

The Effect of Cost of Education on choice of Private universities in Uganda

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Abstract

This study analysed the effect of cost on choices by international students to study in private Ugandan universities. The analysis indicated that fees policy contributed 17% to the way cost was considered. The relationship between fees policy and choice was 36%, implying that fees policy also influenced choices of a university. The purpose of the study was achieved because it was shown that cost influenced up to 75% of the choice of a University. The study proposed adopting an Activity Based Costing approach in determining the cost of education. A simulation test gave a prediction that if adopted, Activity Based Costing would contribute 13% to cost. All this increased the total causal effect of cost on choice to 88%.

Key words: cost, choice, private universities, fees policy and activity based costing.

Introduction

This paper analysed the effect cost of education has on international students' choice of private universities in Uganda. The study was premised on the fact that the cost of university education had been projected as being rather high by both national and international students. On a number of occasions students went on strike over fees of various categories in various universities (Kayiira 2009, Businge 2010, and Businge 2011). All this would not make Ugandan private universities an attractive destination for international students. High fees coupled with chronic high inflation, and an ever rising cost of living would not make Ugandan private universities an attractive destination for international students. Despite this apparently repulsive phenomenon, international students continued to enrol in Ugandan private universities. This made it necessary for one to investigate the role cost played in influencing decisions about the choices of universities by international students.

Cost of education can be defined as the total expense one incurs in order to access university education. The expenses one incurs include: Tuition; Functional charges; Accommodation; Charges for special projects like computers, Research and practical fees; General upkeep; Travel; Medical; National Council for Higher Education charge; and Graduation fees. These can be reduced to three categories: (a) Tuition, (b) Functional and (c) Living Expenses.

It was worth noting that international students paid slightly higher tuition fees by virtue of their status. For instance international students in Uganda pay about 25% on average more than nationals. Besides that special requirement to pay slightly higher fees, international students just like the nationals are affected by annual increment policy on fees charged by most private universities. Nkumba fee policy requires every new class to pay 10% higher than the previous year (72nd University Senate Minute, 2013).

Problem statement

The cost of university education in private universities was high as indicated in the introduction. The high cost should have been repulsive. There were indications that international students were not happy about the cost charged by universities. The international students' negative attitudes towards the cost of university education were supported by the following instances:

Table 1 International students' complaints about high tuition fees

<i>Date</i>	<i>Category of students</i>	<i>Cost related complaints</i>	<i>University</i>
2009	600 Kenyan students	Rioted over the extra levy imposed on international students	Makerere University
2010	Both national and international students	Complained over retake fee of Uganda Government Shillings (UGX) 100,000	Nkumba University
2010	Both national and international students	Complained about the UGX20,000 levied by NCHE	Several universities
2011	International students	Went on strike over the high cost of education	Kampala International

Sources: (Kayiira, 2009, Businge 2010, Businge 2011)

The above demonstrations over cost of education was supposed to make Ugandan universities less attractive. In spite of the above views on the cost of University education in private universities, statistics indicate that the number of international students at Kampala International University rose to over 6,715 accounting for 56% of all KIU's total student population in 2012. At Nkumba University, the number of international students also increased to 484 accounting for approximately 9% of the total student overall population.

Uganda by 2012 had attracted over 19,000 foreign students into its universities as seen below:

Table 2. Enrolment of international students per year

Year	2004	2005	2006	2007	2008	2009	2010	2011	2012
Number of international students	2,947	7735	12930	13835	14793	15829	16937	18045	19153

Source: Businge, 2007, Bwire 2010, Hermann 2012

The fact that international students demonstrated over the cost of university education while at the same time their numbers increased, it became necessary to investigate the link between cost of University Education and the choice of Ugandan Private Universities by international students. The economic wisdom is that the lower the cost the higher the demand and vice versa. So if higher education in Uganda was considered higher to the extent of causing demonstrations, the number of international students should not have increased instead. The figures in Table 2 seem to go against the above economic principle of price mechanism.

The current study investigated the relationship between cost and choice of the universities.

Purpose of the study

This study analysed the extent to which cost of university education influenced the international students' choice to enrol in Ugandan Private Universities.

Objectives

1. To analyse the relationship between cost and fees policy in private universities
2. To assess the effect of fees policy on choice of private universities in Uganda
3. To analyse the influence of cost on choice of private universities in Uganda

Hypotheses

Hypothesis 1 on cost and fees policy

H_0^1 There is no significant relationship between Cost of University Education and fees policy

H_A^1 There is a significant relationship between Cost of University Education and fees policy

Hypothesis 2 Fees policy and choice of University

H_0^2 There is no significant effect of fees policy on choice of private universities in Uganda

H_A^2 There is no significant effect of fees policy on choice of private universities in Uganda

Hypothesis 3 cost and choice of private university

H_0^3 These is no significant influence of cost on choice of private universities in Uganda

H_A^3 These is significant influence of cost on choice of private universities in Uganda

Literature review

Previously a number of studies addressed the question of cost of university education in Uganda. Some, like Kasozi (2003) focuses on challenges and opportunities of university education in Uganda. He brought out clearly the theme of unit cost. "There is a very disturbing gap between what it costs to educate a student and what the student pays in terms of fees.

