quality life for their people thereby rapidly industrializing and adopting either a free market or mixed economy. This is so important so as to drive growth in the global economy with more sophisticated financial systems.

Characteristics of Emerging Economies

Emerging economies have some agreed upon characteristics. First, they have a lower-than-average per capita income. The World Bank defines developing countries as those with either low or lower middle per capita income of less than $4,035. According to World Bank list. Low income provides an incentive for the second characteristic, rapid growth. In order to ensure that the welfare of the people is well taken care-off, the leaders of emerging markets are prepared to commence the rapid change to a more industrialized economy. For instance, in 2015, the economic growth of most developed countries, such as the United States, Germany, the United Kingdom and Japan, was between less than 3 percent. Growth in Egypt, Turkey, and the United Arab Emirates was 4 percent or more. China and India both saw their economies grow around 7 percent.

The fast social change in turns leads to the third characteristics called high volatility that arises from natural disasters, external price shocks, and domestic policy instability. Traditional economies that are reliant on agriculture are especially vulnerable to disasters such as (earthquakes in Haiti, tsunamis in Thailand, or droughts in Sudan). However, theses disasters can in-turns lay the groundwork for additional commercial development as it did in Thailand. Emerging markets are more susceptible to volatile currency swings, such as the dollar, and commodities that include oil or food. This is premised on the fact that they don't have enough power to influence these movements. For instance, when the U.S. subsidized corn ethanol production in 2008, it caused oil and food prices to skyrocket which led to food riots in many emerging market countries.

When leaders of emerging markets undertake the changes needed for industrialization, many sectors of the population suffer, for instance the farmers may lose their land. Apparently, this could lead to social unrest, rebellion and regime change. Investors could lose all if industries become nationalized, or the government

defaults on its debt. This growth requires a lot of investment capital. But the capital markets are less mature in these countries than the developed markets. They simply don't have a solid track record of foreign direct investment.

It is apposite to emphasis that the engagements of emerging technologies will an added advantage to achieve high growth rate and opportunities in emerging markets

Education System

Education in Nigeria is majorly a collective responsibility of the federal, state and local governments. The federal government is more directly involved with tertiary education while pre-tertiary school education is largely the responsibility of state (secondary education) and local (primary/basic education) governments. Education in Nigeria has evolved over a long period of time, and with series of changes in policy (Abdulraheem, 2013). The 1976 Universal Policy Education Programme provided a tuition-free primary education for the children.

The introduction of Universal Primary Education programmes in the Western region in 1955 and the Eastern region in 1957 led to the 6-5-4 or 6-5-2-3 system, that is, six years of primary, five years of secondary and four years of higher education, or for those who took a two-year Higher School Certificate (HSC) course after secondary education, there were three years of Higher education. In the northern part of Nigeria, there was a five-year primary, three-year middle school and five-year secondary school system. After independence in 1960, a variety of structures still existed around the country.

The 6-3-3-4 system was introduced in 1987 following the introduction of the National Policy on Education. The introduction was to bring uniformity educational structure throughout the country. Consequently, the education sector was broadly divided into three sub-sectors: basic (nine years – 6: 3), post-basic/senior secondary (three years - 3), and tertiary (four to seven years, depending on course of study). According to the National Policy on Education (2004), basic education covers nine years of formal (compulsory) schooling consisting of six years of primary and three years of junior secondary. University education is for a period of 4 years for most courses except medicine, architecture, engineering and other allied courses. Polytechnic education is for a period of 4 years broken down into stages – 2 years for the Ordinary National Diploma (OND) and 2 years for the Higher National Diploma (HND), there is a compulsory one-year work placement and industrial attachment scheme in-between the two stages. Another qualification obtainable in the sector is the National Certificate of Education (NCE), which lasts for a period of 3 years and is awarded by universities and colleges of education

The tertiary education consists of a university sector, and a non-university sector that is composed of polytechnics, monotechnics and colleges of education. (Clark et al, 2013) indicates that Nigeria has 136 federal, state and private accredited degree-awarding institutions in addition to 78 polytechnics, 27 monotechnics, and 281 colleges in various specific disciplines. The academic year typically runs from September to July while most universities use a semester system of 18 – 20 weeks. Others run from January to December, divided into three terms of 10 – 12 weeks.

