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The Moderating Effect of CUE Guidelines on Innovations in Technical Public Universities

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Abstract:

Public technical universities are mandated to teach, conduct research and undertake community outreach through innovation. Due to high enrolments and inadequate resources, Public Technical Universities are viewed as offering low quality education devoid of research and innovation, hence incapable of driving vision 2030 and National development agenda. The purpose of this study, therefore, is to investigate the moderating effect of cue guidelines on innovations in technical public universities. The study is guided by Goal setting theory developed by Locke and Latham in 1979. The study utilizes the philosophical and methodological positivism paradigm and specifically employed explanatory survey research design. The target population comprised Technical University of Kenya and the Technical University of Mombasa. Responded totaled 20000 and a sample size of 377 was obtained as determined by the Krejcie table for sample size. Primary data was collected by use of a questionnaire whose reliability and validity was affirmed by Cronbach Alpha co-efficient and pretesting respectively. Data collected from the field was analyzed by use of multiple regression and Factor analysis. Data was analysed as per the study objectives and presented in tables. The study established that Performance contract target setting, implementation, monitoring and evaluation had statistical influence on innovation. Further the study found out that the CUE Guidelines and Standards 2014 significantly intervened the relationship between Performance contract setting, implementation, monitoring and evaluation in respect to innovation. The study therefore recommends that Performance contracting should be strengthened in public technical Universities. Similarly Public technical Universities should strictly conform to the CUE Guidelines and Standards 2014 as they were capable of increasing innovation and improving performance of public technical Universities.

Keywords: Performance, contracting, innovations, public, technical, universities

1. Introduction

Performance Contracting (PC) is a branch of management science referred to as management control systems and is a contractual agreement to execute a service according to agreed-upon terms, within an established time period, and with a stipulated use of resources and performance standards (OPM,2012). Performance Contracting is one element of broader public sector reform aimed at improving efficiency and effectiveness, while reducing total costs (Domberger, 1998). A Performance Contract constitutes a range of management instruments used to define responsibilities and expectations between parties to achieve mutually agreed results. It is a useful tool for articulating clearer definitions of objectives and supporting innovative management, monitoring and control methods and at the same time imparting managerial and operational autonomy to public service managers. It is therefore a management tool for ensuring accountability for results by public officials, because it measures the extent to which they achieve targeted results (Greer et al. 1999).

Employers view Performance Contracting as a useful vehicle for articulating clearer definitions of objectives and supporting new management monitoring and control methods, while at the same time leaving day-to-day management to the managers themselves (Mwiti et al, 2013). Many organizations have, in recent times, faced turbulent and rapid changing external condition. These have translated into complex, chaotic, multifaceted, fluid and interlinked stream of initiatives affecting work and organizational design, resource allocation, systems and procedures in a continuous attempt to improve performance (Huczynski & Buchanan, 2004).

As a response to this, organizations have embraced Results Based Management (RBM) approach in order to survive the organizational turbulence occasioned by externalities. RBM calls for a major change in perspective where managers are required to define expected results, set targets, measure performance regularly and objectively, gather and

interpret information, make reviews and improve efficiency and effectiveness. The integration of strategic management and Results Based Management has necessitated the introduction of Performance Contracting as a mechanism to ensure effective implementation of strategies to realize desired performance. Performance based contracting has been identified by both the private and public sectors as an effective way of providing and acquiring quality goods and services within available budgetary resources, (Kobia & Mohammed, 2006)

GOK (2007) summarizes the objectives of Performance constructing as improved service delivery; improved efficiency in resource utilization, institutionalization of performance-oriented culture in the public service, measurement and evaluation of performance; linking rewards and sanctions to measurable performance; retention or elimination of reliance of public agencies on exchequers funding; instilling accountability for results at all levels and enhancing performance. Performance Contracting falls under performance management whose major focus is the establishment of a shared understanding about what is to be achieved, how it is to be achieved as well as an approach to managing people in a way that increases the probability of achieving success within an agreed framework of planned goals, standards, individual and team competence requirements (Armstrong & Baron, 1998).

Performance Contract started in France in the 1970's as quest for better performance of public enterprises. In Asia, the Performance Contract has been used in Bangladesh, China, India, Korea, Pakistan and Srilanka. In Africa, Performance Contracting have been implemented in Benin, Burundi, Cameroon, Cape Verde, Congo, Cote devour, Gabon, Gambia, Ghana, Madagascar, Mali, Mauritania, Morocco, Niger, Senegal, Togo, Tunisia and Zaire. In Latin America, they have been used in Argentina, Brazil, Bolivia, Chile, Colombia, Mexico, Uruguay and Venezuela (Kobia & Mohammed, 2006). The outcomes of performance contract have been varied. Experience from The New Zealand indicate that performance contract has be concerned not only with structures and systems, but also with roles, responsibilities and relationship in pursuit of performance improvement, improving the system as an evolutionary process, and the environment within which public sector management takes place.

This has enabled the performance system show pleasing results and assist managers of organization improve their performance (Smith, 1999). In China, the targets were set, support resources provided and both parties were committed to implementation that yielded economic growth. (Shirvley & Xu, 1988). These studies focus performance on economic measures. In Swaziland, public sector was confirmed as financial and administrative burden to the government. Performance contracting was adopted. However, it failed to achieve the stated objectives. This was due the widespread use of consultants from developed countries to develop plans and determine mechanisms for monitoring (Musa, 2001). The underlying assumption driving the Performance Contracting concept is that once performance can be measured and performance shortfalls identified (including non-performance), actions can be taken to address the shortfall (Jones & Thompson, 2007). Measurement of such performance is possible only when specific target has been set and measuring parameters developed. The current study seeks to establish if performance contract has stimulated performance of public universities, through increased innovations.

Improved performance of Universities that yield an increase in customer satisfaction index, improve service delivery and address societal challenges would stand out and immensely contribute to national development.