Virtually each university spends more on students than it charges them in terms of fees and other payments” (Kasozi, 2003:31). In his study, Kasozi noted that as students paid less than what it cost to educate them, then the gap was filled by paying less to staff, and by not providing a state of the art infrastructure.

Cost

In another study, Mamdani (2007) indicated that although privatisation of university education was acceptable to a large percentage of the populace, the commercialisation of it was not favoured. He also criticised government for giving very little money to universities. The funds given to universities did not meet the unit cost. In his observation meagre funding was killing the higher education in the country. However, his study did not give reasons why international students chose to study in Ugandan Private Universities. The current study sought to address this phenomenon.

An argument that there is under funding of public university education in Uganda was also advanced by Sempebwa (2007). His study did not have an objective focusing on international students choosing Ugandan higher education in private universities. All this means that there are matters that have not been addressed by earlier literature. These are the gaps the current sought to fill.

Funding models

Another theme handled in the available literature is funding models for public universities. Kasozi (2009) contended that the model of funding universities in Uganda was state driven, controlled and linked to state budgets. He proposed eleven options of funding university education in the country. What he proposed was worthwhile, however, the thesis of his book did not include cost of university education in private universities, nor did he consider the linkage between cost of university education and attraction of international students to private universities in Uganda.

Choice

There is literature on choice criteria used by international students to select countries and universities to study. Wilkins, Balakrishnan and Huisman (2012) studied the motivations for students to study at international branch campus in United Arab Emirates. They found that the main motive of students who choose to study at an international branch campus are different to those students who choose to study at home campuses. Although this is a useful study, it was different in that it focused on choice to study at a branch of a foreign university. The concerns of the above study are different from the current study. So there was a gap which the current study set out to fill. There were factors that influenced foreign students’ choices to study in USA, UK and Canada. These factors are summarised in the table below:

Table 3 Reasons for Choice of university and country

	<i>Reasons for choice</i>	<i>Host country</i>
1	<i>Recommendations from family</i> ; friends and agents; employment prospects; tuition fees and costs of living.	USA, UK, Canada
2	<i>Quality of education</i> ; quality teaching and learning environment; qualifications gained recognised; easy admission;	USA, UK, Canada

3	Recognition of gained qualification; employment during study. reputation of institutions; reputable degree programme;	USA, UK Canada
4	University reputation; employment after study; good facilities at university for international students. Course and career information	USA, UK Canada
5	Economic and cultural links between source countries and host country; availability of scholarships; other assistance	USA, UK Canada
6	Cost issues	USA, UK Canada

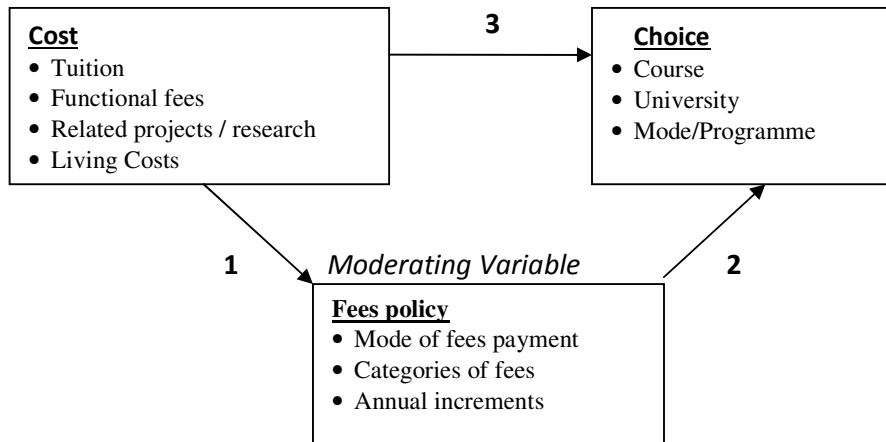
Source: Wilkins *et al.* 2012

In Table 3 above, it can be noted that there were mainly six factors: recommendation of family, quality of education, recognition of degree gained, university reputation, economic and cultural links and cost issues that influenced international students to choose to go to the three developed countries of USA, UK and Canada. It is true many international students have found themselves in one of the three countries because of the above reasons. The above findings could not be generalised and applied to the East African region as far as students choosing Ugandan private universities was concerned. So the current study sought to ascertain whether cost plays a key role in this matter. Indonesian students choose a university based on cost, reputation, proximity, job prospect, and parents. These are the five most important factors (Kusumawati, Yanamandram, and Perera, 2010). Although the factors include cost, it was not possible to generalize using Indonesian case. So, there was still a need to explore the influence of cost on choices of universities by international students in East Africa.

Fees policy

Some studies proved that fees policies indeed affected choices of universities. Kane (1994) investigated college enrolment of high school graduates in USA and found that a fees policy of \$1000 increase in costs was associated with a five percentage point decline in enrolment. McPherson and Schapiro (1991) found a net cost increase of \$100 reduced enrolment of low income youths by 0.68%. In Australia, Cardack and Ryan (2006) found that students from low income families were under represented in higher education. In Canada, one study by Coelli (2009) looked at the influence of cost in Ontario. It found that higher tuition rates were associated with reduced enrolment among those with low-income parents, whereas enrolment was constant or even increasing among those with middle or high-income parents.