Advent of Private Universities

Private universities are a recent development in Nigeria as compared to the federal and state government owned universities. It has developed during four historic phases. During these phases necessary procedure are put in place to check applications from individuals, religious and corporate organizations who are interested in requesting for private universities license of operation. According to (Belfied and Lerin (2003), cited in Ajadi, 2010) that private universities are non-public or independent universities who will not benefit from governmental funding and thereby managed by individuals, denominational or secular boards; others are universities which are established to operate for profit. This is necessary so as to improve the quality of education at all levels.

Establishment of universities in Nigeria has been limited by the amount of money made available by either the federal or state government depending on the owner. Currently, the federal government is aware of the fact that there is the need to involve private individuals and corporations in the ownership, funding and management of universities, more so, that it is pretty difficult for the government alone to cope with running the university, and other higher education and cost of expanding the existing universities as a result of present day recession.

Reasons for the Creation of Private Universities in Nigeria

The need for private universities in Nigeria (Ajadi, 2010) was premised on a number of factors: a growing demand from students for access to higher education and the inability of the available public

universities to satisfy the increasing social demand for higher education compelled the initiative of private university in order to increase the access conditions to university education.

The declining capacity of public universities, the undue retrenchment of public servants and continual strikes by Academic Staff Union of Universities (ASUU) and other public university staff, the demand for new courses and better curriculum era has posed serious challenges to public universities to respond to, persistent pressure by external agencies, coupled with a growing emphasis on and need for a highly skilled labour force that will face the demands of the local market, making the raising of interest by foreign providers. In Nigeria now, in terms of numbers, the private universities are far more than the federal government-owned universities and are doing better off.

Brief History of Afe Babalola University, Ado-Ekiti (ABUAD)

Afe Babalola University, Ado – Ekiti (ABUAD) with the uniform resource locator (URL) www.abuad.edu.ng, is a Federal Government Licensed Private University established in 2009. It is a non-governmental, non-profit making and license as a guarantee private institution. It is a model which is unique in many ways. It is located on 130 hectares at an altitude of over 1500ft above sea level which *ipso facto* provides cool and ideal climate of learning and sport activities.

ABUAD is the only university in Nigeria, which prior to the issuance of provisional license by the Federal Government of Nigeria, moved to its permanent site and constructed magnificent college buildings, hostels, staff quarters and equipped the classroom with modern teaching facilities which include E-learning platform and electronic boards within eight months.

National Universities Commission (NUC, SCOPU, 2009) was so impressed by these major educational success indicators already provided by ABUAD to give high quality education assurance. The NUC refers ABUAD as a miracle, a model, a reference point and benchmark for other universities (SCOPU 2009). ABUAD began with students' enrolment of 322 in January, 2010 and has grown in leaps and bounds to over 6,500 students.

Today, it graduated 4 sets of graduation ceremonies. It was on this premise that the University (ABUAD, 2013) was adjudged the fastest growing private university in Africa.

The vision, mission, philosophy, the colleges and departments can be found on the university web site (ABUAD, 2013: www.abuad.edu.ng).

III. METHODOLOGY

Research Design

In undertaking this research, a qualitative research method is preferred to a quantitative type nevertheless quantitative research method used for analytical purposes. Yin, (2009) notes that comparison within behavioural pattern of any class could competently be undertaken with qualitative and site-based studies in such investigations. He notes the reliability of this approach, reports that respondents are unbiased. Having considered the various research methodologies which, the researcher adopts both the case study, qualitative and interpretivist approach research methodologies.

The data for this paper comes mostly from primary and secondary sources, i.e. from published papers, newspapers and journal articles, and official government policy documents. Data is also gathered from structured interview via questionnaire administered on 200 students of Afe Babalola University and semi-structured interview conducted with 10 samples; 6 colleges of Afe Babalola University from each unit of Afe Babalola University Ado – Ekiti, (ABUAD). The samples are selected based on convenience; the students and staff within the University who are within the easy reach of the researchers.

Data analysis

The data generated from the survey are analysed using simple-percentage and demographics with the inclusion of some elements of quantitative analysis.

IV. FINDINGS

The questionnaire is administered on 200 students of ABUAD chosen from the six main colleges of the university viz: (7.5%) Postgraduate, (25%) Social and Management Sciences, (20%) Engineering, (15%) Law, (17.5%) Sciences and (15%) Medicine and Health Sciences. Seventy Five percent of the respondents were between the ages of 16 – 20, twenty percent were of ages 21 – 30 while the rest five percent were ages 31 - 45. Ninety five percent of the respondents are single while the remaining five percent are married.

