
Strategic Management Performance and the Knowledge Economy: An Analysis of Cameroon's Higher Education

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Abstract

The main objective of this study is to explore the intelligibility of knowledge economy ramifications on strategic management performance in Cameroon's higher education. Its postulate's that Cameroon higher education is anchored on the knowledge economy paradigm seems be unrealistic at the institutional lacks effective technological capability in harnessing institutional ambidexterity as strategic innovation insights-foresights for human capital development, research and innovation for competitiveness, agility and visibility. The study adopted an exploratory case study design. The respondents were: research students, lecturer-researchers, and administrators from public and private higher education institutions in Cameroon. The data was collected with the use of an unstructured interview guide. The data was analysed through hermeneutic-interpretative approach. The results revealed that higher education strategic policy-objectives are influenced to an extent by knowledge economy indicators. However, institutional discrepancies and challenges are informed by slow pace of technological integration, less innovation and research value creation, limitations in the implementation of the third mission (support to development/community outreach) at the institutional level. Therefore, we concluded that institutional strategic management must consider knowledge-based economy indicators through the creation of innovation and research networks with strong quality assurance frameworks which can engender a robust national innovation-entrepreneurial value creation ecosystem for a sustainable socioeconomic development.

Key words: *Knowledge Economy, Strategic Management, Innovation for Development, ICT Infrastructure Development and Human Capital Development.*

Introduction

Only smart techno-innovative and techno entrepreneurial universities can thrive in today's robust and dynamic knowledge-based economies (Harsono, 2013). These techno-scientific sovereign universities are built on an infiniteness of tacit and explicit knowledge which have multidimensional insights (Hajric, 2018). These knowledge insights have value creation potential that can propel a country to greater sustainability and prosperity. As research demonstrates relevant contextual knowledge has a significant influence on the strategic management performance in higher education today. This knowledge serves as an instrument of institutional brand image and positionality in the national

and global scientific expedition (Bafon, 2021). The transformation of knowledge to wealth and value creation products will establish the responsiveness of the university system (Mondkar, 2010). Knowledge is a pragmatic instrument that ensures organisational agility. This agility is primordial in the effectiveness of institutional management performance (Baslom & Tong, 2019). It envisages an effective institutional autonomy that promotes democratic practices in research and development. It creates dynamic competitive advantage among institutions where excellence becomes a hallmark of institutional change management. It brings about efficiency of knowledge production, institutional visibility and flexibility of knowledge management systems. It ensures sustainable strategic performance and equally leads to sustainable socioeconomic development of any one country (vision, 2035).

The world bank statistics places Cameroon as a lower-middle income country with a population of about 23,248,044 as of 2017 estimate with an average growth of 2.4% (NDS, S2020-2030). The human development index has faced many challenges such as: persistent poverty and urban rural disparities. Based on the national development policies documents, we can coherently state that the strategic objectives and policies of Cameroon higher are footheld to the knowledge economy paradigm. Knowledge economy as a strategic insight-foresight in Cameroon higher education is conceptualised within a myriad of policy orientations (university standards, 2015). The orientations are built towards a higher-middle income country and emergent Cameroonian knowledge society (Teneng, 2016). The strategic objectives and policies orientations of higher education in Cameroon are highlighted as follows: “professionalisation, competitiveness, production, organisation and dissemination of scientific, cultural and professional knowledge.” (Ministry of higher education 2001, Article 2).

These orientations are supported by the (Growth and Employment Strategic Paper (GESP), 2010-2020) and National Development Strategy (NDS), 2020 - 2030). These strategic objectives are crucial in elaborating institutional frameworks for the enhancement of university knowledge production, exchange and wealth creation (Doh, 2015). How these strategic objectives are captured for implementation at institutional level becomes a serious problem due to institutional managerial cultures that apparently do not favour intramural structural transformation (Doh, 2012).

Also, the development of higher education digitalisation strategies defines the roadmap of knowledge management systems and knowledge environments. This digitalisation strategic policy drive is highlighted in (University Standards, 2015). This explains how the strategic policies are understood and interpreted within institutional systems. The understanding and

interpretation of the policies still demands enormous expertise, human resource development that has a full potential to cause institutional transformation. The effective deployment of technological resources in the implementation of institutional corporate and operational strategies will guarantee efficiency and transparency in human, financial, material and information management of the university (Mondkar, 2010). The digitalisation of the university system will help build an agile knowledge environment for interactions between the various institutional stakeholders, thereby improving on institutional strategic management performance (Marginson, 2010). The E-delivery processes facilitate rapidity and effectiveness of academic and administrative procedures. This can lead to continuous improvement and sustainability in E governance within the university knowledge ecosystem (Tangmo et al, 2021).

furthermore, university knowledge is created implicitly and explicitly through effective development of human capital components. Therefore, the management and development of intellectual capital capacity of the university is indispensable in effective reutilisation of skills development. Intellectual capital is the overall organisational resources or asset that is “*tangible and intangible*.” It ensures organisational effective operations and determine its performance potential in knowledge delivery. The effective management of administrative and academic human capital will enhance efficiency in organisational performance in the metrical configuration environment (Rizun, 2016). Knowledge is also created explicitly through knowledge management systems. These have to do with knowledge management strategies, softwares and tools (Hajric, 2018). The effects should be captured through institutional gains; improvement in the sustainable performance management within the faculties, departments and research centres. It has to be captured through the enhancement of flexibility of institutional structures; creation of opportunities for graduates and human resource development; amelioration of the university visibility through the display of its productive potential, as well as, the development of institutional community engagement programmes that will stimulate wealth creation and foster sustainable socio-economic development (Salavati & Rashadat, 2014).

Conceptual Clarification

Knowledge as Capital in the Economy

Knowledge as a finite element of human development and social progress emanates from diverse streams of human intellectual activities. In this way, we move from a dialectic and epistemic diversity in the understanding of

knowledge to a more compounding meaning of knowledge economy as a scientific concept and as an emerging economic system which need a conceptual and theoretical clarification. Equally, globalisation and internationalisation tendencies in higher education especially in the development of knowledge flow management requires concise intelligibility of the knowledge ramifications as an indispensable economic capital in the 21st century (Bafon, 2021). In this paper We focus on some specialised views of knowledge and knowledge economy which give insights into the semantic innovations and development within the knowledge polysemic extensions and how its generative sense collocates or modifies economy to build the famous and seeming overused concept of knowledge economy (Bafon, 2021).