In UK in 2006, government fees policy of top-up fees asked students to pay more towards their education at a sum of up to £3,070, a huge rise, when students had previously been paying yearly fees of around £1000. This fees policy led to fall in intake by 4%. However, enrolment rose by 11.6% in 2009 indicating that the fees policy had become a norm (Kedros, 2012). The general conclusion from the above studies was that fees policy affected choices of a university. The current study sought to determine whether the effect of fees policy in the West was the same as in the East African region and specifically Uganda.

Conceptual framework*Independent Variable**Dependent variable**Figure 1 Conceptual Framework*

The above framework shows the relationships between the key variables of the current study. The arrows indicate the relationship and the corresponding number is associated with the objectives of the study. So the conceptual framework tallies well with the objectives of the study. The first objective focuses on cost and fees policy, the second objective is on fees policy and choice, and the third objective is on cost and choice. Although there is literature on cost, fees policy and choice, none explored the relationship among these three variables. So the current study which examined the relationship of the three variables made a contribution especially when it determined the effect of cost on choice.

Methodology*Research design*

A cross sectional survey research design was used (Ahuja 2005). So, data was gathered from a cross section of respondents from both universities. These respondents included female and male international students. The survey method and the questionnaire tool yielded quantitative data which was used to test hypotheses and to determine the overall conclusion. The quantitative approach was also used because it enabled the working out of relationships between variables.

Population of the study

The population of interest consisted of international students in Ugandan private universities. According to the records from the academic registrar's office and Deans of student's office of both universities, there were 6715 international students at Kampala International University and 484 at Nkumba University at the time of this study.

Sampling techniques and sample size

A good research sample is one that is representative of the population from which it is drawn (Amin, 2005). Since the number of international students in Ugandan universities was rather big, it was necessary to determine the minimum sample size. The confidence level was 95% accurate. This corresponded to a z score of 1.96. The minimum margin of error was therefore 5%. The z score in this study was used to estimate proportions of accuracy. At least 70% of the respondents was considered to be able to complete all items on the questionnaire. Only 30% was considered to be unable to do so. A formula popularised by de Vaus (1991) was used to determine the minimum sample.

Sample size was determined using the following formulae for confidence level:

$$n = p\% \times q\% \times \left(\frac{z}{e}\right)^2$$

Where n = minimum sample size required

p% = proportion belonging to the specific sample

q% = proportion belonging to the specific group

z = value (proportion) corresponding to the level of confidence required.

e = margin of error required

$$n = 70 \times 30 \times \left(\frac{1.96}{5}\right)^2$$

$$n = 2100 \times (0.392)^2$$

$$n = 2100 \times 0.154$$

$$n = 323.4$$

$$n = 323$$

The figure of 323 was adjusted to total population of the study which is 7,199. The following formula recommended by Saunders *et al* (1997: 243) was used:

$$n = \frac{n}{1 + \left(\frac{n}{N}\right)}$$

$$n = \frac{323}{1 + \left(\frac{323}{7199}\right)}$$

$$n = \frac{323}{1.04}$$

$$n = \underline{310.5}$$

$$n = 311$$

So, the respondents to the questionnaire were 311.

Stratification procedure

Out of 7199 international students from both universities, the study used 290 from Kampala International University and 20 international students from Nkumba University. This was the proportion of about 7199 who participated in this study as respondents. These constituted the unit of analysis, that is, the people whose perceptions and experiences were analysed.

In the case of KIU international students who were 6715 in number, it meant applying the following a formula. The number of respondents in each stratum was determined using the following formula:

$$r = \frac{c \times s}{p}$$

Where r = respondents

c = category or stratum

s = desired sample size

p = population of all students

So the number of students forming the stratum or category that was required to respond to the questionnaire was arrived at as follows:

(a) Kampala International University with 6715 international students, respondents were

$$r = \frac{6715 \times 311}{7199}$$

$$r = 290$$

(b) Nkumba University with 484 international students, respondents were

$$r = \frac{484 \times 311}{7199}$$

$$r = 20.9$$

$$r = 21$$

Table 4 *Stratified Sampling of Respondents*

<i>University</i>	<i>Number of international students</i>	<i>Number of respondents</i>
Kampala International	6,715	290
Nkumba University	484	21
Total	7199	311

Source: *Field Research*

Data collection methods

A cross sectional research design requires one to use several data collection methods. In that regard the following methods were used:

Survey method

With this method, a questionnaire was designed according to the objectives and variables that were identified earlier. The self-administered questionnaire was designed in such a way that respondents had a list of possible options or answers from which the respondents ticked. These included fees policy, sources of fees, expenses, Cost of education, and choice.

Data Collection Procedures

The study took place in two universities, that is, Nkumba University and Kampala International University. In order to collect relevant data, a supporting letter from the Academic Registrar of Nkumba University was obtained. The letter was duly signed by the Academic Registrar clearly explaining the objective of the research and it was presented to the right officials at both universities. A total number of 290 questionnaires were given to two officials at Kampala International University, that is, the Dean of Students, and the Administrative Assistant in the Admissions office. The Admissions Officer helped to distribute the questionnaires to the students since she was the one in charge of admission and registration of these students. One open-ended question inviting opinion from respondents on their experiences and rating of quality and cost of university education in Uganda was given at the end of the questionnaire. At Nkumba University, apart from distributing the questionnaires from the Academic Registrar's office, different lecturers were contacted to assist in this exercise. Some 21 questionnaires were distributed and returned as expected.