In an effort to achieve the objectives and targets of ERS and to manage performance challenges in the public service, the government adopted Performance contracting (PC) in public service as a strategy for improving service delivery to Kenyans. Performance contracting was first introduced in Kenya, in the management of state corporations in 1989 as a way of responding to the needs of the taxpayers. This was against the backdrop of the government's key priorities of implementing and institutionalizing public sector reforms that would lead to an efficient, effective, ethical delivery of services to the citizens (Mwiti et al, 2013). A Parastatal Reform Strategy paper, approved by the cabinet in 1991 was the first official recognition of the concept of performance contracting as part of the policies that were recommended to streamline and improve the performance of state corporations. These policies included liquidation of non-strategic parastatals, contracting out commercial activities to private sector, and permitting private sector competition for existing state monopolies. Further improvements were seen in the creation of an enabling environment for all strategic parastatals including removal of all conflicting objectives.

The enactment of the Universities Act No. 42 of 2012 repealed the individual Universities Acts that gave universities their legal existence. The new act required that all universities are given charters. Public universities, which fall under state corporations, are funded by the exchequer and their core mandate is research, education, training and extension (outreach) that leads to innovation which informs development. This underpins the fact that education and research have been identified as key to poverty reduction and national development. Public universities are therefore expected to fulfill their mandate in an efficient manner.

To achieve this, Performance Contracting has been adopted by public universities. Performance Contracting is seen as a tool for improving public budgeting, promoting a better reporting system and modernizing public management while enhancing efficiency in resource use and effectiveness in service delivery (Greiling, 2006). Yet again to inform development, confront societal challenges and drive Vision 2030, public universities in Kenya are required to be innovative. Such innovations should transform universities into active pace-setters in matters development and dealing with problems of modern society.

Innovation can be described as the process of translating an idea or invention into good as a service that creates value. For it to be innovation an idea must be replicable and fulfill a certain purpose. In application, innovation entails a thrust of information, imagination and initiative in creating better utility of resources and encompasses all process by which new ideas are created and converted into useful products. Innovation can be seen in the various types thus product, process, market and organizational innovation.

Innovation is identified a major input and determinant of productivity and growth. Generation of new services and goods in addition to improvements in methods of production and other aspects of management practices allow organizations to improve efficiency. Muresan and Gogu (2010) note that the basic challenges the academic environment face in the current knowledge economies is to create synergy between political policies, government and labour market dynamics. A knowledge-based economy is a product of dynamic interaction between life-long learning, research and innovation and technological infrastructure. It is thus factual that technology and research are key factors in innovations. This brings public universities into focus since they are required to be citadel of innovations.

2. Theoretical Review

This study was be guided by Goal Setting Theory (GST) developed by Latham and Locke in 1979. The theory states that motivation and performance are higher when individuals and organization set specific goals, when goals are difficult but accepted and when there is feedback on performance (Armstrong, 2005). Goals have a pervasive influence on employee behaviour and performance in organizations and management practice (Locke & Latham, 2002). Based on a number of studies, a goal setting is important since individuals who are provided with specific, difficult but attainable goals perform better than those given easy, non-specific or no goals at all. At the same time, however, the individuals must have sufficient ability, accept the goals and receive feedback related to performance (Latham, 2003). Such feedback should be in tantem with the set goals.

In Performance Contracting, the targets are freely negotiated based on the set criterion, and the following principles can be identified: the manager ensures consistency of the goals to determined organizational objectives; the manager establishes performance goals in line with organization strategic plan; benchmarks or performance indicators are determined; periodic evaluations are undertaken as previously agreed and information shared between employees and managers for feedback. Marsden (2004) notes that Goal Setting Theory places little attention on rewards as the employees are believed to be motivated by clearly defined goals, participative and appropriate work. This idea fits well into Performance contracting process which envisages sanctions and rewards in relation to performance. Motivation is higher when goal setting is an all-inclusive process, allowing interaction and consensus across the organogram.

Studies that have been undertaken to evaluate the relationship between goal-setting and performance indicate that indeed goal setting energizes behavior, creates ownership and clarity of vision hence leading to improved performance of employees and enterprises. A public University viewed as an academic enterprise, sets goals that are informed by its mandate that is education, research and innovation. Such goals are operationalized through academic and non-academic department, directorates and its employees. The success of the enterprise shall thus be determined by how well the goals were formulated, implemented, monitored, evaluated and feedback provided as envisaged in the performance contracting process. Despite the relevance of the goal-setting theory to the study, Musiega (2014) notes that its limitation as a theory can be identified when the organizational goals are in conflict with managerial goals and very difficult and complex goals end up stimulating risk behaviour. The limitations are also evident if the employee lacks skills and competencies to perform actions essential for the goal, then the goal-setting can fail and lead to poor performance, and attendant frustration.

Goal Setting Theory (GST) informs the present study on the premise that Public Universities as state corporations are bound to set their goals, identify requisite resources, assign task and responsibilities and conduct reviews periodically for feedback. Ultimately, this gives information on how PC has helped Public Universities improve their performance, which is anchored on research and innovations.

Again, the PC process that includes negotiation, vetting and evaluation of goal set by public agencies, would enable universities set realistic and tenable goals based on their unique scenario and strategic plans. The strength of the goal setting theory is also based on its focus on measurable outcomes envisaged in the set goals. University rankings and standings, locally, regionally and globally are based on identifiable, measurable outputs, in which case, innovation is given its due place.

2.1. The Concept of Innovation

Olabisi et al (2010) define innovation as the significant changes made to products, processes or service that makes them new. Drucker (1985) view innovation as part and parcel of strategic actions implementation that improves organization performance. Innovation purpose is to provide a basis for creating modern business with adequate monitoring mechanism, value addition and reduced risks. Innovation is critical in improving performance of an enterprise, which is seen through increased profitability and market share growth (Fagerberg et al 2006).

Innovation is by and large an essential input for competitiveness as it improves organizational structures, processes, product and services. Innovation enhances an organizations strategic orientation to overcome the problems they face within working to achieve sustainable competitive advantage (Kuratko et al 2005). Innovation has great commercial value resulting from its capacity to increase the efficiency and profitability of organizations.

