Differentiated Unit Cost Funding Formula and Implementation of the Core Mandates of Public Universities in Kenya.

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Abstract

The Ministry of Education through the University Funding Board introduced differentiated unit cost funding model to ensure public money is allocated through single indicators or integrated formulas using a set of measures and criteria. One such measure and criteria was differentiated program unit cost (DUC). The implementation of DUC model resulted in a national debate on its viability, equity and sustainability of universities operations as three major public universities cumulatively lost Kenya Shillings 2.8 billion after clustering programs into fourteen and basing funding on those programs only. The gaps in funding arising from implementation of DUC threatened the accomplishment of universities mandates and was therefore necessary to assess suitability of DUC in university funding. The data was collected from heads of faculties/schools/ institutes and Vice Chancellors of Kenyan public institutions of higher education. The study's target population was three hundred and sixty. Thirty percent of the target population rule was used to get a sample of one hundred and eight comprising seven Vice Chancellors and ninety- nine heads of faculties/ schools/ institutes. Stratified random sampling was used to pick seven universities of study. Questionnaire, interview, document analysis and observation were used for data collection. Validity was ascertained by expert judgement by lecturers in the department of Educational Management, Garissa University. Reliability of questionnaire items was analyzed using Cronbach's alpha index. Questionnaire's data were analyzed using Pearson Product-Moment Correlation Coefficient, r. Interview Schedule's data were analysed descriptively while data from observation and documents analysis schedules were analysed based on interpretation by the researcher. This study findings indicated that: Government capitation was only around 50% of the universities' payroll requirement; DUC lacked fairness, equity and transparency in funding of public universities in Kenya. Results from the correlations between the suitability of DUC in government funding and the core mandates of public universities in Kenyan were weakly correlated (r (68) = .027, p > .05). This study recommended that the Government: improves DUC or scrapes it and replace it with one that will be agreeable to all stake holders.

1.0 Introduction

Public university education in Kenya is mostly preferred by students because such admissions are financed by the government (Gudo, 2014). Government university financing is appropriating public money by exchequer to public universities with a focus on core operational areas (Herbst, 2007). It is the largest single source of revenue for most higher public education institutions in most OECD countries (OECD, 2021). University funding all over the world has been evolving from one model to another (Tilak, 2005; Hahn, 2007). In Australia; university funding is through students' tuition fees, government subsidies, scholarships, loans and bursaries (Commonwealth of Australia (COA), 2005). Students' credit and Grants are the leading form of assistance by United States of America (Powell, Kerr, & Wood, 2021). According to Powell et al. (2021), the most widely-spread Governmental Grant Schemes in the U.S are categorized into need-based and merit-based. Need-based grants include: Pell Grants; California Cal Grants; State Student Incentive Grants SSIG, etc. Merit-based grants on the other hand include:

Georgia HOPE (Helping Outstanding Pupils Educationally) Grants; National SMART grants (Hoxby,2004; Getz, 2007).

Norway funds universities based certain performance indicators in the three categories namely: an education component of twenty five percent (25%) of the total allocation based on the number of credits, number of graduates and number of international exchange students; Research component of fifteen percent (15%) of the total allocation, which is partly a result- based, based on the number of publications; a basic component that is sixty percent (60%) of the total allocation. Portugal funds public higher education per State Budget and consists of three separate strands: Teaching (salaries and other recurrent expenditures), Research and Investment. Research funding is allocated mainly through a competitive system while funding for investment results from the Ministry's approval of each institution's development plan. Funding for teaching has been allocated by a funding formula which until 2003 was input-based and did not contain indicators related to institutional quality or efficiency. After 2003, the funding system changed to performance- based whereby other quality parameters were introduced in the formula.