Data Collection Instrument

Having explained the methods, it was necessary to outline the tools that were used to collect data from the field. This was necessary because of the following reasons; (1) methods and tools were different and therefore had to be explained separately (2) the explanation of the tools helped to determine the measurability of the variables and items (3) the explanation of the tools helped to determine the accuracy of the results obtained from the field.

Self-administered questionnaires

These contained questions on personal and research variables like; fees policy, sources of fees, expenses, cost of education and choice. The self-administered questionnaire method was preferred because it is an appropriate instrument for any survey research. Questionnaires were administered to international students to get information on; fees policy, sources of fees, expenses, cost of education, and choice. The respondents provided answers in a pre-determined order (Saunders, *et al* 1997: 243). The questionnaires had sections labelled A, B, C, D, E, F and G. The sections in the questionnaire included:

Table 5 Variables on the research tool

	Section	Items
A	Personal variables	7
B	Fees policy	7
C	Sources of fees	8
D	Expenses of international students	8
E	Comparison of Cost	5
F	Choice of a University	8
G	Cost of Education	9
	<i>Total</i>	61

There were 87 items in the questionnaire which was the main tool used in this study. Apart from the first 7 items on the demographic characteristics of the respondents, the rest of the items used the Likert type scale. This scale served as a measurement for the contribution of cost of university education to choice, cost of university education to quality, and quality to

choice. The Likert scale used was as follows: (a) Strongly Disagree= 1, (b) Disagree =2, neither disagree nor agree =3, Agree= 4, and Strongly Agree =5. One open-ended question inviting opinion from respondents on their experiences and rating of quality and cost of university education in Uganda was given at the end of the questionnaire.

Validity and Reliability instruments

Validity

An expert rated the items using a scale of 4=very valid; 3=valid; 2=valid only to a small, 1= not valid at all to ensure that the research design fully addressed the research objectives that were achieved. Validity was concerned with the idea that the research design fully addressed the research objectives (White, 2009). In the current study, validity was established through a validity test using the Content Validity Index (CVI). These were computed as follows $\frac{3+4}{1+2+3+4}$. The product of the CVI test was 0.873. Since conventional research wisdom requires that a good research be ≥ 0.7 (see Amin 2005; Saunders *et al*, 1997), that is, either equal or greater than 70%, it meant that the individual questions posed were relevant and valid to the study variables.

Reliability

Reliability in this study showed that each section produced results which were reliable. This was determined by using SPSS to work out the Cronbach alpha (α) of each section on the questionnaire. The questionnaire in the following response items (5 = Strongly Agree, 4 = Agree, 3= Neither Agree or Disagree, 2 = Disagree and 1=Strongly Disagree) was given to the expert to score. The reliability coefficients needed to be greater than 0.75 for the study to be regarded exhaustive. The cut off point for most social science research should be $[\geq] 0.75$ (Sullivan, 2001: 303). They in that way accurately measured the scales used in the study.

For the current study, the test of Cronbach alpha yielded the results as given in the table below:

Table 6 Showing Reliability

	Scale	Cronbach alpha
1	Cost	.892
2	Fees policy	.941
3	Choice	.781
	Average	.871

Source: Cronbach Simulation Process

The scales for main variables of the study were the only ones that were considered. They each had the alpha score was greater than 0.75 which was recommended for social science research (Sullivan, 2001: 303). The average alpha was .871. The implication of all this was that the scales used to measure cost, quality and choice were reliable and consistent.

Data Processing and Analysis

The quantitative data generated during the field research was collated and analysed using the SPSS software program [SPSS version 18]. The analyses and presentations included descriptive statistics. This was necessary in order to generate percentages, averages, totals, graphs and

tabulations. Inferential statistics especially correlation and regression tests were generated. These were applied so as to accurately determine the nature of relationships and effects of variables on others.

Results and discussion

Cost of university education at Ugandan Private Universities

Tuition fees: All students whether national or international had to pay tuition fees. This is the charge for participating in lectures and being taught. Tuition fees vary according to the courses. Some courses like science courses cost more in tuition than other courses which were not laboratory based. As far as international students were concerned, they were charged slightly more than nationals. The differences in tuition fees are indicated in Table 4.4 below:

Table 7 Differences in fees between nationals and international students

	Course	Nationals	Internationals	Variation in Amount	Variation in %
1	BBA	1,026,700=	1,299,600=	272,900=	27%
2	DBA	1,098,200=	1,377,500=	279,300=	25%
3	LLB	1,141,100=	1,174,000=	32,900=	3%
4	BIT	1,026,700=	1,299,600=	272,900=	27%
5	BHRM	1,026,700=	1,299,600=	272,900=	27%
6	MBA	1,033,600=	1,224,300=	190,700=	18%
7	PhD	2,310,000=	3,696,000=	1,386,000=	60%

Source: Nkumba University fees file for 2013/2014

The above figures refer to semester fees tuition only. This meant that the differences occurred in tuition fees only. Other costs remained the same regardless of the students' status. The variation in fees nationals and international students indicated a mode of 27%. International students pay slightly more tuition than the nationals.