According to Fagerberg et al (2006), the motivating factor for innovativeness is the need of firms within an industry to achieve higher performance and increased competitive advantage. It is thus notable that enterprises obtain increased competitive advantage and market share and dominance according to the importance they give to innovations. Yet again such innovations should increase customer satisfaction, efficiency and enhance cost-effective service delivery.

OECD Oslo manual (2005) introduces four different types of Innovations. These are product innovation, process innovation, organizational innovation and marketing innovation. Product innovation entails a greatly improved good or service in terms of specific use characteristics, which may include technical aspects, components, materials, easy usability

or consumer expectations. Process innovation is the adoption of improved production or delivery methods that results in reduced unit cost of production or delivery. Organizational innovation encompasses new methods in the enterprise business practices and workplace structuring. Marketing innovation strive to address customers' needs in a way that meets their expectations. It focuses on opening new markets or positioning products in a market in a way that increases sales, visibility and access to users and customers of product or service. Similarly, it makes it possible for quick exchange of consumer information.

The concepts of performance contracting and Innovation are important mediatators and variables in this study. This is because performance contracting as a management tool can spur innovations, as a core mandate of a University and this would result into improved performance. Shisia et al (2014) notes that innovation in Kenyan public universities can be seen through new programmes, operationalizing open learning, aligning academic programmes to vision 2030, online access to results, online student clearing, automated school fees payment system, increased and visible corporate social responsibility, public private partnerships, branding, increased research output and marketing, among others.

The expansion of University education in recent years is one reason that has led to increased costs and growing interest on who should bear the greater burden between the government and individual. On the other hand, who should pay the price between the government and research consumers when it comes to research funding. The financial burden brought about by University education brings about the issue of cost sharing and the balance between individuals meeting the cost and the cost being borne by the larger society seen through public funding (Woodhall, 2007).

Kuratko et al (2005) argue that innovations provide organizations a strategic base to deal with the challenges they face as they move towards achieving competitive advantage. Innovation cuts across the organization spectrum of products, processes, marketing and the organizations of business. Similarly, innovation enables profitability resulting from efficiency in the general way of doing business. Fagerberg et al (2006) points out that the main purpose of innovativeness is the need of firms to realize increased performance and an enhanced competitive edge. Organizations obtain more competitive advantage and market leverage according to the value to attach to innovation, which ultimately are key inputs for organizations to build a reputation with the public and customers in the sector and hence increase their market share. Public universities in Kenya are not immune to this since they have products and services to sell and operate in a sector that is full of competitive from private and foreign universities.

Unmet needs always present an opportunity for business growth. This is because business is anchored on customer and market needs. Mbwesa, (2009) explains that the number of adults seeking opportunities for higher education increased tremendously in recent times. This set into place distance learning programmes whose objectives was to provide opportunities for adult Kenyans who were unable to find places in existing internal faculties of public universities. The unique aspect about such programmes was the possibility to access education out of the lecture halls because the course is brought to the student who don't need to journey to classes every day. Again, flexibility enabled adult learners to determine the pace of the programme. As evident, such programmes were meant to tap into the unmet needs to adult learners. Curiosity is also a major driver of innovation. Curiosity stems from environmental scanning where there is a visible supply and demand variable. Currently public universities in Kenya have engaged in curiosity driven income generating and research activities.

For example, Egerton University has delved much in farming and livestock production, also a core component of their activities and corporate identity. Elsewhere the University of Eldoret has come up with a partnered initiative of fish and fish actuary.

Similarly, curiosity has seen the Jomo Kenyatta University of Science and technology is the first University in Kenya and perhaps in sub-Saharan Africa to assemble a computer. This example alludes to the fact that curiosity is capable of driving innovations in public universities

Visualization is also key to innovation. Visualization is embodied in vision statements that are consciously designed to spur and concretize the dreams of an organization. Simiyu (2012) identified that documented vision statements were important resource factors in performance contracting. Vision statement captures and visualizes the aspirations of an organization. Public universities have diverse visualization as depicted in their vision statements. This creates a focal bias as some drift toward technology, business, law or marine sciences. The prestigious Harvard School of Law has cut a niche for itself in the field of legal studies. The essence of visualization is that innovations are confined within the realms of such specializations as captured in vision of the University.

OECD (2008) identifies barriers that hinder innovation in higher education. They include markets, governance, political management or risk, investment in educational research and development, quality of research and development, knowledge management, teacher motivation, school climate and the private demand for innovations. Gathai (2009) states that innovation affects corporate performance through production of improved market position and leverage. Markets have the capacity to influence the type of product and the processes that are adopted. Higher education produces for the labour and industrial markets. Labour markets come in when the skills embodied in the graduates can find a place in the market. Industrial because some of the investigations should propel industrial growth and higher output. However, a market slump or staticity will slow down innovation as the status quo in the market is maintained over a very long period of time. For instance, of the market encourages face to face mode of delivery, then there would be very minimal process innovations in public universities, that embrace technology.

Governance is another barrier to innovation in public Universities. The working climate that the leaders and managers create is one great factor that influences the success of the organization total innovation effort (Pranther, 2010). Leadership thus ensures that the employees and all participants are continuously challenged and consistently involved in innovative processes and culture development.

2.1.1. Process Innovation

GoK (2007) states that some of the outcome of the introduction of performance contract includes improved service delivery, improved efficiency in resource utilization, institutionalization of a performance-oriented culture in the public service, and measurement and evaluation of performance. The raft of these expectations is anchored on a well-staffed, equipped and motivated human resource component that is objective and result oriented. This also requires a change of attitude and an overhaul of the lax public service culture. It tasks all employees across the board to take responsibility and work for expected results. Mello (2015) proposes that effective management system requires employees and supervisor to work together to set performance expectations and parameters, review results, asses organizational and individual needs and plan for the future. Armstrong (2000) agrees that strategies for managing performance aim at achieving increased organizational effectiveness, better results for individuals, team and higher levels of skill, competence, commitment and motivation. These tenets revolve around the employee as a resource.