Moreover, In ASEAN foundation (2008, p. 12) “Knowledge is information required to develop skills, Job, concepts or rules (declarative knowledge) and their interrelationship (structural knowledge). The job-specific content or information which a person has gained through training, education and/or experience. Knowledge is built upon the foundation of mental abilities that a person brings to the situation” In this approach, knowledge is seen as multidimensional human value which ranges from personal abilities and technical knowledge brought to context through human experience and education. The organisation also noted that this knowledge can be classified as: “*declarative*” and “*structural*”. Human and technological capitals have to be built with these core tangibles and intangibles for organisations’ competitive advantage and efficiency in the strategic operations. In extension all these capitals constitute the integral components of intellectual capital which forms traditional theoretical model elucidated as – “*human, structural and social(relational)*” capitals or knowledge of the institution (Laurent, 2014). Institutional coherency and conformity depend on the administrative and academic understanding of the functionalities of all facets of knowledge and added value it brings to institution. These components are very strategic for organisational intramural innovation and external institutional management pertinence.

Also, “Knowledge is a fluid mix of framed experience, values, contextual information, expert insight, and grounded intuition that provides an environment and framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of the knowers. In organizations it often becomes embedded not only in documents or repositories, but also in organisational routines, practices and norms.” (Hajric, 2018, p. 7). From this perception, knowledge is seen basically from two dimensions that is personal and organisational knowledge. In higher education all these components of knowledge exist within institutional systems and human resources which give the functional and responsiveness of systems to

the stakeholders (Bafon, 2021). Then knowledge is built upon this ambidextrous intellectual capital, innovations, creativity, knowledge management systems and knowledge environments for institutional efficiency. The development of full core competences of various institutional actors is strategic in the forecasting of institutional management in higher education. Therefore, mapping the core competences added value in the knowledge creation value chain within the institution builds the dynamic capabilities of the institution to resist external shocks and adapt to the environmental changes (Bejinaru, 2017).

In this work we will discuss two types of knowledge. These types of knowledge are: Tacit and explicit knowledge. Research and innovation which are core to higher education missions and activities must work to contextualise knowledge-intensity for endogenous organisational growth and national value creation. The entrepreneurial and developmental frameworks of the Cameroon university rely on knowledge-intensive networks through industrial and international development agencies cooperation and collaboration (Zajontz & Schamp, 2016).

Origins of Knowledge Economy in Management Sciences

According to Bencsik (2021) the concept of knowledge economy was introduced by Machlup in 1962 and was made famous by Peter Drucker in his book entitled *The Age of Discontinuity* in the 1960s (Marginson, 2010). The concept has received varied scholarly perspectives in addressing the modern economic characteristics. This evolution emanates from the transition of industrial society to more "Knowledge-intensive society" (industrial 4.0). The explosion of information technology has further stimulated the intensive knowledge production and diffusion leading to knowledge transformations on a global system Karahan (2012). Higher is a key actor in knowledge generation, consumption and dissemination. Therefore, considering the ambidexterity of higher education policies and programmes from this perspective is very strategic for institutional sustainability.

The emergence of knowledge-based economy with its varied disruptive indicators poses veritable challenges to institutional management in the contemporary university. The adaption of management and academic processes to align with this economy is the biggest challenge universities in the developing countries are facing. Knowledge economy is an economy in which knowledge is continually created and disseminated for institutional performance and sustainable socioeconomic development of a country (Bafon, 2021). The knowledge value creation chains also determine international

competitiveness of universities and countries in a robust global knowledge society. In this society, the strength and quality management are measured based on the quantity and quality of the knowledge produced (Bejinaru, 2017). The competitiveness in knowledge exchange is a means of ascertaining excellence and improving university potentiality and visibility (Hadad, 2017). Other authors and institutional frameworks see knowledge economy as an economy which deals with the production, distribution as well as use of knowledge and information (OECD, 1996) as cited in (Karahan, 2012).

It is based on this perspective that the concept becomes relevant to higher education institution wherein the missions and the strategic objectives are significantly governed by production and consumption of knowledge products. The ambidexterity of university capabilities is observed through production, exploitation of knowledge and exploration of new field of knowledge for constant scientific expansion and sustainable societal development. It also drives productivity, growth, wealth creation and employment in all industries and business organisations where services demand high technological intensive equipment are in used (Tushman & O'reilly, 2013). Therefore, this paper is pertinent within the context of Nation Development Strategy 2020/2030, Continental Education Strategy 2015-2025 and AU Agenda 2065 and sustainable development goals 2015-2030 which are national, continental and global strategic policy frameworks that mainstreamed systemic mutation and sustainable endogenous growth. National and regional higher education institutions in African must consciously build intraregional robust knowledge economies which are capable of compete with other global knowledge economies. The strength of the nation-states today is determined by their institutional potential to drive knowledge flow and strategic intelligence management in intrastate relations, as well as, interstate cooperation (Marginson, 2010). Therefore, higher education must conceive exploitative and explorative strategies for fundamental and professional training in developing human resources emancipation, intellectual capital management systems, promotion of innovations and development, promotion of quality and excellence for higher education change. These activities bring to the fore institutional knowledge pertinence to economic and cultural development of state. Research-intensive and teaching-intensive universities must capture cultural capacities, skills forecasting and functional regulations in the knowledge flows (Bafon, 2021).

International Organisations' Knowledge Economy Frameworks

There are many appellations, frameworks, approaches, models and definitions that have been attributed to the concept of knowledge economy. In this work,

we focus on establishing the intelligibility of knowledge economy through the different international frameworks. These international institutional frameworks highlight indicators and assessment methodologies which are relevant to higher education institutions. These indicators of knowledge economy have interconnections with strategic management of higher education institution. we will in due course examine the dynamics and then establish the intelligibility interface of these concepts in institutional management in higher education.

a) *The World Bank knowledge economy framework:*

This framework is grounded on the view that knowledge economy is built around four pillars. These four pillars of the knowledge are: *“An economic incentive and institutional regimes, educated skilled workers, an effective innovation system and a modern adequate information infrastructure”* (Chen & Dahlman, 2006) KAM in (world bank operation, 2006). The four pillars are to determine economic growth, sustainable creation, adoption and adaption of knowledge in higher valued added goods and services. The framework outlines that research and development lead to emergence of new economic goods, process, knowledge and technological development. In this way, innovation patterns are an essential indicator of the knowledge-based economy in which incrementalism is benchmarked. The framework has a scorecard in the assessment of knowledge economies’ dynamics (KAM). It measures the performance, economic incentive and institutional regimes, education, human resources, innovation system and information and communication infrastructures (Karahana, 2012). Proceeding frameworks are mostly engendered from the world bank knowledge economy framework. Therefore, the world bank knowledge framework is a canonical assessment benchmarking system for international organisations and national economies across the world.

