

---

**UNIVERSITIES IN THE KNOWLEDGE ECONOMY: THE CHALLENGES AND PROSPECTS OF UNIVERSITIES IN SUB SAHARAN AFRICA**

**James Kizza<sup>1</sup> and George Wilson Kasule<sup>2</sup>**

<sup>1</sup>UNIVERSITY of Kisubi, Faculty of Business and ICT

<sup>2</sup>KYAMBOGO UNIVERSITY, Department of Educational Planning and Management

**ABSTRACT**

Universities have a leading role to play, nurturing innovative and enterprising graduates able to compete in the global economy. This can be achieved by universities working closely with all stakeholders and build strong partnerships to close skills mismatch gap that is apparent among graduates in Sub Saharan African Universities who are unable to get employed yet jobs are advertised and graduates with the right skills cannot be found. The study investigated the usability of research findings in Universities in Sub Saharan Africa in solving community problems – turning knowledge stocks into a profit opportunity; the use of Information Communication Technologies (ICT) in Universities to promote knowledge acquisition, sharing and transfer; and, the level of University- Public- Private partnership to promote utilization of knowledge generated in universities. The study adopted a qualitative approach and targeted Senior University managers. It was found that universities still face a challenge of disseminating their research findings especially to the business community; the integration of ICT in the teaching –learning process in most universities is still at a very low ebb and universities are still unable to forge viable partnerships especially with industry/business community that could increase the usability of their research findings. African universities also face a huge challenge of limited highly skilled human resource capacity to guide the realization of break through research that can attract industry and increase the relevance and usability of university research findings. It is recommended that universities build partnerships across universities to enhance their research capacities and strive to build partnerships with all stakeholders to improve on their relevance and competitiveness in a globalised economy.

**KEYWORDS:** universities, knowledge economy, partnerships, research capacity, Sub Saharan Africa,

**1. INTRODUCTION**

Universities have a leading role to play, nurturing innovative and enterprising graduates able to compete in the global economy (Kizza, 2017; Kizza & Tumwebaze, 2017). This can be achieved by universities working closely with all stakeholders and build strong partnerships to close skills mismatch gap that is apparent among graduates in Sub Saharan African Universities who are unable to get employed yet jobs are advertised and graduates with the right skills cannot be found (State of Education in Africa Report, 2015). Universities as creators of knowledge play a vital role in a knowledge based economy where knowledge is the driver of productivity and competitiveness (Bejinaru, 2017). McKeon and Weir (2001) defined a Knowledge Based Economy as an economy in which the production, exchange, distribution and use of knowledge is the main driver of economic

growth, employment generation and wealth creation. In the knowledge economy, wealth creation is increasingly based on knowledge generation, acquisition, sharing, distribution, transformation and consumption (Bejinaru, 2017; World Bank, 2004; Kamara, Bousrih & Nyende ,2007; OECD,1996).Spender (2014) has described knowledge is a strategic resource that universities can utilize to their advantage given that all key functions of a university are related to knowledge creation, knowledge transfer, knowledge transformation and knowledge distribution (Bratianu, 2014, 2015). Katarzyna (2016) has described the knowledge economy as the economy of the information era and that this is the latest stage in the development of societies.

Kliewe (2017) identifies three generations of universities: the first generation of universities that focused on education (creating professionals); the second generation universities that focuses on education and research (creating professionals and scientists) and the third generation universities whose focus is on education, research and know how exploitation (creating professionals, scientists and entrepreneurs). Kliewe (2017) adds that the third generation requires universities to work on improving their transdisciplinary and interdisciplinary research and collaborations with external organizations in the region and beyond. In which generation African universities are is a point of intellectual debate but what is clear is that most universities in Africa seem to be in ‘the first generation of universities’. If this is true, can we then talk of the capacity of universities to fulfill their expected role as a key pillar in the knowledge based economy?

The World Bank’s policy report of 2002 identifies four essential functions of higher education in supporting knowledge driven economic growth: a) the capacity to train a qualified and adaptable labor force b) the capacity to generate new knowledge c) the capacity to access existing stores of global knowledge and adapt it to local use d) transmission of norms, values, attitudes and ethics as the foundation of the social capital. These key functions are supported by Bejinaru (2017) when he acknowledges that people tend to look at universities to help restore the standards of our public life and the renewal of trust in the workings of a democratic society where all other public institutions fail.

The World Bank further provides a holistic approach to measuring knowledge in the economy known as Knowledge Assessment Methodology (KAM) based on the primary assumption that building of the national knowledge economy relies on a country’s economic and institutional regime, an efficient innovation system, the education and quality of its human capital, and finally, a modern information and communication infrastructure. Among the key foundations of the knowledge economy identified include: increased education levels, growing internationalization and advancements in and dissemination of information and communication technologies (World Bank, 2002; Marta-Christina et al., 2011).