Towards this end, the Kenya government introduced performance contracting where goal/target setting and cascading of target involve individuals, teams and departments and the entire organization. Kinanga (2013), quoting Akaranga, 2008 illustrates that performance targets come from institutions and they are freely negotiated. At the organizational level, a staff member and manager agree on the work and responsibilities of the staff member's position. The plan will also set out how the staff members are measured or evaluated against targets or set objectives. These again are demarcated with clear time-frames.

2.1.2. Product Innovations

Bomett et al (2014) reports that in Australia, studies show that there have been major reforms since 1990s, such as the University Organization Act in 1993 which delegated many responsibilities from the ministry to institutional level and in 1997 evaluation of quality assurance became compulsory. Citing Rhoades and Sporn (2002) Bomett further asserts that the Australian parliament passed the University Act, as a comprehensive law that redesigns most areas of higher education including studies, employment, organization and budget to make Australia's education more competitive in July 2002. It's further revealed that Australia University Act is built on four cornerstones; authority, performance contracts, global budgets and University boards.

Bomett (ibid) notes that granting universities autonomy makes them more independent and thus turns into state corporations. Fanelli (2009) cited in Bomett et al (2014) asserts that governments in countries like Argentina, Brazil, Mexico allocates a small portion of total budget (about 5%) to public universities through formulate funding based on input like number of fulltime students, faculty, staff, infrastructure in undergraduate and graduate courses. Such courses and supportive infrastructure are results of appropriate innovations. The implication of static number of courses would be an automatic cut in funding. Formulate funding is also based on performance indicators such as faculty with post graduate degrees, student drop-out and quality of postgraduate programs. Such function is critical to the standing of the University and makes the University visible. Further, Bomett (2014) asserts that the success of Performance Contracts in France, Pakistan, South Korea, and Malaysia has sparked great interest in the policy around the world. Governments are currently implementing policies using this approach to improve performance of public enterprises.

The Times Higher Education Supplement, October, 2006 of the United Kingdom asserts that global phenomenon of change within the education sector is moving towards improved productivity and accountability, through performance related working environments. Academic visibility of universities can be seen through quality and quantity of research output, innovations and market oriented programmes. Universities have to re-invent and strive to fulfill their mandates albeit with higher efficiency and effectiveness. With decreased funding against increased enrolment and diverse labour market needs, PC comes in to facilitate appropriate target setting, monitoring and evaluation of performance. The 10th cycle of Performance Contracting guidelines for the financial year 2013-2014 for universities identify a criteria category called outcomes aligned to MTP II and sector performance standards. Such outcomes include increased admissions in engineering courses and ICT. The unit of measure is percentage. Performance Contracting Guidelines on the vision 2030 project indicators outline the role of Universities and Tertiary Educational Technical Institutions in facilitating the realization of vision 2030.

Vision 2030 proposes intensified application of service, technology and innovations to raise productivity and efficiency levels across all pillars. It is the role of universities to act as incubation hubs for research and development by raising the quality of teaching, research and related matters and collaborating such findings with industry and community. To fulfill this the institutions are required to: identify and develop areas of enhancing technology and innovation; develop incubation hubs for science and technology related studies; redefine curriculum to meet the needs of vision 2030 in the areas of science and technology; provide advanced training in science and technology; seek linkages with the private sector to test the incubation ideas; strengthening post graduate training in science and technology; coordinate all innovation ideas through the National Council of Science and Technology; involve KIPi for protection of science and technology. These activities promote the culture of product innovations. Public universities have complied with these requirements and enhance this culture through strategies captured in the PC such as: increasing the number of student admissions in ICT and related areas; increase in number of PhD degree graduating students; percentage increase in number of 1st degree holder in Science and Engineering; increase in the number of research proposals funded; increase in the number of institutional researchers; increase in the number of international students; increase in number of linkages and collaboration; improvements in the web metric ranking of world universities. All this strategy is driven by product innovations.

Product innovation involves a good or service which is greatly improved in terms of technical features, component and material, incorporated software, user friendliness and other qualities that increase its utility. In the University sector, product innovations may encompass new curriculum, new educational software, established consultancies, publications, conference papers, among others. If University education is provided through innovative products, it is easier to cope with challenges of costs, accessibility, greater success and efficiency. Such products are aligned to the market, industry and individual sector needs.

2.1.3. Marketing Innovation

Changing trends in higher education have made universities find the need to appeal to the dynamic and complex student base. This has brought into the concept of branding and marketing universities strive to stay ahead of the competition and sustain increased enrolments. Kotler and Keller, (2011) view marketing as the activity, set of institutions and processes for creating, communicating, delivering and exchanging offerings that have values for customers, clients, partners and society at large.

This view underpins the value motive for a number of key stakeholders. Marketing strives to create awareness of goods, services, events, information and ideas. Marketing presumes the existence of a market that has customers, an environment that is utilized in the most profitable ways that increases satisfaction.

The tendency of the consumer is to select the offer that is perceived to offer the highest value, qualified in the total of the tangible and intangible uses and costs value. To achieve this, the concepts of quality, service and price are important. In the case of a University and the nature of goods and services provided, parents would scout for reputable institutions, students would seek out on dynamic, variety and markets oriented programmes and the state would support ventures and programmes that rest well with the development manifesto and agenda. Marketing is thus the identifications, creation, communication, delivery and monitoring of customer and stakeholder value, that leads to satisfaction. Satisfaction is a total reflection of experienced performance in relation to expectation. Marketing innovations help create a competitive advantage over the actual and potential rivals who offer substitutes a consumer may consider. It prioritizes performance marketing which requires the understanding of financial and non-financial rewards to the institutions and society, accruing from marketing activities and programmes.