In Africa, South Africa, according to (Steyn & Pierre, 2007), has used several funding formulas including the 1953 Holloway formula, used for payroll financing. Others include, Van Wyk de Vries formula of 1977 which modified the Holloway formula (De Villiers & Steyn, 2005; Jongbloed, 2004). De Villiers & Steyn (2005) states further that in addition to Van Wyk de Vries formula, there was South African Post-Secondary Education formula- SAPSE, implemented in 1984 mainly to allocate subsidies to universities. SAPSE was used within within predominantly white universities only but later on extended to multi-racial and black only universities (Bunting, 2000).

Nigeria's university funding can be said to have been greatly influenced by the fluctuations in oil prices rather than policy (Faboyede, Faboyede, & Fakile, 2017). Between the years 1948 and the 1970s, universities' funding was mainly from government in form of grants and students' fees (Eravwoke, & Ukavwe, 2019). During the "oil boom" period of the 1970s, university student's fees was abolished and other user fees were also abridged. In the mid-1980s, the "oil boom" had been erased causing the government to cut back on the amount of grant given and raising other user fees (Aina, 2002). The National Universities Commission (NUC) of 1993 funded federal universities based on the parameters set by the Commission (Famurewa, 2014).

Government funding of institutions of higher education in Kenya has been evolving from era of free higher education, cost sharing, and privatization and commercialization (The Session Paper No. 8, 1988). Shortly after independence, the government fully funded student's university education through scholarships and grants offered by the Ministry of Education for both local and overseas student training (Odhiambo, 2018). Over time, expansion of university infrastructure due to increasing population got out of phase with the rising demand for university education.

While there was a remarkable increase in students' enrolment over the years as a result of expanded capacities in public universities, government source of funding which is mainly capitation had until 2017/2018 academic year been capped at Kenya Shillings one hundred and twenty thousand (120 000) per student per year regardless of the field of study (Nganga, 2020). Nganga (2020), posits that out of this amount, the government paid Kenya shillings seventy thousand (70 000) per student per academic year while students' fees had been fixed at Kenya shillings sixteen thousand (16 000), and the cost of other needs (books, food and accommodation) was paid by the Higher Education Loans Board (HELB). The implication of the flat rate of funding constrained public universities as they tried to offer quality education with less resources (McCowan, 2018). Lecturers took on huge workloads that made them ineffective and ate in to the time they would engage in research (Odebero, 2010). In 2017/2018 academic year, the government through the University Funding Board (UFB) introduced the Differentiated Unit Cost (DUC) formula amid divided opinion, with some hailing it as a game changer that would alleviate financial crises in public universities while those against it thought, it only raised uncertainty (Oduor, 2017).

1.1 Statement of the Problem

Universities exist in order to fulfil the needs of society on behalf of government- in this case the Principal. The government has mandated universities to perform certain tasks within their mandates. Unfortunately, accomplishing these mandates has had lots of challenges because universities do not have money to implement them. Universities not having money to implement their core mandates has been attributed to low government capitation and low internally generated income including tuition fees paid by students. There are those people who think that low amounts of fees charged by universities is to blame for inadequate funding while there are those

who blame low capitation on lack of an effective funding formula. Previously, the government financed the student unit cost at a flat rate of Kshs 120,000 per year with a direct grant to the universities of Kshs 70,000 per year per government sponsored student with the balance of Kshs 50,000 advanced to students as loan repayable after graduation and upon securing employment. The loan scheme was managed by the Ministry of Education (MOE) until 1995 when the Higher Education Loans Board (HELB) was established under an act of Parliament (The HELB Act Cap 213A).

Under the flat rate funding regime, the capitation was sent to universities as a block and it was incumbent upon individual universities to allocate the money to different vote heads based on their own discretion. In response to the challenges emanating from lump sum disbursement of government capitation, the government through University Funding Board introduced Differentiated Unit Cost (DUC) funding formula (Oduor, 2017; Nganga, 2020). It was implemented amid divided opinion against and for the formula with those who routed for it hailing it as a game changer that would alleviate financial crisis universities found themselves in. On the other hand, those who were against the formula thought that it only raised uncertainty as three major public universities cumulatively lost Kenya Shillings 2.8 billion after clustering programs into fourteen and basing funding on those programs only (Oduor, 2017). This study therefore sought to establish suitability of DUC and how its implementation addressed bad spending by universities by allocating money to non- mission driven activities which was synonymous with the flat rate of funding.

