

**CHALLENGES OF HIGHER EDUCATION FINANCING IN KENYA: A CASE OF HIGHER EDUCATION LOANS BOARD****Teresia Njoki Wanjohi**

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**ABSTRACT**

A good higher education system is a driver for social economic development of an economy. The financing of higher education throughout the world has seen dramatic changes in the last decades of the 20<sup>th</sup> and the first decade of the 21<sup>st</sup> Century. Kenya began its current Higher Education Loan Scheme under a quasi-public Higher Education Board in 1995 whereby loan amounts are means-tested with an annual interest of 4 percent. The general objective of this study aimed at investigating the challenges of higher education financing at the Higher education Loans Board, HELB. The specific objectives included; To analyse the influence of ICT challenges on higher education financing in Kenya; To assess the influence of administrative challenges on higher education financing in Kenya; To establish how credit risk affects higher education financing in Kenya; and to find out the influence of funding strategies on higher education financing in Kenya. The study used a mixed design approach including the following; explanatory, qualitative and quantitative. In literature, the study reviewed the theories on which the study is anchored, conceptual framework, empirical review and critiqued the literature so as to establish the research gap. The study population consisted of all current HELB staff whose currently stand at 133 target population. The study is a census hence population size and sample size was 133 staff members at HELB. This study utilized a questionnaire to collect primary data. The study used inferential statistics that involved multiple regression model to establish the relationship between the variables. The study established that ICT challenges, Credit risk challenges, administrative challenges and funding strategies affect higher education financing in Kenya.

**Key words:** *ICT challenges, Administrative challenges, Credit risk, Funding strategies, HELB.*

## Background of the Study

Access to higher education is not only essential for national development, but also for individual advancement (Altbach, 2006). However, governments in many countries have been under financial constraints to adequately support higher education institutions. Higher education has had to compete for limited public revenue with other compelling needs of the economy, such as basic education, social welfare, public health and public infrastructure (Johnstone, 2007). It is clear that the pressures of the information age are real, and they cause nations and institutions to rethink how to provide high quality education to the increasing number of students (Freedman, 2013). The world is undergoing dramatic and unprecedented changes in this age of increasing globalization and developments in information technology which has changed the skills set required by the market. The knowledge and information technology revolution, as well as many growing social and economic trends, have changed how human beings live, how organizations do their business and how well countries perform in the global economy (Gudo, 2014). In order for higher education to be relevant in an ever changing employment market, it is important that adequate resources are made available (Brown, 2006).

Various loans schemes have been in operation in many countries, with the largest loans schemes found in advanced economies such as the United States and Australia (Shen & Ziderman, 2009). Two basic forms of student loans exist, with variations of each or hybrid versions of the two (Johnstone, 2007). The type of repayment schedule being the major difference among them (Salmi & Hauptman, 2006). The conventional mortgage-type loan is characterized by fixed interest rate and repayment period, with the burden of repayment being the varying element; while the progressive loan type-income contingent loans (ICL) - requires an obligation to commit a fixed proportion of the borrower's future earnings until the loan is repaid. ICL was introduced in Australia in 1989 and the U.K in 1997, and more recently in transition and developing economies (Johnstone, 2007).

The United States provides mainly conventional loans, generally available to all students with some financial need (including some students from upper-middle income families attending very expensive private colleges and universities), at minimally-subsidized rates of interest, with the federal government subsidizing the interest during the "in-school" years for needy students, and bearing most of the risk of default for all students (Jenny&Arbak, 2004). Germany has an extensive system of means-tested, or "need-based," study assistance known colloquially as BafoG (World Bank, 2010). Sweden has relied on student loan programs since the 1960s to cover student living costs and to free parents from the obligations of paying for these costs. The university is tuition-free; that is, the government already pays all instructional costs (Shen& Ziderman, 2009). The United Kingdom student loan program began in 1989-90 as a small, conventional-mortgage type, strictly "top up" loan program as the government began to freeze, and even lower, some of the once generous means-tested maintenance grants (Siphambe, 2008). China announced an experimental demonstration loan program in the summer of 1999 in eight cities. Loans were not, however, guaranteed by the government, and parental or other family co-signatories and pledged collateral were necessary for most student borrowers. South

Africa: Student loans are given by the governmentally-sponsored Tertiary Education Fund of South Africa (TEFSA) (Mwamila, Omari & Mbuya, 2002).