Mazzarol, (1998) argue that top marketers analyze the marketing scoreboard. They examine the going on in terms of market share customer loss rate, customer satisfaction, product quality and other appropriate parameters. Similarly, they put into perspective legal, ethical, social and environmental effects of the unique marketing activities and programmes. Mohanbir, (2006) postulates that creating long term growth requires a good knowledge of emerging global opportunities and attendant challenges. In a situation of extremely competitive economy with increasingly informed buyers who are faced with plenty of choices, an organization can win by choosing, providing and communicating superior value. The value delivery process entails 3 sequences thus: choosing the value that is distinct in the market; picking on the appropriate and relevant target and establish the value position; providing the value where the function of marketing must determine product features, prices and how they would be fitted in the distribution chains and creating information and disseminating about the value through utilization of the sales force, internet, advertising and other informational tools that communicate and promote the product. If core competencies are nurtured, it would be source of competition advantage and yield customers satisfaction besides expanding market horizons and retaining market share.

The rapid expansion of University education in Kenya in terms of number of institutions, enrolments and program diversity and changing delivery modes call for concerted effort and new strategies in marketing to share information and evaluate market response. Such has been seen, in among other strategies, interactive websites and online service and feedback. Bors worth (2005) explain that top management of institutions should identify, encourage and value fresh ideas from youthful employees who possess varied perspectives and opinion that rattle the organization norms and other status quo mentalities.

What a University offers makes it attract clients and other collaborating stakeholders. Innovative new products and services are the hallmarks of innovation. New programmes that are designed with the needs of the market in mind are always a quick sale. For example, new services can be developed to meet a need. In Kenya public universities, the establishment of Kenyatta University Funeral Home and services is such an innovation. It has the double benefit of offering service as well as marketing the institution, beside opportunity for training.

The platform also offers an important aspect of innovation. Appropriate blocks and collaborative linkages can be established to offer services. This can be achieved through offering of web-based interactions. Similarly, public universities collaborate with foreign and local institutes, universities and companies to showcase and offer their services and products. This has seen an increase in the number of memoranda of understanding (MOUs) more recently in Kenya, there exists the public institutions, universities included to partner with the private sector for their mutual benefit in an engagement called Pupil Private Partnership. (PPP)

In an effort to deal with customer problem, and complaints, public universities have established complaints registers that capture customer views about the quality of service. Besides, the introduction of online services has reduced time lapses in service delivery and feedback. University processes like admission, clearing for graduation, registration, results release and booking of rooms can be done efficiently online. There are also interactive websites where students post their queries and comments for inquiry, feedback and improvement.

Customers whose needs remain largely unmet and those who are undeserved constitute an important segment of the market. In the sphere of University education, such are drawn from those already enrolled in programmes and are on campus. They can also be drawn from those who do not have an opportunity to participate in mainstream education, like

the adults and the employed; such categories are accessed through exhibitions of privately sponsored programmes, module II and adult learning programmes. Customer experience has the power to hold them loyal to the organization or send them away.

Currently universities have websites that contain most of the information that customers would require. The installation of Wi-Fi in University halls has made the interaction more enriched. Similarly, the creation of front office and customers care desks ensures that customers are attended to and guided as appropriate. This innovation aids the marketing components and enable universities improve their standings.

Funding of universities by the national governments has been reducing over the years. This has resulted in universities devising ways of generating revenue to meet their financial needs. To boost their capital base, universities require becoming innovative and marketing their value in comparison to other players in the field. Vision 2030 flagship project for universities envisaged a situation where universities utilize raw materials from their locality to produce profitable commodities. This would generate income and also uplift the living standards of neighboring communities or where such projects had been launched. Such interactions also create linkages or outreach activities that aid in marketing the University. Innovation marketing can be realized through modification of how processes are undertaken in a way that makes it efficient and effective. Good service makes beneficiaries talk to each other's about an organization. For instance, if a course is completed within the stipulated time and all requirements fulfilled including supervised practices for example, the graduate would market the course and University. Universities should strive to increase their effectiveness and efficiency by redesigning core operating process to make them viable and customer friendly.

2.1.4. Organizational Innovation

Elmore (2007) notes that performance-based accountability systems in the United States of America's education sector, just like in the rest of the public sector share the common assumption that information about performance improves quality and reliability of service. Creating public information about the public sector performance, the theory goes, improves the quality of service. The centrality of the customer in efficient service delivery underpins the concepts of quality. Hope (2013) reiterates that one significant aspects of PC in Kenya is the involvement of citizens in the process through the use of Citizen Service Delivery Charters (CSDC). CSDC are key performance indicators in the PC of public institutions. These charters are written statements that indicate nature of service, quality, and quantity citizens should expect. They specifically indicate types of service provided, standard of service, time frame within which the service will be provided, user charges and ways of seeking redress, if any. This emboldens the right of the customer to quality service and the right to raise a complaint. The foregoing is dictated and determined by organizational innovation. CSDC also indicates the inputs (requirements) for a given service and attendant outputs. Organizations develop mechanisms and system of quick decision-making and accessibility by customers

In the organization set up, such would include establishing knowledge repositories for best practices, lessons learnt and shared through benchmark, training and employee development programmes; strategies for reduction of employee turnover and developing supplier data base.

Organizational innovations focus on customer (both internal and external) satisfaction achieved through administrative efforts of re-engineering organization routines, procedures, activities, mechanisms and systems. This promotes teamwork, information sharing, easy coordination, collaboration, learning and innovativeness. The result is greater customer satisfaction and efficiently working organization. It is noted in the literature that researchers ignore organizational innovation (Damanpour and Evan 1984; Damanpour 1991). They argue that more innovative firms emphasize management technique (Baldwin and Johnson, 1998, Guan and Ma, 2003). The current study gives due attention to organizational innovation as energized by performance contracting process.

Public universities serve both internal and varied external customers. Gauging their level of satisfaction arising from service provided is key to causing improvement in the organization. It is thus important to establish how implementation of performance contract has invigorated organizational innovation of public universities.

External considerations include linkages with research and development organizations, consumer and research interactions, open innovation strategies and the development of entrepreneurship research paradigm. Whereas external variables would be challenging to deal with innovation at internal level, innovation at internal lever can be determined, planned for and implemented. The essence of performance contracting is a pre- determined course of action and requisite resources committed through management innovation. This implies a situation where management re- joins itself to make it able to receive and accommodate new needs of the organization. For this recreation to occur Hamel (2006) sees management innovation as a significant leap from the static, traditional management principles, processes and practices that maintain the status quo even as the business environment changes. For University education Kenya has moved from one University in 1957 to 23 universities in 2013 (Shisia et al 2014). This expansion in the sector calls for new and innovative management in public universities.