These variables identified to boost the competitiveness of an economy using knowledge rhymes well with the key functions of the university outlined by Kliewe (2017) in the third generation of universities. Chen, Dahlman, 2006,p.4 sums this up thus ‘success in the transition towards the

knowledge economy usually requires long term investments in education, increased innovation capacity, modernizations in the information infrastructure, and economic environment conducive to market transactions’.

However, the State of Education in Africa Report (2015) decries the fact that much as the returns to investments in higher education in Africa are the highest in the world at 21%, there still exists a severe mismatch between the skills of young African workers and the skills that employers need for today’s global workforce p10. According to the report produced by the Department for Business Innovation & Skills (2009), investment in higher education in the UK has paid significant dividends where University graduates earn substantially more over their life time than non graduates. The economic output of UK universities put at 59 billion pound a year amounting to 2.3 % of UK GDP.

The Uganda Business News (2018) reported only two Universities in East Africa (Makerere University and University of Nairobi) that fared in the latest global university ranking of 2018 done by The times Higher Education rankings where Makerere University had dropped on the global ranking but moved up in Africa. In ranking universities, most of the indicators of a knowledge based economy are put into consideration like research, teaching and industry income. The times Higher Education rankings assess universities on 13 performance indicators grouped into five areas: teaching (worth 30% of the top overall score), research (30%), citations (30%), international outlook (7.5%), and industry income (2.5%).

<b>Performance Indicator</b>	<b>2017</b>	<b>2016</b>
Teaching	15.1	15.9
International Outlook	58.3	58.0
Industry Income	36.7	33.1
Research	11.8	11.8
Citations	78.0	70.7

Makerere improved in three areas: citations; industry income – which looks at how much research income an institution earns from industry, scaled against the number of academic staff it employs and international outlook – the proportion of foreign students and faculty, and international research collaborators. It however declined in the teaching area, which measures an institutions teaching reputation among academics, the staff-to-student ratio, doctorate-to-bachelor’s ratio, doctorates-awarded- to-academic-staff ratio and institutional income.

It should be noted that Uganda currently has over 50 accredited Universities that seemingly appear nowhere in this ranking! This makes the current study of the role of Universities in the knowledge

economy: The Challenges and Prospects of Universities in Sub Saharan Africa more pertinent than ever before to explore interventions to make our Universities more relevant in an increasingly globally competitive knowledge based environment.

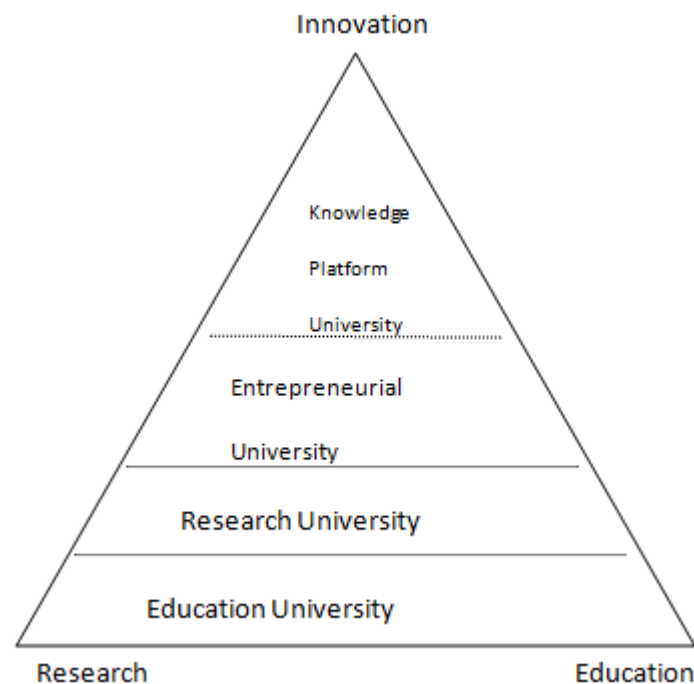
## **2. Related Literature**

### **2.1 The state of research in African Universities**

Universities engage in research to create new knowledge. The society looks at Universities as providers of knowledge, facilitators of innovation and promoters of entrepreneurial talent (Bejinaru & Prelipcean, 2017). This key function of universities to be meaningful would require universities to invest substantial amounts of money in their research activities and human resource which is not the case (Marta-Christina et al., 2011)