### **Statement of the Problem**

A good higher education system is a driver for social economic development of an economy. The financing of higher education throughout the world has seen dramatic changes in the last decades of the 20<sup>th</sup> and the first decade of the 21<sup>st</sup> century. These changes in financing are responses to a worldwide phenomenon of higher education costs tending to rise at rates considerably in excess of the corresponding rates of increase of available revenue, especially revenues that are dependent on taxation (Johnstone, 2006). To promote higher education in Kenya, the Higher Education Loans Board (HELB) was originally founded in 1995 to award loans and bursaries to needy Kenyan students. These loans are available to undergraduate and postgraduate education (HELB, 2006). The main challenge has been the availability of funds to cater for those who desire tertiary education (university), while maintaining quality and ensuring equity and affordability. In 2007, for example, of the 82,000 students who were deemed officially qualified for university admission on the basis of KSCE results (out of the 276,000 students who did the examination) only 10,000 were selected to government sponsorship, 10,000 entered on self paying basis and 5,000 entered the private sector leaving 57,000 qualified students unable to enter higher education (Gudo, 2014). Achieving education equity has arguably been the objective of governments all over the world (Barr, 2005). Indeed education for all is enshrined in the United Nations article on human rights (Kratli & Dyer, 2009).

Equity considerations in funding higher education must become priority. There must be uniform funding levels to students in an institution regardless of gender or social economic status (Otieno 2004). Higher education improves an individual's quality of life which translates to better access to health care, better dietary and health practices, greater economic stability and security, more prestigious employment and greater job satisfaction (Allen, 2014). A well educated workforce is more productive when compared to an uneducated one. It is therefore crucial that adequate funding is provided for the higher education sector. Challenges in financing higher education is not only limited to Kenya but also in USA, Europe, Asia and East Africa in general. Governments, parents and students are therefore affected by the lack of funds to further education (Otieno, 2004). This study therefore sought to look at challenges faced by The Kenyan Higher Education Loans Board in financing higher education. This ranges from graduate unemployment, rising demand for funding, administrative challenges and technology (ICT) challenges.

### **Objectives of the study**

- i. To analyse the influence of ICT challenges on higher education financing at the Higher education Loans Board, HELB.
- ii. To assess the influence of administrative challenges on higher education financing at the Higher education Loans Board, HELB.
- iii. To establish how credit risk affects higher education financing at the Higher education Loans Board, HELB.
- iv. To find out the influence of funding strategies on higher education financing at the Higher education Loans Board, HELB.

## **LITERATURE REVIEW**

### **Theoretical Framework**

#### **Diffusion Theory on Innovation**

This theory was introduced by Everett Roger (2003), a professor of communication studies; the theory seeks to explain how, why, and at what rate new ideas and technology spread through cultures. Rogers argues that diffusion is the process by which an innovation is communicated through certain channels over time among the participants in a social system. The origins of the diffusion of innovations theory are varied and span multiple disciplines. Rogers proposes that four main elements influence the spread of a new idea: the innovation itself, communication channels, time, and a social system. This process relies heavily on human capital. The innovation must be widely adopted in order to self-sustain. Within the rate of adoption, there is a point at which an innovation reaches critical mass.

#### **Contingency Theory on Administration**

This theory was developed by Fieldler in 1964 and is concerned with the effectiveness of a leader in an organization. It holds that there is no universal or one best way to manage an organization instead the leadership instead the optimal organization leadership is contingent upon various internal and external constraints. Fiedler's situational contingency theory holds that group effectiveness depends on an appropriate match between a leader's style and the demands of the situation (Vecchio, 1983). Therefore, identifying important contingency variables that distinguish between contexts is the starting point in establishing the influence of leadership on organizational performance. This theory supports the demand for funding affect financing on higher educaion at HELB variable. The leadership of HELB needs to budget and make policies in response to the changing environment so that as the demend for loans increase they have appropriate strategies in place.