An organization achieves better when it sets itself to a small number of medium-term innovation goals and later measures its performance against such goals. The important aspect about goal setting is to have goals that are broad and binding but at the same time practical enough to be achieved.

Innovative firms exhibit greater variability and uncertainty and firms require recruiting, training and keeping employees who are flexible, risk takers, fearless and patient to uncertainty and ambiguity. To come up with radical ideas employees have to be mentored to look beyond the obvious as they should be given the skills to innovate (Chan and Huang, 2009). A vibrant organization enables innovations emerge from any level within the organization and this calls for training for all employees. Yet again, training gives employees the skills, tools to innovate but this will not automatically

motivate them. Strategies should be employed to ensure that people in the organization are intrinsically motivated to perform their task and embrace creativity and innovation (Prather 2010). To achieve this implementation of Herzberg motivating factors of achievement, recognition, work itself, responsibility, advancement and growth becomes critical. Stower and Grider (ibid) propose a number of strategies to achieve organizational innovation. Such include instilling motivation across the hierarchy of the organization leadership using a combination of reward and fear of separation in case growth and innovative positions are not maintained; embracing strategies that promote internal organization development that require, for example, all employees to undertake a business communication course.

3. Methodology

The target population comprised 2 public technical universities in Kenya. Technical University of Kenya and Technical University of Mombasa are the focus of the study. Simple random sampling was used for this study. The reason for selecting this sampling technique is that all the elements in the universe had equal chance of being selected.

3.1. Statistical Analysis

To establish the main characteristics of the study variables, descriptive statistics, factor analysis using Principal component method with varimax rotation and Pearson correlations analysis was done and relevant tests conducted. Field data was checked for completeness before analysis to ensure that all sections of the questionnaire is filled. Data collected from the study was analyzed using descriptive and inferential statistics. Specifically, Multiple regression and Factor analysis were used. This perspective was important to the present study that looks at the relationship between performance contracting and innovations against the intervening variables that is CUE Guidelines and Standards 2014. To establish the statistical significance of the respective hypotheses, analysis of variance (ANOVA) or F-tests as well as simple linear regression analysis and moderated multiple regression were conducted as appropriate at 95 percent confidence level ($\alpha = 0.05$). This technique is appropriate to this study as it sought to establish the efficacy of Performance Contracting in stimulating innovations which is measured by product, process, marketing and organizational innovation.

4. Results

4.1. Moderating Effect of Cue Guidelines on the Relationship between Target Setting and Innovation

To determine the moderating effect of Cue guidelines on the relationship between target setting of public technical universities and innovation, the relevant null hypothesis postulated as:

- H_{05a} : Cue guidelines do not significantly affect the relationship between target setting and innovation.

Using the moderated multiple regression analysis, the moderating effect of the variable Cue guidelines was analyzed by interpreting; the R^2 change in the model obtained from the model summaries and the regression coefficients for the product term obtained from the model summaries. Prior to conducting the moderated multiple regression analysis, preliminary analyses were conducted to ensure that there was no violation of the assumptions of normality, linearity and homogeneity of error variance. Data was carefully examined to avoid the occurrence of; Type 1 error, which is the error of rejecting the true null hypotheses at a specified (α) and Type 2 error (β), which is the error of failing to reject a false null hypothesis at a specified power (Aguinis, 2004).

Table 5 shows that for Model 1, $R = 0.810$, $R^2 = 0.656$ and $F(1, 298) = 568.674$, $p = 0.000$. Model 2 shows the results after the product term ($ZT*ZC$) was included in the equation. Table 5 also indicates that the inclusion of the product term resulted in an R^2 change of 0.059, ($F(1, 297) = 61.437$, $p = 0.000$). The results show presence of moderating effect. To put it differently, the moderating effect of cue guidelines explains 5.9% variance in innovation above the variance by target setting scores. Thus it can safely be concluded that hypothesis H_{05a} is not supported since $\beta \neq 0$ and p-value is less than 0.05. Model 1 indicates that target setting was statistically significant ($p < 0.05$; Beta value = 0.810).

4.2. Results of Moderating Effect of Cue Guidelines on the Relationship between Target Setting and Innovations

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.810 ^a	.656	.655	.58736463	.656	568.674	1	298	.000
2	.846 ^b	.715	.713	.53556178	.059	61.437	1	297	.000
ANOVA ^c									
Model		Sum of Squares	Df	Mean Square	F	Sig.			
1	Regression	196.191	1	196.191	568.674	.000 ^a			
	Residual	102.809	298	.345					
	Total	299.000	299						
2	Regression	213.813	2	106.906	372.721	.000 ^b			
	Residual	85.187	297	.287					
	Total	299.000	299						
Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.			
		B	Std. Error	Beta					
1	(Constant)	-1.714	.034		.000	.000			
	Zscore(TARGET)	.810	.034	.810	23.847	.000			
2	(Constant)	-1.010	.031		.000	.000			
	Zscore(TARGET)	.540	.046	.540	11.665	.000			
	Zscore(CUE)	.363	.046	.363	7.838	.000			

Table 1: Results of Moderating Effect of Cue Guidelines on the Relationship between Target Setting and Innovations

Source: Research Data (2016)

a. Predictors: (Constant), Zscore(Target)

b. Predictors: (Constant), Zscore(Target), Zscore(Cue)

c. Dependent Variable: Z score (Innovation)

d. Predictors: (Constant), Zscore(Target)

e. Predictors: (Constant), Zscore(Target), Zscore(Cue)

f. Dependent Variable: Zscore(Innovation)

4.3. Moderating Effect of Cue Guidelines on the Relationship between Implementation and Innovation

To determine the moderating effect of Cue guidelines on the relationship between implementation of performance contracts in public technical universities and innovation, the relevant null hypothesis postulated as:

- H_{05b} : Cue guidelines do not significantly affect the relationship between implementation and innovation.