The International Labor Organization (ILO) underscores the need to strengthen Higher education and research institutions to produce the knowledge that informs policy and facilitates the adaptation of appropriate technology solutions to local contexts (ILO, 2010; 2012). Research should lead to increased products where knowledge is transformed into money and money into knowledge. According to the UNESCO Institute for Statistics (UIS) 2012 report on global investment in research and development, North America devotes 2.7% of GDP to R&D activities while Africa devotes a meager 0.4% to R&D activities. The same report attributes only 0.5% of the world's researchers to live in LDCs compared to 20.1% and 21.9% who live in European and North America respectively. With less ability to create knowledge on the African continent given low investment in research activities, Africa is set to lose out on the benefits of a knowledge economy (Kamara et.al.,2007). As Bejinaru (2017) further observes, the knowledge based economy opens up many market opportunities especially the turning of knowledge into a profit opportunity. The knowledge economy empowers the researcher to become an entrepreneur, who sells knowledge as a product and the student becomes the customer. Universities that are known to have a reputation in research productivity are associated with high incomes generated from international students who flock such universities for a 'quality' product (Department for Business Innovation & Skills, 2009). The issue at hand thus, is how can Universities in Sub Saharan Africa turn their knowledge stocks into a profit opportunity like their counter parts in the developed world?

Petrusson (2009,p8) has developed a pyramid representing the triad functions of the universities as rooted in the pillars of: education, research, & innovation



**Figure 1. Roles of the university in the Triad education-research-innovation**

As an education institution, the university is tasked to promote research and innovation; spear head new ventures/incubators where the university utilizes its intellectual capital to turn research done at a university into a profit opportunity; collaborate with industry to ensure relevance of research and train a well educated, independent and critical human resource that can contribute to scientific knowledge of the world with an open quest for new knowledge. There is recognition that knowledge was a key element behind the economic success of the developed world (OECD, 1996)

Kleer, 2009, pp72-75 identifies several entry parameters to assess a knowledge economy among which include 50% of a country's population in active employment to have higher education and it is understandable that universities have the key of role training a country's highly skilled manpower. Kleer (2009) adds that in a knowledge economy, Research and Development budget should account for about 3% of a country's Gross Domestic Product (GDP) but as already noted from the UNESCO Institute for Statistics (UIS) 2012 report on global investment in research and development, Africa devotes a meager 0.4% to R&D activities. It should also be noted right from the outset that most Universities in Africa engaged in research receive their funding from their national governments, which raises a key question of how then can one expect universities in Africa to play a leading role in a knowledge economy where leap service is paid to research and development activities? How can universities in Africa steer their economies into knowledge based economies characterized by innovation driven by research yet little attention is paid to the research activity?

## 2.2 The role of ICT in knowledge acquisition, sharing and transfer

Worldwide, institutions and individuals are making use of ICT to acquire and share information, and this no exception to universities. The rapid developments in information and communication technologies (ICTs) has led to the creation of dynamic networks and cross border collaborative processes that have improved on knowledge sharing and utilization (UNESCO,2012). The use of ICT in Universities in Sub Saharan Africa to promote knowledge acquisition, sharing and transfer is a matter that deserves urgent attention. According to the UNESCO Science Report, 2010; 74% of inhabitants of developed countries are Internet users, compared with only 26% in developing countries. This certainly has great implications on the feasibility of the universities in Africa to promote knowledge acquisition and transfer through the use of ICT. We are living in a digital age with rapidly changing technologies with significant implications on the way universities should train students with a flexible mindset to meet the ever changing needs at the work place driven by a digital age. How prepared universities in Africa are to meet this challenge is an issue worth investigating.

The Bank of Ireland (2017) knowledge economy report discusses how the perceived threat from technology could be a real opportunity as the digital technology has created many avenues for self employment. The report has indicated that ‘in 2001-2015, 800,000 UK jobs lost to automation but 3,500,000 UK jobs created by automation’. In short, innovations in ICT drive the economy through increases job creation as long as graduates are trained with the right skills and attitudes. Among the skills the report identifies that will be on demand in the 21st century include teaching, social perceptiveness, service orientation, persuasion, complex problem solving, originality and fluency of ideas. The report also identifies jobs at risk from automation (probability of automation) to include: secretaries/personal assistants (85%); typists/keyboard occupations (99%); bank & post office clerks (98%); retail, cashiers & check out operators (97%) while jobs at less risk from automation (probability of automation) include: Nurses (1%); secondary education teaching professionals (1%); teaching and other educational professionals (1%) . This report provides a rich source to Universities on how to make their curriculum more relevant and be able to train graduates with right skills needed in the job market.