1.2 Objectives of the Study

The objective of the study was to assess the suitability of DUC in government funding and its relationship with implementation of the core mandates of public universities in Kenya.

1.3 Research Question

To guide the study, the following research question was used

"In what ways does suitability of DUC used in government funding relate to implementation of the core mandates of public universities in Kenya?"

1.4 Research Hypotheses

The following hypothesis was used to guide the study:

H_0: There is no significant relationship between suitability of DUC used in government funding and implementation of the core mandates of public universities in Kenya.

1.5 Theoretical Framework

The Principal Agent Theory (PAT) was used to guide the study. It was developed in 1970s by Michael Jensen and William Meckling (Investopedia Team, 2021). Investopedia Team (2021) goes on to say that PAT is about the separation of ownership and control. The theory deals with delegation, in which two actors are involved in an exchange of resources (Braun & Guston, 2003). Braun & Guston (2003) argues further that the Agent makes the best decisions that are in the best interest of the principal. According to Eisenhardt (1989), the agent and the principal make an agreement or contract outlining how Much payment or resources would be given to the agent for the effort necessary to complete the task. Figure 1 is a typical Principal-Agent relationship.
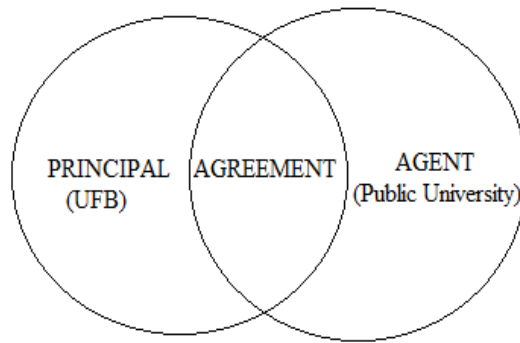
Figure 1: Typical Principal-Agent Relationship

The Principal- Agent Theory was used because public institutions are formed and funded by government, they are obliged to the government to fulfil the needs of society, to create, preserve and transmit knowledge and, in return, the government provides funds to facilitate the accomplishment of their core mandates (Lane & Kivistö, 2008).