Using the moderated multiple regression analysis, the moderating effect of the variable Cue guidelines was analyzed by interpreting; the R^2 change in the model obtained from the model summaries and the regression coefficients for the product term obtained from the model summaries. Prior to conducting the moderated multiple regression analysis, preliminary analyses were conducted to ensure that there was no violation of the assumptions of normality, linearity and homogeneity of error variance. Data was carefully examined to avoid the occurrence of; Type 1 error, which is the error of rejecting the true null hypotheses at a specified (α) and Type 2 error (β), which is the error of failing to reject a false null hypothesis at a specified power (Aguinis, 2004).

Table 2 shows that for Model 1, $R = 0.816$, $R^2 = 0.666$ and $F(1, 298) = 594.584$, $p = 0.000$. Model 2 shows the results after the product term (ZI*ZC) was included in the equation. Table 2 also indicates that the inclusion of the product term resulted in an R^2 change of 0.030, ($F(1, 297) = 28.911$, $p = 0.000$). The results show presence of moderating effect. To put it differently, the moderating effect of cue guidelines explains 3.0% variance in innovation above the variance by implementation scores. Thus it can safely be concluded that hypothesis H_{05b} is not supported since $\beta \neq 0$ and p-value is less than 0.05. Model 1 indicates that implementation was statistically significant ($p < 0.05$; Beta value = 0.816).

4.4. Results of Moderating Effect of Cue Guidelines on the Relationship between Implementation and Innovation

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.816 ^a	.666	.665	.57877659	.666	594.584	1	298	.000
2	.834 ^b	.696	.694	.55343906	.030	28.911	1	297	.000
ANOVA ^c									
Model		Sum of Squares	Df	Mean Square	F	Sig.			
1	Regression	199.175	1	199.175	594.584	.000 ^a			
	Residual	99.825	298	.335					
	Total	299.000	299						
2	Regression	208.030	2	104.015	339.592	.000 ^b			
	Residual	90.970	297	.306					
	Total	299.000	299						
Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.			
		B	Std. Error	Beta					
1	(Constant)	1.926	.033		.000	.000			
	Zscore(IMPLEMENTATION)	.816	.033	.816	24.384	.000			
2	(Constant)	1.505	.032		.000	.000			
	Zscore(IMPLEMENTATION)	.575	.055	.575	10.418	.000			
	Zscore(CUE)	.297	.055	.297	5.377	.000			

Table 2: Results of Moderating Effect of Cue Guidelines on the Relationship between Implementation and Innovation

a. Predictors: (Constant), Zscore(IMPLEMENTATION)

b. Predictors: (Constant), Zscore(IMPLEMENTATION), Zscore(CUE)

c. Predictors: (Constant), Zscore(IMPLEMENTATION)

d. Predictors: (Constant), Zscore(IMPLEMENTATION), Zscore(CUE)

e. Dependent Variable: Zscore(INNOVATION)

f. Dependent Variable: Zscore(INNOVATION)

Source: Research Data (2016)

4.5. Moderating Effect of Cue Guidelines on the Relationship between Monitoring and Innovation

To determine the moderating effect of Cue guidelines on the relationship between monitoring of performance contracts in public technical universities and innovation, the relevant null hypothesis postulated as:

- H_{05c} : Cue guidelines do not significantly affect the relationship between monitoring and innovation.

Using the moderated multiple regression analysis, the moderating effect of the variable Cue guidelines was analyzed by interpreting; the R^2 change in the model obtained from the model summaries and the regression coefficients for the product term obtained from the model summaries. Prior to conducting the moderated multiple regression analysis, preliminary analyses were conducted to ensure that there was no violation of the assumptions of normality, linearity and homogeneity of error variance. Data was carefully examined to avoid the occurrence of; Type 1 error, which is the error of rejecting the true null hypotheses at a specified (α) and Type 2 error (β), which is the error of failing to reject a false null hypothesis at a specified power (Aguinis, 2004).

Table 3 shows that for Model 1, $R = 0.753$, $R^2 = 0.566$ and $F(1, 298) = 389.042$, $p = 0.000$. Model 2 shows the results after the product term (ZM*ZC) was included in the equation. Table 3 also indicates that the inclusion of the product term resulted in an R^2 change of 0.075, ($F(1, 297) = 62.103$, $p = 0.000$). The results show presence of moderating effect. To put it differently, the moderating effect of cue guidelines explains 7.5% variance in innovation above the variance by monitoring scores. Thus it can safely be concluded that hypothesis H_{05c} is not supported since $\beta \neq 0$ and p-value is less than 0.05. Model 1 indicates that monitoring was statistically significant ($p < 0.05$; Beta value = 0.753).

4.6. Results of Moderating Effect of Cue Guidelines on the Relationship between Monitoring and Innovation

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.753 ^a	.566	.565	.65969610	.566	389.042	1	298	.000
2	.801 ^b	.641	.639	.60095589	.075	62.103	1	297	.000
ANOVA ^c									
Model		Sum of Squares	Df	Mean Square	F	Sig.			
1	Regression	169.311	1	169.311	389.042	.000 ^a			
	Residual	129.689	298	.435					
	Total	299.000	299						
2	Regression	191.739	2	95.870	265.458	.000 ^b			
	Residual	107.261	297	.361					
	Total	299.000	299						
Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.			
		B	Std. Error	Beta					
1	(Constant)	2.603	.038		.000	.000			
	Zscore(MONITORING)	.753	.038	.753	19.724	.000			
2	(Constant)	1.632	.035		.000	.000			
	Zscore(MONITORING)	.393	.057	.393	6.851	.000			
	Zscore(CUE)	.452	.057	.452	7.881	.000			

Table 3: Results of Moderating Effect of Cue Guidelines on the Relationship between Monitoring and Innovation

a. Predictors: (Constant), Zscore (MONITORING)

b. Predictors: (Constant), Zscore (MONITORING), Zscore(CUE)

c. Predictors: (Constant), Zscore(MONITORING)

d. Predictors: (Constant), Zscore(MONITORING), Zscore(CUE)

e. Dependent Variable: Zscore(INNOVATION)

f. Dependent Variable: Zscore(INNOVATION)

Source: Research Data (2016)

4.7. Moderating effect of Cue guidelines on the relationship between evaluation and innovation

To determine the moderating effect of Cue guidelines on the relationship between evaluation of performance contracts in public technical universities and innovation, the relevant null hypothesis postulated as:

- H_{05d} : Cue guidelines do not significantly affect the relationship between evaluation and innovation.