The OECD (2001) report also talk of additional “workplace competences” as a set of skills that are complementary to academic or more technical skills that are needed in the knowledge economy. These include: communication skills, problem solving skills, the ability to work in teams and ICT skills. The report from the literature surveys it made on work competences, inot groups these skills into three and Universities need to integrate these while developing their curriculum: 1) Interpersonal skills with emphasis on teamwork and leadership capabilities 2) Intra-personal skills focusing on motivation and attitude, the ability to learn, problem solving skills, effective communication and analytical skills 4) Technological or ICT skills. The report further identifies the key knowledge based industries as the main producers of high tech goods, high and medium high tech manufacturing firms, and the main users of technology to be the knowledge –intensive services like finance, insurance, business, communication and community, social and personal services. This implies that Universities must rethink the type of training they are offering, to whom and for what?



Goddard (2017) urges Universities to invest in innovative methodologies such as social media and team building in its engagement activities with the world at large but the key challenge to this is the limited financing on most Universities on the Sub-Saharan continent. Also see the State of Education in Africa Report (2015). In the UK, universities endeavor to attract potential students by providing the best possible information on the content of courses and on the value in academic and employment terms of specific qualifications (Department for Business Innovation & Skills, 2009). Universities are also taking advantage of ICT by expanding access to higher education to potential students by providing opportunities for different types of people to study in a wide range of ways like: part-time, work based foundation degrees and studying while at home.

### **2.3 University- Public- Private partnerships**

There is seemingly a consensus that if universities are to remain relevant to society, they must work closely with society to evaluate problems in the society and help find solutions to the identified problems. Global partnerships improve information sharing and help fill in knowledge gaps among individuals and institutions. According to Goddard (2017), universities should build capacity to pattern with the community to ensure usability of their research findings. Goddard adds that universities should as well build the capacity of the communities to absorb knowledge generated within the academy, to co –produce knowledge and articulate knowledge demands. For universities to remain relevant, Goddard (2017) stresses the need to anchor the university in the community and the community in the university. Tijssen (2010) echoes Goddard (2017) when he list cooperative research; university –industry research publications among the key parameters in ranking universities. According to Tijssen (2010), this will also boost the level of University- Industry income which he defines as the extent to which users are prepared to pay for research and a university’s ability to attract funding in the commercial market place. The higher the industry income the university can generate, the more significant is the role of the university in promoting a knowledge based economy. This is also supported by the State of Education in Africa Report (2015) which views the public –private partnerships with companies and investors like US based Africa Integras as a right step towards solving the problem of limited funding.

Universities must work hard to stay close to business and build strong partnerships with local and nationally significant employers as these are the key consumers of the university products (Department for Business Innovation & Skills, 2009; World Bank, 2004; Kizza & Tumwebaze, 2017). The partnership of University- Public- Private sector that is mutually beneficial is likely to promote the utilization of knowledge generated in universities (Kamara et.al, 2007). The World Bank (2004) occasionally refers to the partnership of University- Public- Private sector in its Triple helix knowledge based economic model of Government, industry and Higher Education Institutions. According to the World Bank (2004) report, Public Private Partnerships can be an effective instrument to attract FDIs to promote innovation.

Universities need to find out what the problems are out there and where possible engage in collaborative research agenda and partnership with the various stakeholders to find solutions to these problems. It will also save the universities the problem of producing graduates that lack the requisite skills needed in the job market (State of Education in Africa Report, 2015p13) since the collaboration with the relevant stakeholders will become key in university curriculum innovation. Kler (2009) calls for an open society where the economy and the society participate in an external exchange, involving goods and services as well as ideas.

The sustainable development goals attainment among others lay emphasis on the need for multi disciplinary approaches to find solutions to existing problems. Multi disciplinarity requires people of different backgrounds and knowledge to work together towards the attainment of a common goal and forging partnerships is a step in the right direction. The ILO reports of 2010 and 2012 underscore the role of partnerships in building a knowledge economy by calling for the creation and expansion of the link between university and industry, technology and enterprise. The views from these reports are echoed by Wells, 2017 who stress the need for universities to develop innovative study programs and collaborative research agendas. The globalization and internationalization of the university create an unrivaled invitation for learners, scholars, and researchers to pool their collective creativity, knowledge and experiences for a change through networks of higher education institutions (Wells, 2017; UNESCO, 2012; Marta-Christina et al., 2011). The internationalization of research is seen as an important mechanism for knowledge sharing and technology transfer.

## **2.4 Challenges Universities face in promoting a knowledge economy**

African Universities are facing a myriad of challenges in the bid to drive their economies towards the needed social, economic and cultural transformation and contribute towards the competitiveness of their countries in a globalised economy. Goddard (2017) identifies several global challenges that Universities must face if they are to remain locally and internationally relevant. Among the challenges identified include: 1) strengthening the international research network 2) providing value for money for students in universities 3) engaging in mutually beneficial research partnerships with industry to support industry growth 4) attracting and retaining the best professors 5) promoting equity in society that cares for all including the disadvantaged.