b) *OECD Knowledge Economy Framework*

The concept first appeared in the institutional document in 1995. According to the OECD knowledge economies are economies which are *“directly based on the production, distribution and use of knowledge and information”* (OECD, 1996) quoted in (Hadad, 2017, pp. 207). The framework has five indicator of knowledge economy: *Knowledge-based economy, information and communication technology, science and technology policy, globalisation, and output and impact*. The measurement indicators here insist on education, research and development and the innovation output impact (knowledge creation, entrepreneurship etc.) (Karahana, 2012). This framework has similar features with the world bank

methodology. In its methodologies the indicator of globalisation is primordial in creating institutional growth incentive. In relation to higher education, knowledge flow defines the internationalisation strategic policies in mapping favourable variables for cooperation in research and development as well as, the projection of its brand image.

c) EU Knowledge Economy Framework

The European union also has its knowledge economy indicators. These knowledge economy indicators in the European union include: *innovation drivers, knowledge creation. Innovation and entrepreneurship, application and intellectual property*. It is a scorecard of measuring knowledge economy development within the European commission developed in 2010 (Karahan, 2012). These characteristics of knowledge are primordial in orienting higher education involvement in development in the EU. These knowledge indicators have also influenced research and teaching as well as rankings and internationalisation of higher education. Rankings and classifications of universities have some proliferation measurement of these indicators. The quality assurance frameworks within the EU emanate from these dynamic changes in higher education policies. With this methodologies universities are becoming more and more developmental and entrepreneurial nature. The corporate structural model is permeating the higher education system. Therefore, the strategic management dimension is inevitable in establishing accountability and transparency outcomes in resources management (Baird, 2011).

d) APEC knowledge economy framework:

The Asia Pacific Economic Co-operation (APEC) Economic Committee extended this idea to state that in a knowledge-based economy, *"the production, distribution and use of knowledge is the main driver of growth, wealth creation and employment across all industries"* (APEC Economic Committee, 2000, p.7) here "growth" and "wealth creation" adds impetus to the previous definition in which institutional growth or development emanates. In this kind of economy all knowledge industries and business organisations become "knowledge intensive." The indicators of knowledge economy as highlighted by APEC (2000, p. 14-116) are: *"A conducive business environment, development of ICT infrastructure, innovation system, human resource development who are considered intellectual workers and creative minds for industrial transformation."* These key indicators for the Asian pacific knowledge economy are supported by (Karahan, 2012).

The Asian development (ADB, 2007) noted that, this kind of economy deals with highly specialised knowledge and skills. This in essence is human capital (value, intelligence and knowledge) in value creation for economic and organisational innovation processes. It remarks that they are strategically combined from various parts of production process – inventions, innovation and sustain competitive advantage. Today

organisation's function based on the effective and efficient strategic management performance. According to Bentlege, (2011 p162163) quoted in (Hadaad 2017, p. 2009) *"The knowledge economy is that part of the economy in which highly specialised knowledge and skills are strategically combined from different parts of the value chain in order to create innovation and sustain competitive advantage."* The focus here on skills and knowledge is central to human capital theories in which organisational and economic growth depend on the human capital availability. This human capital propensity must be able to generate innovations for competitive positionality within global knowledge flow system (Bafon, 2021).

e) Latin American and North American Knowledge Economy Framework:

There seems to be a fragmentation in the development of knowledge economy in Latin-North American. There appears to be no unique methodology for these regions but most countries and scientists adopt the methodologies or the frameworks of the international development agencies like the (APEC Economic Committee, 2000). However, Mas and Benages (2021) looks at the "broad and restrictive approaches" to knowledge economy. In their classification, higher education is placed within the Knowledge-intensive labour stage of their framework "Non knowledge intensive labour" include lower and upper secondary education. From this classification, higher education is at the Epicentre of knowledge economy flow as knowledge-intensive labour is generated through academic operations and research processes. These processes can be termed *"production Knowledge intensives capital"* and *"non-knowledge –intensive assets."* The non-knowledge-intensive assets include factors such as: "dwellings and non-resident structure".

Knowledge-intensive asset includes: transport equipment, machinery, equipment and others asset, and ICTS. These methodologies are exploitative through statistical data sources in order to test the performance. The data which were one of the initiate stages of knowledge formation processes plays an important role measuring knowledge economy growth from the Latin American perspective. They drew their data from KLEM database from four

Latin American countries between 1995-2016. Hernandez et al (2022) looks at knowledge economy and creative economy also in Latin American. This creative economy is a component of knowledge intangibles which is drawn from the entertainment industries. Within this industry there is high demand of knowledge intensive labour. Therefore, higher education ambidexterity in the social science curriculum can orchestrate innovative developments which foster growth in the creative industries which is still in its infancy in Cameroon. These frameworks are equally echoing the world bank, OECD, AU, APEC and EU frameworks.

f) African knowledge economy framework:

In African Region Action Plan on Knowledge Economy (ARAPKE, 2005), the Africa Union in 2005 underscored the building of a knowledge economy for the African region as serious challenge due to limited knowledge infrastructure and human development capacity to ensure the transition. In this way, the African vision in building this economy rest on the collective endeavour in speeding development and good governance, employment, natural and human capacity development a means of becoming part of the information society. The key indicators of African knowledge economy are: *creating enabling environment, infrastructure and access, E-strategies and policies, information society indicators, capacity building, research and development, internet governance, women and the information society, multi-stakeholders (parliamentarians, civil society, youth, media, private sector, harnessing the digital diaspora, African languages in the cyberspace, and resources mobilisation*. The indicators of this framework appear as preparatory approach to establishing a knowledge-based economy. Since the outline of these indicators in 2005 progress is yet to be achieved. African countries are still far in internet coverage and sustainability, research and innovation are still to take off. Africa still has a long way to go in integrating fully into the global knowledge society. In addition to the AU framework, Amavilah et al (2021) developed a knowledge economy framework for African countries use the KAM as a benchmark and they used mixed cluster approaches in measuring African evolution in the knowledge economy. The framework benchmarking results shows that most of the Africa countries are still unprepared for the knowledge economy (Chen and Dahlman, 2005). The role higher education plays in the preparedness for integration into the knowledge economy is crucial. Higher education policy should/must be able to permit African countries to prepare and integrate into the knowledge economy. The preparedness is determined by the human development index

The Epistemic Linkages of the Different Knowledge Economy Frameworks.