1.6 Conceptual Framework

A conceptual framework is a graphic organizer explaining the main things to be studied (Miles & Huberman, 1994).
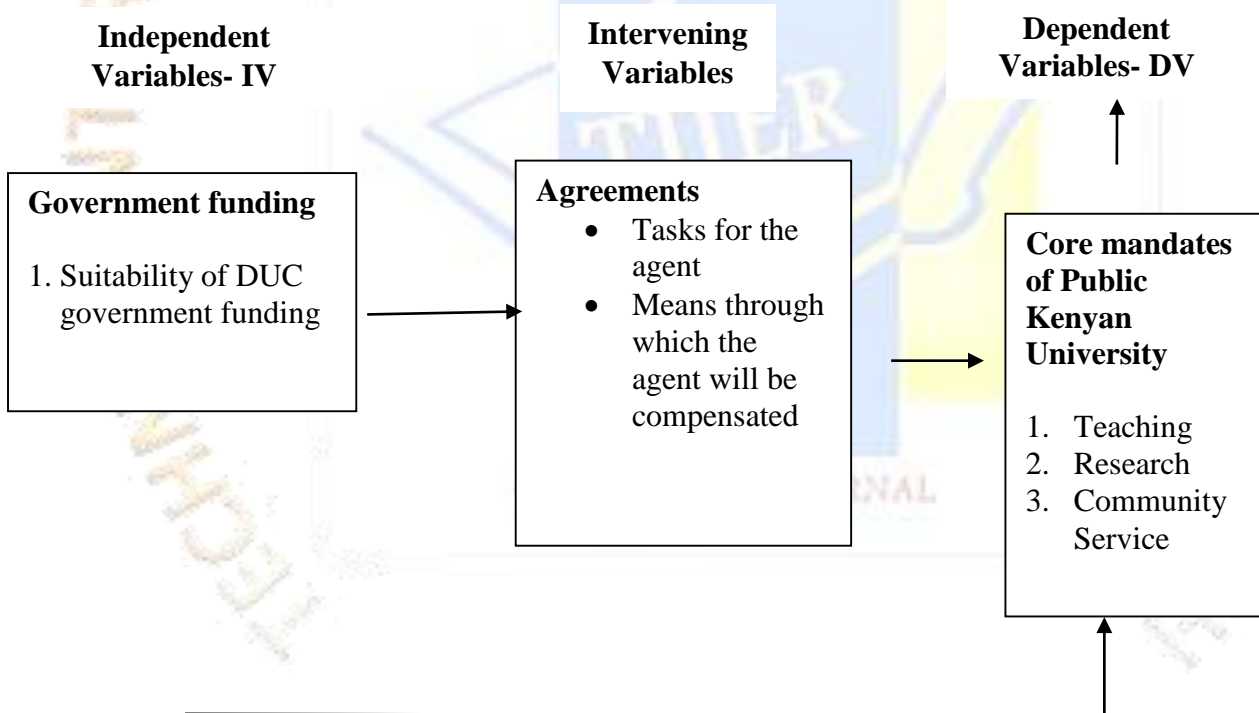

Figure 2: Conceptual Framework

The implementation of the core mandates of public universities is influenced by the independent variable both directly and indirectly. Indirectly through the intervening variables (agreements, level of autonomy of the agent and capacity, quality and access).

2.0 Literature Review

OECD (2017) defines formula funding as how State higher-education institutions equitably distribute available State funds. The use of a specific funding formula to fund university education is fairly a new concept as modern funding formulas came into existence in the 1950s with the development of the California Faculty-Staffing formula (Moss &Gaither. 1976). According to Pruvot, Claeys-Flik, & Esternmann (2015), parameters such as diploma

completion rate and research output quality should be included in the formula According to OECD (2017), one function of a funding formula is to promote equity by ensuring that similar funding levels are allocated to similar types of provision and that differential amounts can be added to the basic allocation according to the assessed degree of educational need.

The motivation for massive State financial investment in universities was to train individuals for both administrative and technical careers in the civil service. In the early years, European universities were basically employer-based training facilities, with the government as primary employer meeting the educational costs. In the 20th century these systems expanded rapidly throughout the world, particularly as more companies sought to industrialize. The pattern of developing publicly supported institutions to provide administrative and technical manpower was exported to many developing countries that were colonies of European power. When these countries achieved independence the structure for the university system was already in place and most governments chose to expand this institution rapidly.

In Australia, Forty-two percent 1(42%) of Australian economic growth between 1960 and 2000 was due to increased educational attainment (Chou, 2003). Even though increased education attainment impacted positively on Australia's economy, expectations of children from families without a history of participating in tertiary education attending university was unclear (Bowers-Brown, 2006). Australian university students started contributing towards the cost of their university education through the Higher Education Contribution Scheme (HECS) as early as 1989. The Scheme enables university students to meet their university costs through loan offers.

States in USA have their own uniquely designed approaches for funding universities with nearly 50 % of the states applying a formula to establish the amount in their budget that goes into higher education by linking funding to enrolment levels (Noe, 1986). The State of Texas for example applies a formula that takes in to account the number of students admitted (Finney, Perna & Callan, 2012). The formula has three components, two of which are major components (instruction and operations, and infrastructure support) and a smaller component (teaching-experience supplement) which is determined by the Higher Education Coordinating Board and its recommendations are presented to the Legislative Budget Board on June 1 of even years (Najmabadi, 2018).