Kamara et.al, (2007) talk of a knowledge triangle of education, research and industry as necessary to support a solid connect between knowledge generation, knowledge utilization, and knowledge transformation into production of knowledge intensive goods and services. This partnership/triangle at the heart of growth in successful economies is anchored within the framework of good governance and appropriate policies. This points to the need for African governments to provide support to Universities in their service for and dissemination of knowledge if is to realize the needed knowledge driven growth.



Kamara et. al., (2007) identify four (4) key obstacles to a knowledge based economy: 1) lack of an economic and institutional regime that provides incentives for the efficient use of existing and new knowledge 2) inadequate human capital to create the required knowledge to innovate and create economic value 3) lack of a dynamic economic infrastructure to facilitate effective communication, dissemination and processing of information 4) limited efficient innovative research centers and universities capable of tapping into the growing stock of global knowledge, assimilating the knowledge and adapting it to local needs.

Goddard (2017) provides some remedies to the challenges faced in Universities including but not limited to: 1) creating entrepreneurial role models within departments that will promote a culture of rewarding innovation 2) promote transparent academic leadership to build trust among subordinates 3) universities to communicate the value they create and 4) engagement with external parties to fully utilize their intellectual resources. The Bank of Ireland (2017) Knowledge Economy Report identifies a key challenge to the attainment of a knowledge economy as ensuring that the much emphasis on investment in research and development translates into growth in economic outcomes in terms of productivity and wages.

The State of Education in Africa Report (2015) identifies the problem of limited funds facing African higher education institutions and provides a solution to be; entering into public –private partnerships with companies and investors like US based Africa Integras. Marta-Christina et al., (2011) also argue that to benefit from any investment in education in a knowledge economy will require a paradigm shift with a focus from teaching to learning meaning where the role of education would be more of a formative role than an informative one p427. The teachers' role in such an environment would be primarily of trainers and facilitators of the learning process. The issue is whether students in African Universities are ready for such a paradigm shift as many still look at a teacher as a fountain of knowledge. Marta-Christina et al., (2011) also identifies challenges to promotion of a knowledge based economy in Africa including: the high costs of technology, troubles in supporting students, professors and administrative staff involved in the use of ICT in the teaching learning process and the limited or complete lack of experience of beneficiaries in the IT domain as well as developing an optimal strategy for e-learning.

### **3. METHODOLOGY**

The study adopted a qualitative approach and targeted Senior University managers at the level of Dean/ Director/Principal/ and Vice Chancellors in six selected Universities in Uganda. One of the Universities surveyed is a public university, two universities are private chartered universities and the other three are private licensed accredited universities. The interview guide was prepared by the researcher and used to collect the required data. The interviews were held on appointment since the target sample consisted of senior managers that tend to be very busy. The information collected from the interviews was paraphrased especially where similar views on a given item were echoed on an

issue and where the view was quite unique, direct quotes from those interviewed have been reported keeping in mind the ethical principle of anonymity.

## **4. RESEARCH FINDINGS**

### **4.1 The state of research in African Universities**

The study investigated the usability of research findings in Universities in Sub Saharan African in solving community problems. The researcher wanted to explore how universities in Sub Saharan Africa are turning their knowledge stocks into a profit opportunity.

Across the universities studied, it was found that university allocation to research funding is very negligible to allow any serious undertaking. This is supported by Marta-Christina et al., (2011) who observed that meaningful research at universities would require investing substantial amounts of money in the research activities and human resource of the university. The findings are also supported by the UNESCO Institute for Statistics (UIS) 2012 report on global investment in research and development that reported African countries budget allocation to R & D as a percentage GDP to a meager 0.4%! Kler (2009) throws light on the research funding required to support a knowledge economy which should be about 3% of a country's Gross Domestic Product (GDP).

It was discovered that most universities are merely teaching universities with little attention paid to the research and innovation. One Dean quickly pointed out however, the different brands of research as "applied research engaged in by the academia and applied research normally engaged in by the development entities like non governmental organizations (NGOs). His observation was that universities may not be seen doing much research because most of their research has no immediate practical application in relation to solving community problems. This points to the need for universities to diversify their research agenda to include policy research that informs policy and facilitates the adaptation of appropriate technology solutions to local contexts (ILO, 2010; 2012).

The dissemination of graduate research findings is at a very elementary level especially at a point of public defense of one's research. Of the six Universities surveyed, only three had an academic research journal where they could publish significant research findings from studies carried out by either staff or graduate students. However, most universities are now developing policies where students on graduate programs publish their research findings in a reputable journal before they can be allowed to graduate.