Functional Fees in the Ugandan Private Universities

Functional fees were the second category of charges that universities levied. The purpose for this was to pay for services other than tuition. These services include; development of the university, first aid provision to students, student's guild activities, library services, ICT services, Students assessment, students identification and caution. These services were cost differently because they could not be put together with tuition which covered a full semester of daily teaching. Functional fees though important were not given serious consideration by international students when they made choices of a university to study in. The functional fees were as shown in a Table below.

Table 8 Functional fees

<i>Item</i>	<i>Amount per year in UGX</i>	<i>Service / use</i>
Development fee	200,000=	Physical development of the institution
Examinations fee	80,000=	Annual assessment
Students guild	90,000=	Students to run their own affairs
Identity cards	15,000=	students identification
Library	81,000=	Books and online materials
Medical	45,000=	To provide first aid treatment

Caution	10,000=	Used if property was damaged
ICT	90,000=	Computer based resources
Rules	2,000=	University rules
Literature	10,000=	Journals etc. reading materials
Total	623,000=	<i>Total amount paid for the year</i>

Source: Nkumba University Academic Registrar's Office

The functional fees contribute towards the total cost of education.

Practical and Internship fees

Practicals attract varying fees. Internship arrangement required a student to be on placement in an organisation and work for a period of about 2 months. The purpose of internship was to give students hands-on experience in a work environment. The cost of practicals and internship in private universities were as indicated in table below:

Table 9 indicating practical fees for every academic discipline per year

No	Discipline based practicals	Costs annually
1.	Art related practicals	230,000/=
2.	Education: Teaching Practice	141,000/=
3.	Science related practicals	141,000/=
4.	Social Science related	200,000/=
5.	Business Studies related	180,000/=
6.	Law studies related	180,000/=
7.	Internship	420,000/=paid once

Source: Nkumba University Admissions file, 2013

Research cost of taught courses

In Ugandan Universities, research is mandatory for both undergraduate and postgraduate students. This is necessary because research has values which include the following:

- (i) Research enhances creativity and innovation.
- (ii) Creativity and innovation lead to prosperity of universities since the university's ranking is mainly based on research and publications.
- (iii) High quality University education enables a country to respond to crises of the day. For example, new crops to fight hunger, and drugs to fight diseases like HIV, malaria etc.

Table: 10 Indicating Research fee charged

Level	Cost
Undergraduate (NU)	100,000/=
Masters (NU)	1,150,000/=
Undergraduate & Master (KIU)	500,000/=

Source: KIU information bulletin and NU research guidelines

The above costs represented average costs of research at both undergraduate and postgraduate levels. The undergraduate research fee is paid once, at the time when a student is carrying out research. Masters research costs included only the fees paid. It was noted that the research fee paid to the university did not cater for the field research; research assistants; secretarial services; and binding final copies.

Cost of Living

Cost of Living at university level involved cost of accommodation, meals, and utilities. For example at Nkumba a student had to pay UGX1,140,000/= for 34 weeks. The sum of UGX 1,140,000/= did not include the cost of personal effects such as soap, laundry, beddings and out of pocket money. There were two options of living expenses; one was where students lived in university accommodation and got their meals there. Two, was where students lived in private accommodation and all the bills.

The cost of living was an important factor which was considered together with other costs by international students when made decisions to study in Private Universities of Uganda. The international students whose decision to study in Ugandan Private Universities was influenced partly by cost of living constituted 68%. Most of these students were partly attracted to study in Uganda because of the low cost of living wage.

Internship and Research expenses are paid at the time when internship and research are going to be carried out. This implied that international students were more concerned with tuition, functional and cost of living expenses when they made decisions to join universities.

Table 11 Cost of education in the Ugandan Private Universities

		Kampala International in UGX			Nkumba University in UGX		
		Tuition	Functional fees	Total	Tuition	Functional fees	Total
1	BIT	2,132,000	400,000=	2,532,000=	1,299,600	330000=	1,511,315=
2	BA PAM	1,976,000	400,000=	2,376,000=	1,252,263	330000=	1,582,263=
3	BBA	1,976,000	400,000=	2,376,000=	1,299,600	330000=	1,511,315=
4	BHRM	1,976,000	400,000=	2,376,000=	1,299,600	330,000=	1,511,315=
5	LLB	1,976,000	400,000=	2,376,000=	1,174,000=	330,000=	1,397,265=
6	MBA	1,820,000=	400,000=	2,220,000=	1,836,450=	267,500=	2,103,950=
7	PhD	7,800,000=	400,000=	4,300,000=	7,392,000	1,500,000	8,892,000=

Source: Offices of Academic Registrars at KIU and NU

Table 11 above shows the tuition and functional fees international students paid at KIU and NU.

Test of hypothesis 1 (H₁₀) Cost of University Education and University fees policy

After the above explanation, the first hypothesis was tested using both Pearson Product Moment (PPM) correlation and the simple linear regression. The results from the correlation test revealed that there was a positive significant relationship between cost and fees policy. The results of the correlation were $r(311) = .423, p < 0.01$ which indicated cost of education was closely associated with fees policy and vice versa.