Using the moderated multiple regression analysis, the moderating effect of the variable Cue guidelines was analyzed by interpreting; the R^2 change in the model obtained from the model summaries and the regression coefficients for the product term obtained from the model summaries. Prior to conducting the moderated multiple regression analysis, preliminary analyses were conducted to ensure that there was no violation of the assumptions of normality, linearity and homogeneity of error variance. Data was carefully examined to avoid the occurrence of; Type 1 error, which is the error of rejecting the true null hypotheses at a specified (α) and Type 2 error (β), which is the error of failing to reject a false null hypothesis at a specified power (Aguinis, 2004).

Table 8 shows that for Model 1, $R = 0.740$, $R^2 = 0.548$ and $F(1, 298) = 360.766$, $p = 0.000$. Model 2 shows the results after the product term (ZE*ZC) was included in the equation. Table 4 also indicates that the inclusion of the product term resulted in an R^2 change of 0.099, ($F(1, 297) = 82.941$, $p = 0.000$). The results show presence of moderating effect. To put it differently, the moderating effect of cue guidelines explains 9.9% variance in innovation above the variance by evaluation scores. Thus it can safely be concluded that hypothesis H_{05c} is not supported since $\beta \neq 0$ and p -value is less than 0.05. Model 1 indicates that monitoring was statistically significant ($p < 0.05$; Beta value = 0.753)

4.7. Results of Moderating Effect of Cue Guidelines on the Relationship between Evaluation and Innovation

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.740 ^a	.548	.546	.67370514	.548	360.766	1	298	.000
2	.804 ^b	.646	.644	.59665011	.099	82.941	1	297	.000
ANOVA ^c									
Model		Sum of Squares		df	Mean Square	F	Sig.		
1	Regression	163.744		1	163.744	360.766	.000 ^a		
	Residual	135.256		298	.454				
	Total	299.000		299					
2	Regression	193.271		2	96.635	271.454	.000 ^b		
	Residual	105.729		297	.356				
	Total	299.000		299					
Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.			
		B	Std. Error	Beta					
1	(Constant)	1.547	.039		.000	.000			
	Zscore(EVALUATE)	.740	.039	.740	18.994	.000			
2	(Constant)	1.050	.034		.000	.000			
	Zscore(EVALUATE)	.379	.053	.379	7.206	.000			
	Zscore(CUE)	.479	.053	.479	9.107	.000			

Table 4: Results of Moderating Effect of Cue Guidelines on the Relationship between Evaluation and Innovation

- a. Predictors: (Constant), Zscore(EVALUATE)
 b. Predictors: (Constant), Zscore(EVALUATE), Zscore(CUE)
 c. Predictors: (Constant), Zscore(EVALUATE)
 d. Predictors: (Constant), Zscore(EVALUATE), Zscore(CUE)
 e. Dependent Variable: Zscore(INNOVATION)
 f. Dependent Variable: Zscore(INNOVATION)
 Source: Research Data (2016)

5. Conclusion

5.1. Innovation

From the study finding it can be concluded that technical universities are engaged in endeavors that supports innovation. This innovation can be seen in terms of their products, processes, marketing and organizational management.

5.2. Product Innovation

Focusing on product innovation, it can be concluded that technical universities develop new academic programs that are approved by CUE. Similarly, the number of post graduate students had increased thus yielding increased research output. Technical universities hold annual conferences to disseminate research findings.

This conclusion confirms Shisia et al (2014) finding that innovation at public universities can be seen in new programs, open learning and aligning academic programs to vision 2030.

5.3. Process Innovation

The study findings justify the conclusion that technical universities are innovative in their process. Technical universities have utilized information communication technology in their processes and service delivery. Curriculum reviews have been undertaken to address environmental and emerging issues. ICT has been utilized in fee payment, course registration, processing of results and in curriculum instructional activities. This conclusion is supported by EC (2014) who found out that teaching and learning process that was anchored on innovation made it interesting, participative and fulfilling. This conclusion is further in the line with vision 2030 which proposed intensified application of technology and innovation in service delivery.

5.4. Marketing Innovation

The study concludes that technical universities are engaged in marketing ventures to market their products. Technical universities were engaged in corporate social responsibility initiative within their localities. Customer relationship management was undertaken where customer feedback was systematically obtained. Similarly, the University undertook outreach and mounted trade exhibitions to show case their products.

These conclusions concur with Kagwira (2004) who found out that private universities undertake marketing of education process using a variety of strategies and techniques. Yet again, the study concludes that technical universities do not have vibrant marketing department to coordinate their marketing activities. This conclusion disagrees with Kizilbash (2011) who found out that universities in Canada utilize various types of branding to increase market share of international students.

5.6. Organization Innovation

It is concluded from the findings that technical universities operations embrace organizational innovation. Top management in universities committed resources to research and innovation, had established collaboration and alliances. Similarly, formulated policies clearly enhanced innovation development. Again, staff was supported to train and develop skills in relevant areas of experience as well as staff performance appraisal process. This conclusion is echoed by Pranthier (2010) who found out that the working environment which is created by leadership is one major factor that is responsible for the success of the organization cumulated innovation effort. Chem and Huang (2009) established that innovation needs a lot of input from employees who often require training. Thompson and Heron (2006) agrees to this as they found out that organizations that invest so much in socialization of employees and formulated policies engaged the organization core mission, vision, and value with ease.

6. Recommendation

Technical universities should set targets that enhance innovation and embrace innovation strategies in carrying out their core mandate. Also, there is need to train employees and involve them in self –evaluation of performance targets. Similarly, identified discrepancies and shortfalls should inform setting of new targets.

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