From the interviews held, it was also discovered that universities disseminate knowledge through several ways including but not limited to: teaching, arranging and participating in conferences as well as the various community engagements. In three of the five universities surveyed, it was found out that there exists the will to facilitate staff to attend conferences or publish their papers in reputable journals. At Uganda Martyrs University, an annual conference is held where research findings from staff, students, academicians and other stakeholders are disseminated. This is a step in

the right direction given that the knowledge stock has been recognized as a key element behind the economic success of the developed world (OECD, 1996)

## **4.2 The role of ICT in knowledge acquisition, sharing and transfer**

The study investigated the use of ICT in Universities in Sub Saharan African to promote knowledge acquisition, sharing and transfer. The researcher was interested in finding out the extent to which universities are training students with a flexible mindset to meet the ever changing needs at the work place driven by a digital age?

The interviewed University staff were confident that they are training for the market despite some gaps that may be unavoidable. At Uganda Martyrs University, the use of ICT in teaching, learning and knowledge dissemination is more prominent in the disciplines related to Agriculture and Architecture while E-learning has been encouraged in the distance education programmes. However, the use of ICT to promote distance education programmes in most universities surveyed was still at an elementary level. This comes as no surprise as the finding is supported by the UNESCO Science Report, 2010, on internet usage where it is reported that while 74% of inhabitants of developed countries are Internet users, only 26% in developing countries use the internet. This notwithstanding the limited internet coverage in most developing countries and the constant power failures.

Some of the Deans interviewed from Kyambogo University were able to identify a major innovation by students guided by staff on the electronic system of registering students and monitoring their financial and academic status through e-campus software. Universities can still explore the use of ICT to popularize their academic programmes and provide information to the students about their various course programs and their end products as it is done in most UK universities (Department for Business Innovation & Skills, 2009). The researcher found out that most students reach their final year of graduation without a clear picture of the various employment options of the programmes they have attended! Proper utilization of ICT by universities could as well increase the employability of their graduate (The Bank of Ireland, 2017; OECD, 2001)

There are efforts to promote the use of e-learning in the universities. The major limitations identified included: limited funding, power failures and lack of expertise to use e-resources by staff as well as students. There are also attempts to popularize the use of video conferencing in some universities. The use of ICT facilities in the teaching learning process has also been encouraged and this was mainly visible at Uganda Martyrs University where facilities to aid projection of learning material is installed in most lecture rooms. The use of ICT facilities like projectors in other universities surveyed were at a low ebb reasons being among others the lack of these facilities like projectors or their inadequacy. This limits the universities' capacity to creating dynamic networks and cross border collaborative processes necessary to improve on knowledge sharing and utilization (UNESCO, 2012).

### **4.3 University- Public- Private partnerships**

The researcher wanted to find out the level of University- Public- Private partnerships and how these partnerships can be utilized to promote university contribution to the knowledge based economies.

The one single partnership that is apparent across all universities interviewed was in the area of internships/industrial training where universities work alongside the public and private sector to provide students with practical work experience. At Uganda Martyrs University, there were several indicators of Public Private Partnership, for example, the university in cooperation the Bank of Uganda, Centenary Bank and the Catholic Church had carried out financial literacy programmes in Kampala Archdiocese. The university also has staff exchanges with universities in Nigeria and America. The internship/industrial training exercise is meant to equip students with practical work experience and additional work competences sought after by employees (OECD, 2001).

It was also noted that universities like Kyambogo University was trying its best to produce practically relevant graduates through coming up with new projects like transformation entrepreneurship aimed at turning out graduates that can start up their own businesses; Uganda Martyrs University had put focus on integration of an ethics course in all programs to make her graduands more employable while the University of Kisubi had integrated cross cutting courses like critical thinking in all its programs. This is in line with several scholars that have voiced the need for universities to come with innovative methodologies in their way their execute their functions (Goddard, 2017; Department for Business Innovation & Skills, 2009).

The stakeholders are also actively involved on university graduations where a report is given to the stakeholders on the activities of the university in a given period. This is said to help the university to as well receive feedback from the stakeholders who partner with these universities. The need for stakeholder engagement in building a knowledge economy is supported by the ILO reports of 2010 and 2012; Wells, 2017; UNESCO, 2012; Marta-Christina et al., 2011.

The management of universities is supervised by university councils which are composed of people from different aspects of life including: technocrats, government representatives, Alumni, religious leaders, local leaders, university staff etc. This composition is meant to represent different ideas from the community and thus integrate the university into the community as supported by Goddard, 2017; Tijssen, 2010; State of Education in Africa Report, 2015; Department for Business Innovation & Skills, 2009; World Bank, 2004; Kizza & Tumwebaze, 2017; Kleer, 2009. According to Kamara et.al, 2007, the integration of various stakeholders in university management and program development promotes the utilization of knowledge generated in universities.