South Africa has used several funding formulas (Steyn & Villiers, 2007). They include the Holloway formula (1953), which provided for state funding of basic items such as remuneration of lecturers in basic academic departments, independent of institutional size. Others include, Van Wyk de Vries formula (Jongbloed, 2004), which introduced a number of elements in to the Holloway scheme. Besides capturing realistically, the range of cost factors in running institutions, it also brought about weighted student numbers as input. The South African Post-Secondary Education (SAPSE) formula was introduced in the early 1980s and applied until 2003. It operated only within white universities, but later on, it was extended to black universities which had been on negotiated budgets (Bunting, 2000).

Trends in university funding in Kenya can be categorized as the era of free higher education, cost sharing, and privatization and commercialization. Shortly after independence, the government fully funded student's university education as a way of encouraging more students to pursue university education. Student financing was in form of scholarships and grants offered by the Ministry of Education for both local and overseas student training. All students admitted to the Royal Technical College now, the University of Nairobi were eligible regardless of their financial background and status. Over time, expansion of university infrastructure due to increasing population, got out of phase with the rising demand for university education. According to GoK (1995). The proportion of the government's budget devoted to education increased at the expense of other sectors like Agriculture, Industry and Health. In 1963/64 financial year, the recurrent expenditure on education was 22.5% of National Budget, in 1984/85; education accounted for 29.5% of National budget. By 1990/91 financial year, this had risen to 40.5% and by the year 1999/2000 the proportion was 38%. In the year 1990/91, higher education accounted for 19% of total expenditure up from 11% in 1980/81. A large part of this expenditure comprised allocation to the student loan scheme to support maintenance rather than educational and research activities (GoK, 1988).

The rising student enrolment numbers saw the government's provision for students' upkeep grow rapidly, necessitating change in the loan component by introducing cost sharing in 1990/91 where the government financed the student unit cost of Kshs 120,000 per year with a direct grant to the universities of Kshs 70,000 per year per government sponsored student with the balance of Kshs 50,000 advanced to students as loan repayable after graduation and upon securing employment. The loan scheme was managed by the Ministry of Education (MOE) until 1995 when the Higher Education Loans Board (HELB) was established under an act of Parliament (The

HELB Act Cap 213A). The mandate of HELB is to finance all needy Kenyans pursuing Higher Education and collect all matured loans advanced to former university student since 1974 by the Higher Education Loans Fund (HELF) and later the Ministry of Education. (GOK 1995).

According to the taskforce on national strategy on university education (2007-2015), challenges in financing university education included government policy on university funding, expanding university student numbers and management of funds in the universities. It was expected that if the National strategy on university education prepared by the stakeholders of the university education sector for the period 2007-2015 was fully Implemented, the number of students admitted would have increased from twenty-three percent (23%) in 2007 to forty-eight percent (48%) by 2015. Consequently, increased access without corresponding increase of resources for the university education would highly compromise the quality of teaching and research. Limited resources resulted in inadequate staffing, lack of adequate scientific equipment, poor library services, deteriorating physical facilities which are some of the basics in providing quality education (Cheboi, 1995).

According to World Bank (2010), in order for Sub- Saharan Africa to reap the benefits of investment in human capital, higher education institutions must have sufficient financing to provide quality training and sound professional prospects to their students. Economic pressure and a huge expansion in demand for higher education have led higher education institutions in the world to seek alternative sources of revenue to finance their activities. The Kenya government proposed in its 1970-74 and 1974-1978 Development Plans to withdraw grants to students at the university in favor of a loan scheme (Republic of Kenya 1974 & 1978). Thus, in the 1974/75 academic year, the government withdrew the students' free education in favor of a Students' Loan Scheme for all those who wanted to pursue university education (Republic of Kenya, 1983). Noble as it was, the Students' Loan Scheme faced difficulties in loan recovery (HELB, 2002). This prompted the government to create Higher Education Loans Board (HELB) through an Act of parliament in the year 1995 to monitor the university loan scheme and ensure efficiency in loan recoveries from past recipients.