The hypothesis was further subjected to a simple linear regression matrix. This test showed that fees policy was responsible for the cost of education in each private university. A simple linear regression test indicated that there was a linear relationship between fees policy and cost of education [F (1, 309) = 67.434, $p < 0.01$]. This statistic meant that the cost of university education was not arbitrary but was guided by the fees policy of each university. Any change in a university's fees policy led to a proportionate change in the cost of university education. The Adj.R² from the model summary of regression was .176. This meant that the model explained 18% of the cost of education in private universities.

Table 12 fees policy and cost of education Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.344	.297		4.532	.000
fees policy	.668	.081	.423	8.212	.000

a. Dependent Variable: cost of education

In view of the regression results of Beta = .423, $p < 0.01$, it was possible to infer that fees policy was a factor that influenced the cost of university education. The null hypothesis stated that “there is no significant relationship between cost of education and fees policies”. This policy was jettisoned, instead the alternate hypothesis, “there is no significant relationship between cost of education and fees policies” was supported.

Fees policies have provisions like: (a) Tuition increases by a percentage every academic year; (b) Costing every service provided by the university; (c) Those who fail to pass examinations and are required to pay a pre-determined fee; (d) Those who paid late were required to pay a surcharge; (e) Scheduling each specific payment; (f) Determining charges using benchmarking method; and (g) Use of finance committees to develop financial management policies. Fees policies guided the amount, the mode of payment, and the use of financial resources. For that reason, fees policies were an important factor in the cost of university education.

Test of hypothesis 2 (H₂₀) university fees policy and choice of private universities

It was true that every university in Uganda had to charge and indeed charged fees. However, the question was, “do fees policies influence the choice of a private university?” To answer this question, the second hypothesis was tested. First a correlation test was executed and it produced the following results $r(311) = .597$, $p < 0.01$. The indication here was that the provision of the fees policy influenced the way and why international students chose to study in private universities.

The hypothesis was further tested using a simple linear regression matrix. This revealed that there was linearity between fees policy and choice of university [$F(1,309) = .171.481$, $p < 0.01$]. This linearity implied that the changes in fees policy affected the way international students chose to study in private universities. Regarding the influence of the fees policies on choices of private universities, regression test produced an Adj. R^2 of .355. This translated into 36%. The implication is that fees policy influenced 36% of the international students’ choices of private universities. The remaining 64% could be explained by other factors outside the scope of this brief study.

Table 13 Fees policy and choice of university Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.710	.343		-2.068	.039
choice of university	1.100	.084	.597	13.095	.000

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a. Dependent Variable: fees policy

The results of Beta = .597, p<0.01 showed that indeed fees policy influenced the choices.

The second null hypothesis that, “there is no significant effect fees policy has on choices made my international students to study in private Ugandan universities”, was rejected. For that matter the alternate hypothesis that, “there is a significant effect fees policy has on choices made my international students to study in private Ugandan universities” was upheld instead.

Test of hypothesis 3 (H3₀) Cost of University Education and choice of Private Universities

The third hypothesis in full stated that “cost of education does not significantly influence international students’ choices to enrol in Ugandan private universities”. To test this hypothesis, first, Pearson correlation was carried out to determine the significance of the influence between cost of and international students’ choices. The output is given in table below:

Table14 Correlations on Cost of University Education and choice correlations

		Cost of education	Choice of university
Cost of education	Pearson Correlation	1	.509**
	Sig. (2-tailed)		.000
	N	311	311
Choice of university	Pearson Correlation	.509**	1
	Sig. (2-tailed)	.000	
	N	311	311

** . Correlation is significant at the 0.01 level (2-tailed).

From the results (r [311] = .509, p< 0.01) in the table above, it is clear that a positive significant relationship existed between the cost of University Education and choice to join private universities in Uganda made by international students. This implied that cost of education was a critical factor that influenced international students when they made choices to join private universities in Uganda.

In order to determine the actual contribution of the cost of education on the international students’ choices of universities, hypothesis was also subjected to a simple regression matrix. The model summary of the regression matrix yielded an Adj. R² of 0.256 which translated into 26%. This meant that cost of education explained 26% of the international students’ choices of the private universities in Uganda. The remaining 74% could have been explained by other factors besides cost of education. The regression matrix also produced results of F (1, 309) =107,918, P<0.01. This statistics revealed that there was a linear relationship between cost of education and choice of university. The more cost of education was considered the more it influenced the choices made by international students. The results of regression showed that cost of education had an influence on choices.

Table 15 Regression of cost on choice coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.474	.153		16.155	.000
	Cost of education	.436	.042	.509	10.388	.000

a. Dependent Variable: choice of university

From the above table it is clear that cost had an influence on choice of universities (Beta = .509, $p < 0.01$). This meant that the more favourable the fees were set the more international students will choose that particular university. In view of the above results, it is appropriate to conclude that the null hypothesis which stated that there was no significant relationship was rejected, instead the alternate hypothesis was upheld. The cost of living in Uganda was also rated low. So it was the low cost of university education which attracts international students to Ugandan private universities.