### **5. Challenges Universities face in promoting a knowledge economy**

The challenges identified include: limited highly skilled human capital where universities have to rely on borrowed staff from one university to another. This especially due to the limited number of staff with doctoral training in the universities studied. This challenge can be managed by universities

building strong partnerships not only among the academia but also with local and nationally significant employers (Department for Business Innovation & Skills, 2009; World Bank, 2004; Kizza & Tumwebaze, 2017; Kamara et.al, 2007).

In private universities, there is a challenge of ownership where the owners of the university rarely have the commitment to fund university key functions except teaching. In situations where funding for research is availed, funding for dissemination of research findings is not availed which limits the dissemination efforts. The challenge of limited research funding can as well be managed the partnerships (Goddard, 2017; Tijssen, 2010; State of Education in Africa Report, 2015).

Private universities also pointed out the policy environment which is quite hostile. For instance; the government does not provide financial assistance to private universities and graduates from private universities are discriminated when it comes to seeking admission for further studies in government owned public institutions like Makerere University. This is true for those students who have graduate from accredited private universities but not yet chartered universities. In Uganda, the student loan scheme intended to assist academically gifted but financial disadvantaged students is limited to student applicants to chartered universities alone.

One Dean also cited the lack of a national data center as a key hindrance towards the knowledge stock. He remarked “in the university I attended in Europe, all students graduate research work is deposited with the common wealth institute”. This no doubt makes it easy for readers to access university research around common wealth countries and thus facilitate easy dissemination of research findings.

Preference of private consultancy work to research work. It was pointed by the interviewees that most lecturers prefer private consultancy to research work as monies from consultancy are readily realizable compared to research money. It was said that on top of research requiring quality time that lecturers may not have, their interest in research is also limited. It was also gathered that in some universities the work load for academic staff in terms of teaching load does not allow academic staff to have adequate time to devote to research.

The different research approaches. Some of the interviewees identified the differences in the understanding of research methodology as a key factor hindering joint research by university staff. It was not that most of the lecturers are grounded in quantitative research and have a negative perception of fellow lecturers with a bias in qualitative research methodologies. It was observed that “people tend to train the way they were trained.” One interviewee just summed up this as “lack of research capacity” among university academic staff for academic staff need to appreciate that there are different strands of research approaches. The need to build the research capacity of university staff is in line with ILO recommendation of the need to strengthen Higher education and research institutions to produce the knowledge that informs policy (ILO, 2010; 2012).

The absence of intellectual property rights policy. The six universities studied lacked a clear intellectual property rights policy. This policy is key in advancing the issue of patent that would encourage private research efforts. Despite this, it was noted that in universities like Kyambogo University there are products worth patenting like e-campus system that manages students' information on registration status, fees payment, academic progress etc.

Human resource department focus in universities seem bent on training for qualifications other than improving learning and research capacity of university staff . This means that the Human resource has a challenge to fit its training agenda for academic staff to align with the goal of building research capacity and innovative skills. The Human resource department of Universities should aim at building the research capacity of staff that will equip staff to positively contribute to the much desired attainment of a knowledge economy in Africa (OECD, 1996).

## 6. PROSPECTS

In some universities, efforts have started to have a centralized research fund where university staff can compete for research funding on merit. However, one Dean noted that this could be even more effective if the research fund is decentralized further to the faculty level where faculties are allocated a research vote to promote research at faculty level as a centralized pool may disadvantage some faculties.

It was also echoed that university staff need to be trained in different research approaches and vetting of research proposals as a way of building research capacities in the universities that will lead to publishable research.

Some Deans also talked of virtual funds out there targeting academia interested in research. These funds are highly competitive making it imperative for universities to equip their staff in key skills like academic proposal writing and grant proposal writing. Some Universities like Uganda Martyrs University have been able to attract funding from the World Bank through the ACALISE project.

Universities especially in the science related disciplines are coming up with new innovations worth patenting. There are also organizations willing to work with universities patenting. There are also organizations willing to work with universities in some fields though this majorly benefits government owned universities and private chartered universities

The community engagements also involved in by different universities were seen as a step in the right direction as these engagements promote action based research whose findings are directly applicable to the communities. Action based research tend to increase the usability of research findings.

## 7. POLICY IMPLICATIONS



There is need for Universities in their Vice Chancellors' forum to find a way encouraging the establishment of collaborative research consortiums. Through such consortiums staff from various universities can learn from each other, build each other research capacity and may easily access funds from donors that are in for collaborative multi disciplinary research. Such consortiums will help university academia to appreciate the different research approaches.

The human resource departments should work closely with the academic units to find the desired training needs at a particular time. The training should focus on developing the key pillars of universities and not only on promoting acquisition of paper qualifications. The Human Resource department should spearhead short courses/ training workshops for university staff in research methodology, ICT pedagogy etc. Universities should use ICT to increase their visibility and marketability of their study programs through provision of timely information to those who need the information.