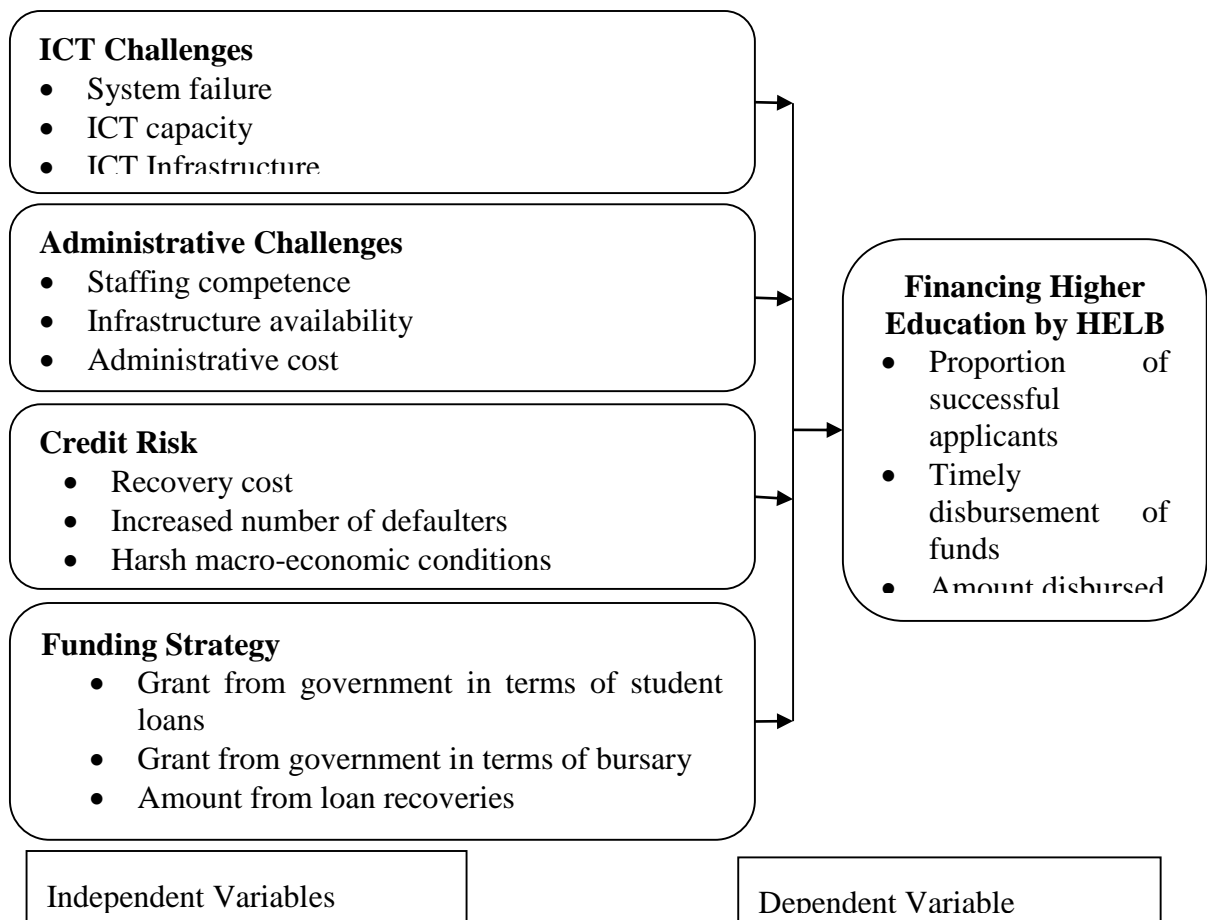
#### **Resource Based View Theory**

This theory was developed by Penrose in 1959. However, it commonly associated with the works of Prahalad and Hamel (1990), Wernerfelt (1984), Rumelt (1991), Barney (1991), Grant (1991) and Peteraf (1993). This theory emphasizes on the internal capabilities of an organization in strategy formulation in order to achieve a sustainable competitive advantage in the market. Sustained competitive advantage occurs when an organization's resources are valuable, rare, difficult to imitate and when competitors are unable to duplicate the benefits of a strategic resource. Resources are inputs that enable an organization to carry out its activities and can be classified as tangible and intangible. Tangible resources refer to the physical assets that an organization possesses and can be categorized as physical resources, financial resources and human resources. In order to add value, these physical resources must be capable of responding flexibly to the changes in the market place and organizations with the most up to date technology and processes which possess the knowledge to exploit their potential will be at an advantage. This study strives to examine the influence of funding strategies as a form of organizational resource on higher education financing at the Higher education board HELB.