Based on the above appraisal of the different knowledge economy frameworks and methodologies used in measuring national, regional and global knowledge economy systems. There is congruence in the *“human capital/resource development, innovation and entrepreneurial output, ICT infrastructure development and access, research and development. business environment, globalisation. Etc.”* In this way, higher education role in the development of knowledge economy in Cameroon is primordial. The different institutional structural units play indispensable roles in mainstreaming these indicators. The university traditional mission of knowledge production and diffusion fit into this framework in the exploitative dimension of knowledge. The third mission work as practical explorative strategy in making institutional products - human and non-human relevant to the context. Equally integrating the extramural into the knowledge creation and dissemination cycles will boost the development and reinforce the national innovation system.

Knowledge Economy and Strategic management interface in higher education

Strategy in organisational management refers to, patterns of decisions, action plan, resources, positioning and competitive advantage which guarantee its effectiveness, efficiency and the success (Bafon, 2021). In the views Mainardes, Ferreira and Raposo (2014) strategy has been an organisational or institutional skills since Pericles, (450BC). This implies that management skills (administrative, leadership, public speaking power). In this way, knowledge economy and strategic management entertain important relations institutional management in the 21st century.

It is also noted that strategy developed in the business world after the Second World War. This was due to growth in complexity of organisational structures and dynamic pace of environmental changes demanding tremendous deployment of resources and potentialities in developing managerial strategies (Mainardes, Ferreira & Raposo 2014). Strategy underwent great development within corporate environment only in the 1980s. Therefore, organisations or institutions experienced change or development as corporate structuring, joint decision-making, financing, action impacting general organisational size and portfolios management were all driven by technological development and innovations of the 80s since the global dynamics, of interactive and integrative dimensions were prominent (Stukalina, 2014). This was due to advancement in communication and transportation. Today, strategy is an indispensable construct leading and managing institutions or organisation. Most international development and national development policies are developed from the strategic management standpoint. Mainardes, Ferreira and Raposo

(2014) noted that there are two major problems facing or affecting the understanding or the meaning of strategy concept “the confusion between strategy and effectiveness tool, confusion between strategy and strategy plans.” This maybe because of the lack clear definition of strategy in organisational or management processes. The concept of strategy is preeminent in understanding of the process of strategic management. However, organisational or institutional management has been used and is being used in different ways. Therefore, to establish a comprehensive understanding of what strategy lays down the connection with the knowledge economy. Strategy can be perceived as “*the method of achievement, a planned operation in the execution of a project. a match between the organization’s internal capabilities and its external relationships*” (Katsioloudes, 2006, p. 13). The underlying understanding of this definition is that strategy is a process which has to do with step-by-step activities.

These activities deal with fundamental organisational modernisation. Here, knowledge economy indicators such as technology, research and innovation play a significant role in strategic governance. There are also the “internal capabilities” in the development of strategies as a result of constantly changing knowledge environments. It also deals with “development of systems.” Knowledge-intensive organisations and industries which are in the permanent process of system change management for effectiveness and efficiency in the production processes as well as total quality assurance (Bejinaru, 2017). These are systems that determine the functionalities of the organisational structure and the appropriate organisational culture which inform a normative behaviour with ethical underpinnings. System innovation is very important in strategy implementation. The improvement of the overall strategic content and process is also to keep the organisation on track in ensuring pertinence and good governance practices (David and David, 2017). In this light, strategic innovations are informed by institutional regimes and incentives which play a key role in maintaining system (Chen & Dahlman, 2006).

From this perspective, strategic management is the process that analyses the internal and external environment as means of directing programmes and activities (Bejinaru, 2017). Strategic management process can consider an organisation as learning, knowing and adaptive system because the strategic processes act adaptively and proactively to institutional disruptive dynamics. Knowledge economy significant is in informing strategic management formulation and implementation processes within a complex higher education knowledge system with the superimposed structures (Kadir, 2012). It also creates and direct strategies and execute strategies for the satisfaction of its stakeholders. All these plans and patterns follow the strategic management process of environmental scanning, strategy formulation, strategy

implementation, strategy monitoring and evaluation (Stukalina, 2014). Strategic management at this dimension deals with the formulation of plan of action, identification and analyses of needs. Determining objective and goals into a working document. The implementation seeks the practical realisation of the strategies or programmes or course of action to achieve the intended results or objectives. These processes are to assure that there is effectiveness, efficiency and pertinence in institutional management (Mondkar, 2010).

Strategic management is a systematic approach to general management in terms of institutional positioning, action and the environment to ensure success and security challenges (David & David, 2017). Moreover, one of the major roles of strategic management in organisational development is the competitive advantage and change management design brought by extramural environmental forces. Organisation and institutions that adopt strategic management model also have the policies of differentiation and diversification in ascertaining pertinence, opportunity and sustainability in institutional management (Kadir, 2012). The main concern are streams of rationalised decisions and actions in corporate governance and strategic operations. Institutional corporate strategies mapping industrial lines for knowledge production and dissemination. This refers to choices made by management and this decision are implemented through the action plan which contain a catalogue of activities and tasks to middle management and lower management. In the higher education realm, faculties and departmental programmes and activities are simply the practical interpretations of the institutional corporate policies. These strategic decision and actions at the top management level are developed as means of attaining organisation's objectives, vision and missions. Here, Institutional brand image is highlighted through scientific and technological outsourcing and knowledge visibility (Mondkar, 2010).

Methodology

The research design used in this study was an exploratory research design. Exploratory research design is a "broad-ranging, purposive, systematic, prearranged undertaking designed to maximize the discovery of generalizations leading to description and understanding of an area of social or psychological life. Such exploration is, depending on the standpoint taken, a distinctive way of conducting science - a scientific process - a special methodological approach..." (Hunter et al, 2019, p. 1) Exploratory research design was used in this study to obtain an in-depth data or understanding of the responded perceptions of knowledge economy and strategic management performance in Cameroon's higher education. This qualitative research strategy permitted the researcher to use multiple sources of data collection such as: interviews and documents analysis.