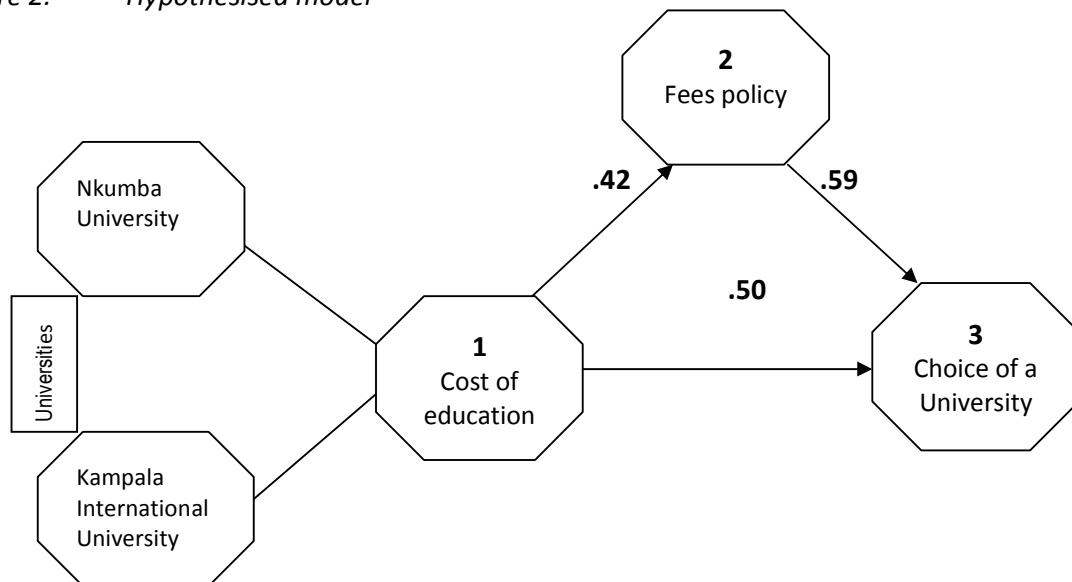
THE HYPOTHETICAL MODEL

The hypothetical model was used to determine the overall effect of cost of education on choices made by international students to study in private universities in Uganda. The hypothetical model therefore provided a reliable explanation that choice was a function of cost, that is, $C_o = f(C_e)$. In the explanation the following are taken into account:

- (a) Determining variables – in the model there was an independent variable (cost), and intervening variable (fees policy), and a dependent variable (choice).
- (b) Universities being exogenous – these serve to show where cost came from. Universities were not part of the causal paths.
- (c) Establishing causal paths – the causal paths relevant to variable (3) which was the choice of a university were paths from (1) to (2) to (3); and from (1) cost.
- (d) Stating assumptions –(i) all relations were linear,
- (e) Variables were measured linear to night.

The paths for the hypothesised empirical model

Figure 2: Hypothesised model



The paths in the hypothesised model above established the following relationships:

- (1) A positive significant relationship between cost and fees policy
- (2) A positive significant relationship between fees policy and choice
- (3) A positive significant relationship between cost and choice

The results were as the paths coefficients indicate:

<u>Paths</u>	<u>Variable</u>	<u>coefficients</u>
P21	= cost and fees policy	.42
P32	= fees policy and choice	.59
P31	= cost and choice	.50

Variable 1 (cost) was the only exogenous variable because it had no arrows pointing to it. This left two endogenous variables in the model, that is variable 2 (fees policy) and variable 3 (choice). Each of these variables was explained by one or two variables.

Effects of decomposition

The paths coefficients were used to decompose correlations in the model into direct and indirect effects corresponding to direct and indirect paths reflected in the arrows of the model. This was based on rule that in a linear system the total causal effect of variable A on variable B was the sum of the values of all the paths from A to B.

Considering that choice was the dependent variable and cost was the independent variable, the indirect effects and calculated by multiplying the paths coefficients for each path from cost to choice.

$$\begin{aligned}
 &= \text{cost} \longrightarrow \text{fees policy} \longrightarrow \text{choice of private university} \\
 &= .42 \times .59 = .2478 \cong .25
 \end{aligned}$$

So, .25 was the total indirect effect of cost on choice of private university, plus the direct effect of .50. The total causal effect of cost on choice was (.25+.50) .75. In view of the above model, it was appropriate to infer that cost was a major determinant of the choice of private universities especially by international students. The other factors which account for the remaining .25 should be only peripheral in the decision making process about universities.

Although the total causal effect of 75% was high, there is some disapproval raised about the cost of university education in Ugandan universities. For instance it was argued that the fees paid by university students did not reflect the true cost of university education in the country (Kasozi, 2009). Regarding costing of university education, most private universities tended to use the method of benchmarking. There was also an element of incrementalism in costing university education. This is where a university kept adding a percentage rise on fees every financial year. For instance at Nkumba University there was a 10% rise in tuition for every new entrants. The incrementalism method did not necessarily reflect the true cost of the university education. The above analysis explained why university education in Uganda seemed to be cheaper in the region, and this attracted international students.