The government of Kenya in 2017/2018 academic year, introduced the Differentiated Unit Cost (DUC) formula amid divided opinion, with some hailing it as a game changer that would alleviate financial crises in public universities while those against it thought, it only raised uncertainty (Oduor, 2017). According to Oduor (2017), Nairobi, Kenyatta, and Egerton Universities lost KSh. 1.8 billion, three hundred million (300 000 000), and seven hundred million (700 000 000) respectively in the first year of operationalization of the new funding formula (Nganga, 2020). Ever since, universities have continued to struggle with nearly a third of satellite campuses closed due to non- compliance with examination management (Onyango, 2019). According to Nganga (2020), the situation is so dire that stakeholders are wondering about the level of viability of DUC and whether there can be a better method to fund public universities in Kenya.

Differentiated Unit Cost (DUC) funding formula is an input- based funding formula that strictly uses students' enrolment numbers and the courses they take to allocate funds (Oduor, 2017; Aduda, 2017). It is a departure from the previous funding regime that allocated funds at a flat rate of Kenya Shillings one hundred and twenty thousand (120 000) per student per year irrespective of the study area (Nganga, 2020). Nganga (2020) further argues that Differentiated Unit Cost funding formula introduced in 2017/2018 academic year by the University Funding Board (UFB) allocates funds on the basis of their programs instead of the number of students enrolled as has been traditionally the case. In this context, universities with many technical and professional courses were to attract higher funding than those mostly teaching humanities (Oduor, 2017). Oduor (2017) states further that universities programs were collapsed into fourteen clusters each of which had a unique funded amount.

Table 1 shows university programs as clustered in to fourteen and their funded amounts in Kenya shillings.

Table 1.

Program and funded amount

Program	Funded Amount in KSh.
Dentistry	600, 000
Medicine	576,000
Veterinary	468,000
Pharmacy	432,000
Engineering	396,000
Architecture	384,000
Built Environment	360,000
Agriculture	324,000
Education Science	288,000
Science	264,000
Applied Social Science	240,000
Business and Law	216,000
Applied Humanities	180,000
Arts General	144,000

Source: Varcity Kenya

Other formulas according to world bank (1994) include but not limited to: i) Negotiated-budgets Formula, which is a common but least desirable approach witnessed in many developing countries as it relies on negotiated budgets, even though negotiated budgets do not provide incentives for efficient operation and make it difficult to adjust the distribution of financial resources to changing circumstances. It does not promote autonomy in institutional leadership since the institutional leadership should been or perceived to in tune with the politics of the government of the day; ii) Input-based Formula in which enrolment figures and unit costs are combined and coefficients or weights are used to provide incentives for distribution of resources (world bank, 1994). The formula differentiates institutions on the basis of the numbers of students enrolled in different fields of study and levels of education, and the weights reflected the differential costs faced by different institutions, for example engineering students compared with the arts students. However, this formula though preferable to negotiated budgets formula, it does not provide sufficient incentives for efficiency; iii) Performance-based Formula which links funding with performance whereby indicators such as number of graduates produced are used to determine the funding levels. It has the following qualities: ensures that enough money is apportioned for performance to create incentives that are sufficiently strong to change institutional behavior; developing different funding formulae for different types of universities or use the same formula but weigh it differently depending on the type of institution and characteristics of the student population; integrating all metrics and provisions into the higher education funding formula, as this makes it more durable when universities are faced with limited funding or budget cuts, subjecting institutions to frequent monitoring and evaluation to ensure dedicated pursuit of targets and results