It offers an in-depth understanding of the case, process and implicational changes (Kumar, 2011). An unstructured interview was conducted based on the three main *concepts*. This approach was chosen because it allows for the respondents to construct knowledge based on how they understand the concepts and context of the study. This is term constructive because the interviewee is allowed to express his/her views with the researcher orienting the development of the phenomenon (Kumar, 2011).

The data were collected through a scheduled face-to-face interview which range from 20 to 50 minutes and document survey involves policy documents. Based on purposive sample 9 participants, made up of a research student (RS), 5 lecturer-researchers (LR) and 4 Middle and senior administrators (ADMIN) drawn from the public and private universities in Cameroon. This population was selected because they are engaged in institutional knowledge-intensive activities, academic programme development and management. Attention was not pay to the number of transcripts because, the focus here was on the density of the interpretative content of transcripts and not the statistical descriptive categorisation. The hermeneutics-interpretative analysis is a constructivist paradigm was used in analysing qualitative data (Doh, 2015). The statements, utterances, perception and opinions of subject in natural setting can be understood based on how they convey meaning and construct reality in their environment The researcher assumes a “critical and self-reflective posture toward the study.” The “situatedness” of the interpretation help the reader to understand the phenomenon (Kumar, 2011).

Presentation and discussion of Findings

In this section we present and interpret the qualitative field data on human development, research and innovation, ICTs infrastructure development in public and private higher education institutions in Cameroon. These data were presented based on the hermeneutic-interpretative approach. This approach is used in analyse qualitative field data from the respondent natural viewpoints. The transcripts are labelled: administrator (ADMIN), lecturer-researcher (LR1, LR2) research student (RS)

a) Capital Development (HCD) Promotion and Development of Competences and Value Creation Skills in higher education

The ADMIN1 remarks from the opening line that there is improvement in competences and value creations skills development with statement “*now more than it used to be.*” He cites department like “*tourism. Bilingue and English*”. In the tourism students are training in hospitality industries. This deals hotel management other skills. The department of bilingual studies train

students with aptitudes in translation and English in communicative skills are transmitted to students. He notes that they are “still unsatisfactory”. That most of these departments still have course which are more ideological rather than professional. These departments are not fully practical in their training. **LR1** in his own perspective thinks that the skills and competences transferred to students do not create value for he considers value creation to mean “**addressing personal needs**” and “**resolves societal needs**”. This means that skills and competences do not match the needs of the students and that of the labour market this view corroborates (Teneng, 2016), He underscores that we still facing problem in our community because knowledge produces are not relevant to the context. The value creation is not “problem oriented” if it where we would have gone beyond our present stated. **to LR2**, value creation competences are one of university and department objectives. The university and faculty discussion on the development and promotion of value creation competence, but lack “*palpable measures*” to address them. This means there are no institution frameworks to ensure practical implementation of this strategic objectives. The institutional environment is not conducive to promote values creations core competences. **RS** thinks that there are “*quality human resources*” in Cameroon, but the problem is at the level of the human resource management. He believes that there should be “*transformation and transmission of competence in human capital development.*” In the course of this process government and other stakeholders should report the human capital development with “*honesty and accountability.*” There should be loyalty and love in the interrelationships and “*intercommunication*” between stakeholders. There should exist intercommunion process in human capital development for an individual and the human capital of the state. There should be genuine efforts made by educational administrators within higher education institution to enhance relevant knowledge, skills and competences development.

b) Professionalisation Programmes, Profession Internships in Competences Development as Human Capital Development Strategies

ADMIN2 observes that Internship programmes are most practised in professional programmes. In FALSS there are internships programmes in some departments. This means there are institutional developments towards professionalisation as departments are gradually developing professional programmes but are limited in the faculty of science. **LR1 says** there have been attempts to development professional programmes in the faculty of sciences, from the lecturer experience the nature of the programmes were not good. He says “**there are institutional blockages.**” These blockages can be at the level of mentality toward professional education or within structural set up of the faculty that is still predominantly classical in nature. He thinks that the

internships could have been ways promoting research and entrepreneurship, for the professional programme be materialised. *LR2* highlights that the implementation of internship as an institutional policy for innovation strategies is effective in the faculty of education. This indicates that internship is part of the education curriculum in the faculty of education. Here professionalisation of training is taking place as opposites to other faculties where the process is very low. He noted “a kind of professionalisation” meaning, it is not fully developed yet. But there have outline the modalities of the internships that a student must fulfil. For *RS*, there overall academic internships and professional environment is “*unfriendly*” to the student. There is poor “*monitoring or supervision at institutional level when come to internship*”. The students turn to do internships just to fulfil academic requirements. This kind of organisational behaviour and culture cannot foster effective competences as an element of human capital development. the institutions, the industries and business organisations work to provide students with internships opportunities that permit to develop competences and skills which lead to value and wealth creation within the institution and the society at large.

c) Perception Of the Present State of Lecturers Commitment to Human Capital Development

ADMIN3 thinks that not all the lectures are committed. He goes ahead to use the metaphorical expression “*solution bearer*” to indicate that committed lecturers are those who believe that they are the solution provider of their university and society. Continued by noting that you have to “*inspire*” by making a different. These are qualities of a “*transformation leaders*” who want to inspire his follower. However, he indicates that some of these lecturers are looking for living without caring about the need of the students. They are concern about their “*pay package*” and work coverage without caring about the real needs of the students. there is lack of organisation commitment which some university lecturers are bounded by normative engagement against affective engagement which some of these lecturers have. From *LR1*, there are practical indicators to show that lecturers are highly committed. This is mostly personal motivation, when you compare with what they produce and the working conditions. The working conditions of lecturers in the University are not favourable for the performance expected from them. The lack of

“*Internet facilities*” in their offices, there a lot of dissuasion from the university management. In this context “*dissuasion*” means failures for the university management in providing staff with facilities that they need to perform their duties. Some of them go as far as spending from their pockets to furnish their offices as well as providing the teaching tools which is the university responsibility. Some goes as far as providing internet services to

students. This expresses their level of commitment in improving university teaching and research. **LR2**, in the faculty of education commitment is experienced due to monitoring by the hierarchy. This shows that the deans and heads of department monitor the effective presence and teaching of lecturers. This monitoring strategy enhances quality teaching and training of students. This also makes the lecturer to be more performant in work. There is normative engagement in institutional commitment here even though some of the lecturer still express wayward culture. For **RS** Human capital development within the university from the strategic perspective must be considered in three dimensions which are administrative, academic and students. The institution must clearly define the *raison d'être* of "**human capital objectives**" of its human capital development, and type of the human capital each of the human capital have its specific pertinence and efficiency in institutional functional and relations.