Table 17 Comparison of cost of undergraduate programme in East Africa

	University	Course	Nationals	Foreigners
1	University of Nairobi	B.Sc Computer	USD 2970.81	USD 3564.81
2	University of Dar es salaam	B.Sc Computer	USD 1947.41	USD 3865.00
3	Nkumba University	B.Sc Computer	USD 1039.38	USD 1251.34
3	Kampala International University	B.Sc Computer	USD 1290.87	USD 1601.54

Source: Internet, December, 2013

The above figures showed that it was cheaper for a Kenyan student to study in a Ugandan university than at the University of Nairobi. As foreign students in Uganda, Kenyan students offering a Bachelor of Computer Science would pay either USD 1251.34 at Nkumba or USD 1601.54 at Kampala. This meant paying USD 1719.47 less if they enrolled at Nkumba; or USD1369.27 less if they enrolled at Kampala than what they would pay if they enrolled for the same course at Nairobi University. For Tanzanian students it was also cheaper to study in Uganda than at the University of Dar-es Salaam. Students offering a Bachelor of Science in Computer Science would pay USD 696.07 less at the Nkumba, and USD 345.87 less at Kampala for an academic year.

RECOMMENDATION: ADOPTION OF ACTIVITY BASED COSTING

The hypothetical model confirmed that the total causal effect of cost on choice of a university was 75%. In order to improve the effect of cost on choice and eliminate the disapprovals pointed out earlier on, this study recommended the adoption of the Activity Based Costing.

How much Activity Based Costing could contribute to improving the value of cost on choice, could be determined by carrying out a simulation. The simulation was carried out in following steps:

- Step 1 the percentage of total causal effect was subtracted from 100%. In this study, the total causal effect from the hypothetical model was 75%. So 100% minus 75% leaves 25%.
- Step 2 the product in step 1 above was multiplied by the direct effect. In the current study, this was $.50 \times .25 = .125 \cong .13$. So the contribution of Activity Based Costing was 13%.
- Step 3 The product in step 2 was added to the total causal effect in order to derive the total causal effect after simulation. In this study the 13% was added to the 75% giving a final figure of 88%.
- Step 4 Conclusion based on the simulation was that it was viable to adopt the Activity Based Costing because it promised to add value to cost as an effect on choice making of private universities by international students.

The plausibility of Activity Based Costing

This technique was used in allocating costs to services offered. The basis of this technique was that activities cause an organization to incur costs. Once the costs of the activities have been

identified and each activity's cost had been determined, the cost of the activities was then allocated to the service that required the activity.

Table 20 Illustration of ABC for a university

Course identification information

Course: B.Sc. in Computer Science; Duration: Three years
School: School of Business Administration: University Nkumba

Course Code	Course	Hours	Credit units	Unit Cost
NUBSCS 31101	Information Technology	60	4	320,000
NUBSCS31102	Computer Literacy	60	4	320,000
NUBSCS31103	Organisation Theory	60	4	320,000
NUBSCS31104	Internet and Web Page Design	60	4	320,000
NUBSCS31105	Business Information System	60	4	320,000
NUBSCS31106	Computer Organisation and Architecture	60	4	320,000
<i>Semester total</i>	<i>6 courses</i>	<i>360 hrs</i>	<i>24 CU</i>	<i>UGX 1,920,000=</i>
	Semester II			
NUBSCS 31201	Data Communications and Networks	60	4	320,000
NUBSCS31202	Database Management System	60	4	320,000
NUBSCS31203	Computer Mathematics	60	4	320,000
NUBSCS31204	Fundamentals of Structure Programming	60	4	320,000
NUBSCS 31205	Operating system	60	4	320,000
NUBSCS31206	Structured Systems Analysis and Design	60	4	320,000
<i>Semester total</i>	<i>6 courses</i>	<i>360 hrs</i>	<i>24 CU</i>	<i>UGX 1920,000</i>
<i>Annual total</i>	<i>12 courses</i>	<i>720</i>	<i>48 CU</i>	<i>3,840,000</i>

The implication of the above figures was that each course unit would attract a minimum of UGX 320,000 per semester. This amount would be used for: Lecturing UGX15,000 per week; utilities (electricity UGX 5000 per week; facilities repairs and maintenance UGX 50,000; Administration UGX 5000 per week; and other costs UGX 5000 per week. All these costs amount to UGX 320,000. In addition to tuition fees there are functional fees as shown below:

Table 21 Functional fees

	Functional area	UGX
1	Development fee	100,000
2	Examination fee	40,000
3	Library fee	40,500
4	Literature	10,000
5	Medical	22,500
6	Identity card	15,000
7	Guild	45,000
8	Caution	10,000
9	Student handbook	2000
10	ICT resources	45,000
11	Internet	30,000
12	Students' services e.g. travels etc.	40,000
	<i>Total for a semester</i>	<i>400,000</i>

These costs would enable the universities to offer quality services to the students. ABC requires the mode of payment to change to a system where students pay for each course unit plus the functional fees. If a student had money for one or two course units he should pay for each course and study only those course units. This would reduce of the attrition being experienced by Ugandan universities. Some students who enrolled dropped out because of lack of fees.

CONCLUSION

The study proved that cost of education influenced choices of international students to study in private universities in Uganda. The analysis indicated that there were significant positive relationships between cost and fees policy [$r(311) = .423, p < 0.01$], fees policy and choice of private university [$r(311) = .597, p < 0.01$], and [$r(311) = .509, p < 0.01$].

This purpose of the study was achieved because through the hypothetical model analysis. It was proved that cost influenced up to 75% of the choice. This effect was high, but given the complaints about cost of university education in Uganda, the study proposed Activity Based Costing. A simulation gave a prediction that Activity Based Costing would contribute 13% to choice making. This increased the total causal effect of cost on choice to 88%.

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