3.0 Research Methodology

This Study adopted concurrent mixed methods design because it allows triangulation and enables the collection of structured and systematic data set that allows systematic comparison between cases of similar features (Malhotra, 2010; Bryman, 2012). It is an empirical inquiry that investigates contemporary phenomena within their real-life contexts, especially when the boundaries between phenomena of interest and their environments are indiscernibly intertwined (Cavaye, 1996). It involves the collection of data in relation to same variables from a group of respondents with similar characteristics (Czaja & Blair, 2005). Techniques for collecting included questionnaires administered to heads of faculties/ schools/ institutes, observations on physical facilities, document analysis on government sponsored student program (GSSP) undergraduate admissions and graduations, and in-depth interviews with Vice Chancellors. This study was carried out in; -the University of Nairobi, Moi University, Kibabii University, Garissa University, Kenyatta University, Machakos University, and Cooperative University of Kenya.

3.1 Validity of Research Instrument

To determine the validity of the items in the research instruments, the researcher utilized content validity and also considered face and construct validity. According to Huck (2000) content validity is done by expert judgement. The instruments were therefore scrutinized by expert judgement of the scholars in the area of educational management in the department of education, Garissa University. The focus was on core mandates, and suitability of DUC to determine whether the items in the instruments adequately addressed the objectives of the study. Face validity is simply whether the test appears (at face value) to measure what it claims to. This is the least sophisticated measure of validity. Tests in which the purpose is clear, even to naive respondents, are said to have high face validity. Accordingly, tests in which the purpose is unclear have low face validity (Nevo, 1985). A direct measurement of face validity is obtained by asking people to rate the validity of a test as it appears to them. This rater could use a likert scale to assess face validity. On the other hand, construct validity evaluates whether a measurement tool really represents the thing we are interested in measuring. It's central to establishing the overall validity of a method.

3.2 Reliability of Research Instrument

Reliability determined by use of Cronbach Alpha model. After testing, the instruments they yielded a value of 0.714 (table 3) which implied that the instruments were reliable (Orodho, 2005). Orodho (2005) opined that a correlation coefficient (r) of about 0.7 should be considered high enough to judge the reliability of the instrument

Table 2.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.714	0.714	42

Collected data was accurately scored and systematically organized to facilitate data analysis (Gay, Mills & Airasian, 2006). After scoring data, the researcher tabulated and coded the data and made it ready to be programmed into the computer by the use of Statistical Package for the Social Sciences (SPSS) in order to derive meaning. Data from the questionnaires was analyzed using Pearson r (because there was a linear relationship between the variables), while data from interviews were analyzed descriptively. Documents and Observation were analyzed based on the researcher's interpretation (Bowen, 2009).

4.0 Results

Results for Quantitative data obtained from Pearson correlation analysis of the hypothesis (*There is no significant relationship between suitability of DUC in government funding and implementation of the core mandates of public universities in Kenya*) at an alpha level of 0.05, df of 68 (70-2) are presented in table 3.

Table 3.
Pearson's Correlation Analysis of Suitability of DUC in Government funding and Implementation of university core mandates

Correlations		Suitability of DUC in government funding	University Core mandates
Suitability of DUC in government funding	Pearson Correlation	1	.027
	Sig. (2-tailed)		.827
	N	70	70
University Core mandates	Pearson Correlation	.027	1
	Sig. (2-tailed)	.827	
	N	70	70

Based on 68 degrees of freedom (df), alpha level of 0.05, the analysis produced an *r* value of .027 and a P-value of 0.827 (Table 3). The P- value of 0.827 is greater than alpha level of 0.05. There was a positive correlation between suitability of DUC in government funding and implementation of the core mandates of public universities in Kenya. The two variables were weakly correlated (r (68) = .027, $p > .05$). From the results of the analysis done, it was found that there is no significant relationship between suitability of DUC in government funding and implementation of the core mandates of public universities in Kenya. Hence, the null Hypothesis was retained.