According to this ADMIN "*The social capital would mean who knows us, with whom do we collaborate in order to establish that strong knowledge economy.*" The knowledge of external stakeholders enable the institution and institutional administrators to collaborate and establish strong knowledge economy. Social or relational capital is very important in the strategic management of organisations. Higher education leadership must work to improve and create social capital for dynamic interactions. Also, "*organizational capital*" is an important component of intellectual capital. The intangible and tangible assets of an organisation ensure productive and value creation of the organisation. The participant thinks that as far as "*the human capital is concerned, we follow the norms of higher education*" his institution respect higher education norms. His perspective his regards human capital as human resources because he further says, "*We recruit people based on our own internal policies to ensure the effectiveness of the human capital. We believe in searching for that good human capital, the ability to share knowledge, the willingness to share the knowledge, and the availability to share that knowledge*" here, there are a number of practices in which his institution practice in term of knowledge sharing, this reveals the operational component of human capital. The effectiveness of strategic management relies on the dynamic capacities of the institutional human capital in knowledge production and dissemination. The participant further thinks that "*to build on human capital, should be humble enough to be able to learn, to be able to share, and to be able to transmit knowledge.... your ability, your willingness means that there is the volition of the teacher to apply. Then we test the ability. Is that teacher able to disseminate knowledge*" the human resources an organisation should have the capabilities to learn and share knowledge. In the knowledge economy continuous learning and knowledge share are key

strategic insights for institution wealth creation, innovation, productivity and competitive advantage. Human capital development and management requires institutional management to anticipate willingness, ability and dissemination potentials of its human resources.

To this participant *“Human capital.”* Can also be consider as *“Human resource, Human resource”*. He highlights that *“we have a policy to build people, give people the opportunity to improve on themselves,”* this implies his institution has an internal policy of professional development. Institutional policy of professional development is a critical tool in enhance operational human capital and organisational performance. Human resource practice from the professional development perspective stimulate innovation and change management through the generation of new ideas. This leads to institutional continuous improvement and competitiveness. To him, *“everybody is seen as a resource person in their respective areas...a resource and a capital.”* the perception of workers as resources and capital is very important because it enable the management to invest on the personnel. This investment on the human capital will generate transformative value which ensure organisational sustainability. Therefore, higher education institution in the knowledge-based economies especially in Africa must consider the entropic thermodynamic of human capital as resource which strategic deployment of national policy. As component of intellectual capital, human capital has an institutional incremental dimension to institution strategic management performance.

The Development of value creation core competence and skills is key in the management of human capital as strategic performance management instrument in an organisation. Human capital is considered as the “tangible” and “intangible” assets of an institution which must be managed and developed optimally in order to guarantee competitive advantage in the knowledge environment. Bejinaru (2017) thinks that Universities in knowledge economy need to carefully manage and develop their human capital so as to be relevant to their immediate context. In this light, the institutional ambidexterity in human capital development must adopt the three dimensions of human capital (administrative, academic and constructive capitals) in exploitative and exploratory strategic performance (Khattak et al 2021). This pertinence will exert strong attraction and create more opportunities from the external stakeholders. In this, perspective. Bejinaru (2017) thinks that higher education operates to support knowledge drivers of economic growth in terms of: Capacity building through the in-service training of a qualified and contingent labour force these proactive labour force includes high-level scientists, Professionals, technicians (industrial human capital), teachers for basic and secondary education and future government officials (administrative and

academic capitals). Develop Capacity to generate new knowledge (Constructive capital) for institutional use and reuse. The dynamic capacities to access existing sources of intranational and supranational knowledge and adapt the two endogenous usage (Njebakel & Teneng 2017). The transmission of institutional norms, wealth and values acquisition, cultivate attitudes and behaviours which are foundations of social capital in building cohesive cultures and democratic society (Social capital development). Therefore, Training and developing students and staffs' skills with core human competences such as emotional intelligence, resiliency, communication skills (Teneng, 2016) and teams' spirit with help improve the internal organisational efficiency of university system. Efficiency in the university human capital development system will guarantee sustainable performance in strategy management. consequently, the production of f context relevant ready human and social capital will outsource sustainable economic development inputs and corresponding elasticity in the supply of social efficiency (Khattak et al 2021).

d) *Higher Education in the 21th Century, Innovations, Building University Innovation Ecosystem*

ADMIN3 believes that it does and he does have idea but think that some departments offer internships to its students which is form of community engagement. Apart from these internships their relationship between what the university does and society is quite limited. This striking, policies documents for higher education demand from the university to develop the third mission and being more involve community development but the results from the institutional actors is evident that policies implementation in light is not effective. **LR1:** in this faculty research is mostly within the research teams, there are no animated programmes that are institutional. It shows that there is need for collaboration to build a research and innovation ecosystem, the fragmented nature of the research teams within the university and faculties cannot lead to an effective competitive knowledge production. **LR2:** Research and innovation at the institutional level still demand a lot of investment from the institutional management and there is equally the need of sustainability management of the current research infrastructure. Innovative research for development can only thrive in a conducive environment where there is technological flow of information and knowledge. The absence of technological infrastructure for research and innovation will not be effective. **RS:** The provision of these resources is a serious problem in the faculty of science as noted by the RS. He says that a lot is being done but when it comes to research evidence and practice the culture is not well developed. *"Little is exposed"* he goes ahead to elaborate on the need of platform or systems such as the *"knowledge transfer chain"* he talks of *"knowledge producers"*, there is need for reinforcement of knowledge production and transition. There is need for mechanism which for

the decision-makers, state agents, civil society organisations, NGOs and researchers to always converge for exchange. This idea goes line with Cameroon higher education third mission to ensure community development. The objective is for university to produce "*contextualised knowledge*" which address problem and solving real community pressing problems.

e) Rating University When it to Comes Community Involvement, Institutional Programme Encourages Community Activities Which Can Enable Acquire the Values, Identifies the Problem in The Community.