Eighty-five percent affirmed that they attend the university based on itsinfrastructure excellence which include the provision of basic learning management system and other electronic learning platforms, fifty-five percent believed that the learning management platform could be more effective by engaging and embracing

more emerging technology learning platforms so as to ensure more quality of service delivery, sixty five percent suggest that the various existing technological platforms should be integrated into any new emerging technology that will be used for research, learning and teaching for effectiveness. Seventy eight percent strongly agreed to aligning emerging technologies with interdisciplinary research, teaching and learning.

Ninety-seven strongly agreed that the government policies of non-funding of private university education and of not providing funds for emerging technologies that will help meet the world class universities of today are worrisome. Most respondents agreed that income generated from tuition is not enough to provide and engage the varying emerging technology required for research, learning and teaching but those available must be well managed. The findings show that the use of emerging technologies is necessary for the deriving the required outcome that would assist both academic institutions and business in the areas of allocating resources and prioritizing research and development budgets based on current and future needs.

V. DISCUSSION

Using interpretivist approach (Patton, 1990:14; Zeming, 1999:6) in analysing the ten staff of each of the units of Afe Babalola University, *nine of the ten staff members interviewed* opined that the government is only paying lips service to the funding of private education. In their opinion, only the revenue generated through tuition and the fund injection by the Founder of ABUAD has been sustaining the university till date.

They also affirm that the cost of providing every available emerging technology is very high and also that the emerging technologies are very imperative to effective learning, teaching and research developments. They suggest that the existing technology being used for interdisciplinary research, teaching and learning should be fully integrated into any new emerging technology that will be deployed for effectiveness.

However, the tenth staff agreed that government policy on funding of education is not for private universities. Consequently, all the respondents strongly agreed that emerging technologies must me judiciously managed for overall effectiveness of research, learning, teaching achievements while the overhead should be kept at the barest minimum.The data analysis shows that embracing and deployment of emerging technologies is highly relevant to any higher educational institutions especially for research, teaching and learning. Our research also shows that the key success indicator for measuring learning achievements in any university is the effective engagement of emerging technologies to solve the myriads challenges of teaching, learning and research.

The low enrolment challenge in most private universities due to recession and the policies of the government that lack adequate capacity to fund private universities are significant challenges to effective management of the emerging technologies required for effective teaching, learning and research in private universities and this must be seriously tackled to see the economy through, as well as development on indices to total development.

VI. CONCLUSION

The dwindling enrolment of students in Nigerian private universities and their corresponding income through tuition has become highly worrisome. Also, of great concern is the policy of government not to fund private universities. Findings from the sources analysed and from the subjects interviewed suggest that there are clear indications that the impact of emerging technologies for learning, teaching and research and their funding patterns is a key research area to focus onfor a world class university to be realizable.

The desired effects of this impact have started manifesting in most private universities in Nigeria. It may be too early to draw any conclusions but surely all stakeholders in education would need to collaborate with each other for the successful management of emerging technology in this emerging economy.

The management of emerging technology reform is specifically targeted at ensuring a better access to functional and innovative tertiary education in Nigeria institutions of higher learning.

VII. RECOMMENDATIONS

1) The government should be encouragedto provide funds to assists the private universities with the deployment of emerging technology;
2) Government must appreciate that there is a paradigm shift from the norms of engaging traditional method of teaching, learning and research to usage of emerging technologies for research, teaching and learning;
3) Government should begin the process of reviewing the policy of only supporting the public university to promoting effective collaboration and sharing of resources among the higher educational institutions so as to

reduce the overhead on deployment of emerging technology to meet world class standard. This would be so because the students of Private Higher Institutions are children of Nigerian citizens, tax payers.

4) Nigerian universities should explore other models being adopted in the developed countries and seek alternative sources of funding i.e. through endowment from alumni, private individuals and corporations. This will help solve some of the funding problems which obviously are the foundation of all the other problems.

5) Every stakeholder must be involved in the management of emerging technology because not every emerging technology is worth embracing. The embraced emerging technology must be in alignment with research, teaching and learning objectives of the University.

6) Constant training and retraining of lecturers in the adoption and dynamics of emerging technologies in education learning and research so as to effectively discharge their professional duties to students and the university community.

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