There is need to anchor the universities in the community through stakeholder engagement. This is meant to allow exchange of ideas and build strong partnership between the university and user of its products thereby increasing the usability of university research findings and marketability of their products.

There is need for universities to lobby their governments to increase the budget allocation to research activities to at least 1% from a mere current 0.4%. This can act as a basis for universities to solicit funds from other partners in development. Universities should also diversify their research agenda to incorporate policy research that may improve usability of research done at the university and improve research funding prospects. Private universities need to engage government to continually improve the policy environment in which they operate.

## REFERENCES

- Bank of Ireland (2017). Knowledge Economy Report. Identifying our location. Defining our destination. Estimating our arrival. Bank of Ireland. Steve Grr. Director – Economic policy center
- Bejinaru,R. (2017). Universities in the knowledge economy. Management Dynamics in the Knowledge Economy. 2 (2), pp.251-271
- Bejinaru,R., and Prelipcean, G. (2017). Successful strategies to be learnt from world – class universities. In proceedings of the 11th International Conference on Business Excellence (pp.469-492). Bucharest:ASE.
- Chen, D. H.C.,Dahlman,C.J.,(2006), The Knowledge Economy, the KAM Methodology and World Bank Operations, World Bank Institute, Washington
- Department for Business Innovation & Skills (2009) The future of universities in a KE. www.bis.gov.uk. BIS/11/09/0.5k/NP URN 09/1452
- ILO (2010).Training Strategy for Strong, Sustainable and Balanced Growth
- ILO (2012). Skills for Green Jobs: A Global Review

- Kamara,A.B; Bousrih,L., & Nyende,M. (2007). Growing Knowledge – Based Economy: Evidence from Public Expenditure on Education in Africa. Economic Research Working Paper Series, 88 (December 2007)
- Katarzyna,Z. (2016),The knowledge economy – the diagnosis of its condition in selected countries. Studia Ekonomiczne. Zeszyty Naukowe. Uniwersytetu Ekonomicznego w Katowicach
- Kizza,J. & Henry Tumwebaze (2017). Intricacies of internationalization of higher education for sustainable development in developing countries. A paper presented to the 4th International Interdisciplinary Conference on Internationalization of higher education for sustainable development at Kyambogo University -2017
- Kizza,J. (2017). Universities as engines of growth: the myths and realities of higher education in Africa. AJEST, 322-328.
- Kleer, J. (2009), Gospodarka oparta na wiedzy a globalizacja: związki czasowe czy przyczynowe (in:) J.Kotowicz (ed.),GOW –wyzwanie dla Polski,PTE, VIII Kongres Ekonomistow Polskich, Warszawa
- Kliewe, T. (2017),Entrepreneurial and engaged university accreditation. Accreditation Council for Entrepreneurial and Engaged Universities. Retrieved from [https://www.aceeu.org/pdf/ACEEU\\_Brochure\\_2017.pdf](https://www.aceeu.org/pdf/ACEEU_Brochure_2017.pdf). 30/5/2018
- Marta-Christina Suciú; Irina- Virginia Dragulanescu; Alexandru Ghitiu-Bratescu, Luciana Piciorus, Cosmin Imbrisca, valentine- Matei Serbu and Corina Grigore (2011) Universities' role in knowledge-based economy and society. Implications for Romanian Economics Higher Education. Amfiteatru Economic. 420-436,X111(30)
- McKeon,R, and Tony Weir. (2001), Preconditions for a Knowledge –based Economy, B- HERT News, No 11, pp4-5
- OECD (1996), Employment and Growth in the Knowledge –based Economy, Paris
- OECD, (2001), Competences for the knowledge economy, pp99-118. Retrieved 1/6/2018
- State of Education in Africa Report (2015). A report card on the progress, opportunities and challenges confronting the African education sector
- Tijssen,R.J.W. (2010). Rankings of universities according to university –industry research cooperation. Center for Science and Technology Studies (CWTS). Leiden University, The Netherlands. IREG 5 Conference, Berlin, 6-8 October 2010
- Uganda Business News 2018 Makerere drops in latest global university ranking, but moves up in Africa Retrieved 2/6/2018
- UNESCO Institute for Statistics (UIS), 2012. Global Investment in R&D,
- UNESCO Science Report, 2010. Engineering: Issues, Challenges and Opportunities for Development
- World Bank (2004) Improving competitiveness through a knowledge based economy. Knowledge Economy Forum organized by the World Bank & the govt of Hungary supported by the Open Society Institute. [www.worldbank.org/eca/budapestkef](http://www.worldbank.org/eca/budapestkef). retrieved 7/5/18
- World Bank's policy Report of 2002