ADMIN 1: The students get in contact with the community through internships. But is limited because it is specialty bounded. But if there was a university Programme to fosters the development of community initiatives, there will be links the knowledge and curriculum responsiveness. There link between what happens in the university and society. This explains the high rate of unemployment. **LR1:** There is no university or faculty programme that promotes community engagement even lecturers do not promote these outdoor programmes. He blames the lack or this due on the funding partners who seem to be orienting research project according their own needs. They promote their ideas; he thinks institution should get more involve in funding research and development projects. This can enable research students to be more involve community projects. **LR2:** He thinks that the university has signed a number of partnerships with difference organisations ranging from civil society and business organisation such as MTN Cameroon, orange Cameroon and AUF. From these excepts, it seems more of cooperation between university management and organisation. He also noted that the lack of university community services which he thinks could be the best way to develop knowledge and identification real societal problems and equally provide solutions to them.

LR4 indicate here that their efforts to creative process in teaching and learning through the development of professional programmes that leads graduates to employability. This means their institutional innovation. He thinks that "*The strategic innovation here is also to ensure that enrolment is open to working professional who want to match theory with practice or who could enrich the program by also sharing their professional experience as part of the learning process.*" Innovation is considered strategic in terms of integrating the working professionals through the creation of framework of knowledge and professional experience sharing as integral part of the programme it is an important perspective in innovation it enables institutions to interaction functional professional this will help explore and exploit knowledge for internal institutional innovations. *He highlights that "the effectiveness of these strategic approach is challenge by the quality of the teaching system."* This means that institutional innovation from the strategic standpoint is challenged by quality of the teaching system this may implies that there are discrepancies created by

bureaucratic system and power structures. These traditional institutional configurations cannot foster effective development of strategic innovations. Strategic institutional innovation in Cameroon university requires a redesigning of innovative organisational structure.

f) Contacts With Industries and Industrial Experts, Researcher: Industry and University Research Relations

ADMIN2: There is difficulty with the students meeting and discussing with industrial experts. He noted that attempts were made, but were truncated by the industrial demands which the university could not filled. There is lack of platform for knowledge understanding between the university and industry. There no progress since then. This evident that professionalisation remains a policy but institutional implementation is ineffective. This ineffectiveness is as a result of the business and industrial environments which are not conducive. **LR1:** He thinks there is gap which the stakeholders have fill. There is no effective collaboration and cooperation between the university and other stakeholders. He believes that research and development is collective effort **LR2:** He thinks the university should develop knowledge exchange and transfers framework. Here, he proposed a kind of a triangular relation just like "the triple helix model." The framework will bring all the stakeholders of the higher education sector to collaborate, orientate, exchange and develop knowledge that is promoting wealth production. **RS:** He observes that relationship between research teams the business community is individualised may be only heads of research teams, noted that there seem to be no link he substantial his declaration with fact that most of the students spent time in the laboratories. From these points challenges face by graduates is most caused by lack of pertinence in institutional programmes and organisational innovations community service.

g) Scientific Conferences, The Faculty or Department Organisation of Scientific Conferences

ADMIN3: Opines that, there are departmental animation research when comes to "*scientific conferences*." The organization of symposia there a lot of academic discussing going on campus. The organisation is very easy but the "*publication of findings*" is difficult is a crucial to innovation but the difficulty of publishing the making the conferences irrelevant as the impacts is not felt immediate. This seems to an organisational problem which concern with the deployment of resources.**RS** The absence of these conferences is due to lack resources, there are institutional policies guiding the animation of teaching and research. There most but available resources that enhance effective implementation. There is also a problem of organisational culture which does

not favour strategy implementation. Human resources are assigned to manage those responsibilities but without accompanying financial align to strategies.

The Development of knowledge transfer and exchange infrastructures as an institutional strategy will ensure effectiveness in institutional management. The availability of knowledge infrastructures will propel the growth of innovations within the university system. These infrastructural developments must take into account the global and national exigencies knowledge management flow. In doing so, the institutional ambidexterity in research and innovation must take the fore building enabling environment with the require innovation instruments and frameworks to guarantee responsiveness in knowledge networks. From the findings it shows that infrastructural development is still timid and far from attending a competitive standards research and innovations. There are some works ongoing especially on digitalisation drive. This can help creates an innovation ecosystem but the ecosystem strategic objectives seem to just to be aspiration. Reichert (2019) thinks that building shared facilities, research centres, science parks for startup and spin- offs will define the university role in the innovation ecosystem.

Cameroon cannot be expecting to emerge in the coming years when the universities which are production centres for knowledge and innovations are lagging in this area (Cabeza-Pullés et al 2020). Scientific research and innovation in Cameroon are facing serious challenge in terms of visibility, consumption, reliability and performance. Corroborating Reichert (2019) view on building an innovation ecosystem Djeumeni (2020) thinks that building more virtual community for professional skill development research can be a salvation to the knowledge competitive drive in Africa. The Promotion and development of community engagement through frameworks of incubators and innovation hubs. These structures are indispensable to innovation ecosystem in that the lectures and theoretical concepts will be more applicable as the students will also have time to practice and develop more innovative porotypes. Community engagement involves a lot of activities. Inventions and initiatives will develop when students move towards their society (Dimitrios et al, 2021).

ICTs Infrastructural Development, Information and Communication Technologies are Effectively Integrated into The University Management System

ADMIN2: He perceives that a lot of works are still done manual which was supposed to be digitally done so as to ensure time efficiency, even the teaching staff, some of the old one do not have mastery of these tools and this keeps the

university backward. **ADMIN4:** in terms of library management the Cameroonian university in struggle acquire or develop adequate digital infrastructures. According this library administrator, they are working with the ICT department in the development of digital infrastructures. Universities without a digital in 21st century cannot be considered developmental university because they lack the digital resources that make them to adapt to the evolutions in higher education knowledge system. **LR1:** It is evident that the ICTs are one of the universities of strategic objectives, They ICTS are integrated into university teaching and management, He notes that platforms are made available to deliver marks and lecture note to students, but the problem is that the university management does not provide internet connection or resources destined these programmes and activities. The lecturers bear the cost of offloading the information with their resources. From this point view, the integration is not fully effective and comprehensive as some halls and offices even administrative offices do not have *"internet connection."* **LR2:** The realities on ground show that a lot efforts are made in higher education and in the University level in particular toward the development of information and communication technologies. But there are myriad of challenging issues that form obstacles to the implementation policy. Some of the steps from human resources challenge with the teaching and management of ICTs tools who are not actually specialist in this domain. Most of them do not have the competences of managing knowledge management infrastructures. The process of the access of the devices, this means there is virtually no provision of these *"devices"* to staff. There is lack of monitoring and the *"accompanying measures."* He proposed the university could organise seminars and workshop to training its staff on the ICTs. It is noted by the second except, there is the issue of digital divide which exist between the old and the younger generation of staff. **RS** thinks that university is promoting the use of ICTs but there is absence of technologies platforms for accessing knowledge and institutional publications. There is lack of innovation when it comes to technological development.

b) The State of ICTs and its Infrastructures Today Can Actually Boost Efficiency Within the University System

RS: thinks that ICTs are very important in the education given the global competition in the business environment however, at the institutional level, there are serious problem when it comes to the practical application of ICTs tools. There is a challenge between research students and lecturers using information and communication technology tools for teaching and research. Some of them do not possess the device. This kind of teaching in the 21st century cannot permit students to acquire skills which can make them more competitive and productive for the labour market (Njebakal & Teneng, 2017).