Results from Vice Chancellors interview indicated that differentiated unit cost funding formula has no features that promote quality, fairness and way in to higher education. Government capitation is down to nearly 50% of the universities' annual budget. Government capitation currently is enough to provide access to higher education only. All VC's seemed to faulter the funding formula which they thought was not suitable to turn around financial challenges facing public universities. Tendering which is a procurement procedure aimed at levelling the cost of procurement of merchants and services, does not seem to work for universities that are far from the source of materials or service because of storage and transport charges that remain high. Universities can no longer afford to maintain presence beyond their traditional market by advertising in print media or television, but rely mainly on their websites which they say is more effective especially for non-single campus universities. Albeit, universities have financial challenges, they still collaborate with government ministries and other agencies to solve societal problems.

Summary results on graduation rates for the sampled universities A, B, C, D, E, F and G 128.5, 77.4, 130, 72, 65.8, 70.7, 85.6 respectively. Five universities had data which led to correct calculation of the graduation rates. Two universities A and C did not have disaggregated data to accurately determine their graduation rate. Never the less, the results imply that most public universities in Kenya have high graduation rate contrary to insignificant relationship that exists between DUC and implementation of the core mandates of public universities in Kenya.

In addition to document analysis, the researcher also used observation to corroborate information collected from questionnaires and interviews. Results from two observation areas of; the general outlay of the administration block (in terms of neatness, arrangement and accessibility by persons living with disability), and main campus compound (in relation to safety, and cleanliness), which are a reflection of a component for infrastructure maintenance and development in DUC show that most public universities in Kenya have neat and well- arranged administration blocks accessible with persons living with disabilities, and safe and clean main campus. Observation made on arrangement of the administration block considered proximity to other academic blocks such as the library, lecturers' offices and visibility and accessibility from the main gate while on safety, the focus was how hostels and offices entrances had been reinforced to deter burglary, secure perimeter fence or wall, street lighting and presence of safety and security professionals to respond to a variety of calls for help, from medical emergencies to criminal activity. Foot and vehicle patrols of campus grounds, buildings and residence halls.

5.0 Conclusion

This study which aimed to assess suitability of DUC in government funding and its relationship with implementation of the core mandates of public universities in Kenya found out that there was no significant relationship between suitability of DUC in government funding and implementation of the core mandates of public universities in Kenya. Further results indicated that Differentiated Unit Cost funding model, introduced in 2017 which would have offered transparency and fairness in university funding, was found to have had no features that promote quality and equity. More findings showed that government capitation based on DUC was inadequate to the extent that it was only around 50% of the universities' payroll requirement, down from around 61% in 2017. Public Kenyan universities have to raise at least 20% of their annual budget in order to meet their annual budgetary needs. The decrease in capitation resulted in higher student to lecturer ratio, which in turn has led to inadequate teaching and learning resources.

5.1 Recommendations

i) The study established that differentiated unit cost funding formula has no features that promote quality and equity. It is recommended that the government improves DUC so that it can promote quality and equity or come up another formula that allocate funds to universities in a manner that takes into account activity- based unit cost as opposed to program based like it is currently.

ii) The study also shows that government capitation based on DUC was inadequate to the extent that it is only around 50% of the universities' payroll requirement, down from around 61% in 2017. The government should increase its capitation to public universities to cater for at least 80 % of universities' annual budgetary needs so that more qualified lecturers can be hired to bring down the student to lecturer ratio to guarantee quality education.

5.2 Suggestions for Future Research

1. Private university funding and its relationship with implementation of university mandates should be carried out in private universities in Kenya.

2. Activity- based student unit cost and its effect on quality education in order to decide which model is better between activity- and program- based unit costs

3. Factors affecting graduation rate of public universities in Kenya.

4. Physical facilities and their influence on implementation of public or private Kenyan university core mandates.

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