There is a serious problem with the digitalisation implementation policy at the operational levels of management. Institutional administration has work in enhancing the practical use of ICTs.

c) The Provision of Internet Connection at The Level of The Faculty Effective, Online Supervision Is Effective or Efficient.

AMDIN: The development and the provision of internet facilities is in progress, the access is difficult in some location, the implementation of digitalisation is materialising within the university. There are still structures like the research Centre that do not have internet connection. It is instead the research centres that should have effective and efficient internet connect for researchers. **LR1:** There are supervisors Who carry on online supervision of their students, but some of them still resist working online with students. They want face to-face interactions. This only implies that there is need for departmental and faculties seminars on the development of ICTs skills and competences for academic staff which will permit them to be acquainted with technological devices. Also, the provision of internet connection in offices can equally improve the situation. There are online platforms or groups where create to bring their supervisees together. **LR2** There exist communication channels and tools but these are not yet fully developed. It is evident that knowledge exchange and transfer is quite difficult because the websites inaccessible due to poor internet connection. The respondent thinks that developing these resources will provide opportunities to students and lecturers to improve on their research projects and he also thinks that there is more concern with administrative routines. Ignoring the innovation within the institution. **RS:** The management of platforms and supervision process is problematic as most of the supervisors seem abuse the academic freedom granted to them. The absence of a functional supervisor evaluation system through a coordinated monitoring and evaluation creates a rift between students and supervisors. This managerial discrepancy in supervisor-student relations cannot stimulate efficiency and innovations in the research process. working to improve on this process will enhance collaboration that leads to innovation and scientific progress in university research.

The Effective integration of ICTs into institutional management and the human capital development is a strategic management approaches which build the visibility of the institution. Human capital here has to do skills, competences and technical know-how that an individual possesses in an organisation. University human capital development is in three dimensions (Hadam 2017). This human capital creates wealth of the institutional growth. The development of the competences of the administrative and teaching staffs on the one hand and the development of students' skills and competence provide a potential human capital for the knowledge-based economy. The integration of

information technologies into skills and competences development means providing sustainability tools for economic growth and institutional performance management system (Khoo, 2017).

The development of robust internet coverage with high debit for all the internal system is a knowledge management strategy that will ameliorate knowledge storage and transfer, intended user internal and external environment. Online knowledge exchanges within systems can experience efficiency in knowledge flows when their institution consider communicative ambidexterity strategies in institutional management. Findings indicate that there is progress when it comes to the provision of internet services in the faculties and entire university. But the speed and debit are still far below expectations (Kahreh, 2011). Management has to invest more human and material resources in this direction as means of enhancing productivity in academic and administration processes. The accessibility for students and faculties staffs is very challenging. The findings indicate that most offices and lecture halls do not have internet connection provisions. This makes the use of some devices difficult. The internet is still sparsely distributed on campus. Provision is made available for the devices in offices, but the devices are absence. From this standpoint, financial and human resources are still conspicuous challenges. It is true that, the state is doing something towards ameliorating internet provision and access on campus, but the situation is deplorable for a university in the 21st century. We find delays in administrative processes because some of the programmes are still process manually (Njebakel and Teneng 2017). It is also difficult to access websites and learning platforms because the internet connection is not of good quality. The digitalisation policies are still far from being a reality in the University. An internet flow will ensure efficiency and effectiveness in the management of institutional programmes and activities. The development of digital research communities with up-to-date internet tools will enhance professional supervision and development of research competence of students in higher education (Djeumeni, 2020).

Conclusion

This study focused on the intelligibility of knowledge economy ramification and sustainable strategic management performance in Cameroon higher education where institutional ambidexterity of human capital development, research and innovation for development and ICTs infrastructural development can guarantee effectiveness, efficiency and pertinent of knowledge handling and productivity dynamic capabilities of cybernetics system. Higher education is the brain or the heart of an educational system in terms of developing theories and approaches which contribute to other sub sectors of education as well as, other sectors of national and regional

development frameworks. institutional ambidexterity strategies in higher education help in acquiring an agile competitive advantage in the political knowledge economy where international supremacy in knowledge visibility is becoming more and more the requirement of economic development and measurement of political strength of nations.

Therefore, the focus on higher in this work is to measure qualitative the extent to which higher education can shape other sub systems and propel the countries to sustainable socio-economic development. **“The knowledge sovereignty”** and **“the knowledge providence”** are territories of higher education which provide holistic and multidimensional institutional dynamics in the knowledge society by moulding techno-scientists who will speed technological and social innovations. Ambidexterity in Strategic management guarantees the achievement of long-term competitive leverage or long-term organisational agility. The development of a pragmatic model for strategic management in higher education institution as well as, organisational innovation drawing from the knowledge economy paradigm triggers new perspectives into the institutional strategic management concept. It also informs policy makers of the shortcomings within institutional system.

Recommendation

This study x-rayed the major frameworks of knowledge economy in which three indicators from the comprehensive frameworks was adopted as an approach for sustainable university strategic management performance in Cameroon higher education. It was noted that the implementation of national and institutional policies at the faculty and departmental levels is faced with many challenges. Therefore, we believe at this juncture that, for state universities to become entrepreneurial, Research and developmental universities for the knowledge society, the institutions must adopt an ambidextrous strategy for human capital development, research and innovation for development and ICTs infrastructural development for an efficient and sustainable strategic management performance. The institutions have to build an effective framework for the transformation and commercialisation of research findings which will boost research and development. They should also facilitate with concrete action the university industry relations. Develop institutional policies on community engagement from students-researchers orientated programmes. This will improve teaching, research and development. Improvement on grants to research and innovation for students and create an effective institutional excellent promotion scheme for innovative research which can propel institutional endogenous growth. These will create competition among research students and lecturer-researchers leading to excellence in institutional research and innovation practices.

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