#### **The Classical Theory on funding**

This theory was developed by Keynes in 1936. During the Great Depression of the 1930s, existing economic theory was unable either to explain the causes of the severe worldwide economic collapse or to provide an adequate public policy solution to jump-start production and employment. Keynes (1936) argued that inadequate overall demand could lead to prolonged periods of high unemployment. The fundamental principle of the classical theory is that the economy is self-regulating. Classical economists maintain that the economy is always capable of achieving the natural level of real GDP or output, which is the level of real GDP that is obtained when the economy's resources are fully employed. While circumstances arise from time to time that cause the economy to fall below or to exceed the natural level of real GDP, self-adjustment mechanisms exist within the market system that work to bring the economy back to the natural level of real GDP. When employment of the economy's resources falls below the full employment level, the equilibrium level of real GDP also falls below its natural level. Consequently, the economy may not achieve the natural level of real GDP if there is aggregate saving. The classical theorists' response is that the funds from aggregate saving are eventually borrowed and turned into investment expenditures, which are a component of real GDP. Hence, aggregate saving need not lead to a reduction in real GDP. In essence, there are various circumstances that arise that cause the economy to re-adjust itself to full productivity. The presence of credit in the economy is of great importance so as to enable realization of desirable GDP levels. This study therefore strives to examine how credit risk that has an effect on credit in the economy affects higher education financing at the Higher education board HELB.

### **Conceptual Framework**



**Figure 1: Conceptual Framework**

### ICT Challenges

Effective ICT utilization, appropriate applications, and individually tailored solutions can create opportunities and thus ICT can play a substantial role to address a number of goals in the development agenda. A wide range of technologies are available to help institutions providing loans for higher education in their quest to improve efficiency, track operations more accurately, increase transparency and reach new loan applicants. Yet the majority of the institutions struggle to select the right technologies and get the most from their investments. Some of the technologies available include: Information systems (IS) technology which helps loan issuance institutions to track, analyze, and report on their operations. IS technology can also include handheld computers that record client information, scoring techniques that analyze data to predict loan applicant behavior, and connectivity technologies that transmit data among staff and branches, such as broadband or VSAT (a wireless data connection via satellite).

### **Administrative Challenges**

Internal administration in organizations strives to ensure compliance with legal obligations as well as protection of organizational assets so as to ensure the attainment of organizational goals. The presence of sound administration mechanisms ensures that all staff and including managers in essence work towards the attainment of organization objectives. The presence of good administration procedures minimizes the possibilities of poor organizational performance caused by poor governance. If organizations lack a clear system of administration, then employees will not have a uniform sense of direction. Organizational performance would also likely suffer in that policies and procedures will not be effectively implemented within the organization. Problems in terms of firm resources will arise in that no clear resources mobilization and monitoring policies are likely to be adhered to. Therefore, it can be established that administration has a positive influence on corporate performance.

### **Credit Risk**

The analysis of whether loan applicants are credit worthy is an imperative credit management technique that enables financial institutions to determine whether they shall advance loans to applicants or not. The analysis of inherent credit risks by carrying out risk rating and credit scoring enables these institutions to assess the Credit Worthiness of loan applicants. A relationship exists between credit scoring practices and the level of non-performing loans as demanded by institutions. Through screening and analysis of potential risks, better decisions can be made as to whether loan applicants will eventually any credit at all (Gross, Cekic, Hossler & Hillman, 2009).

### **Funding Strategy**

Access to higher education is not only essential for national development, but also for individual advancement. Governments in many countries pledge financial support to support higher education institutions. Higher education has had to compete for limited public revenue with other compelling needs of the economy, such as basic education, social welfare, public health and public infrastructure (Johnstone, 2007). The provision of adequate financing is imperative to ensure successful completion of adopted government university education projects as adopted by many global countries. The provision as well as identification of needed budgetary resources ensures that the adopted university funding project will deliver the desired outcomes. The prompt identification of crucial student numbers that deserve loans enables the allocation of financial resources that will be needed to cater for each academic year during the entire course of the university education (Gudo, 2014).

### **RESEARCH METHODOLOGY**

The study used a mixed design approach including the following; explanatory, qualitative and quantitative. Explanatory approach is used when you want to explain various relationships (Cooper & Schindler, 2011). Quantitative design enables respondents to give their honest opinion using words (Becker, Bryman & Ferguson, 2012). The study population consisted of all current HELB staff whose currently stand at 133. Since the study population was small at 133 respondents, the study undertook a census sampling

where all the 133 respondents were included in the study. Thus the study sample size was 133 respondents. This study utilized a questionnaire to collect primary data as used in various previous research projects. Quantitative data collected was analyzed by the use of descriptive statistics using SPSS and presented through percentages, means, standard deviations and frequencies. In addition, the study used inferential statistics that involved multiple regression analysis to analyse the extent to which the challenges influence higher education financing at the Higher education Loans Board, HELB.

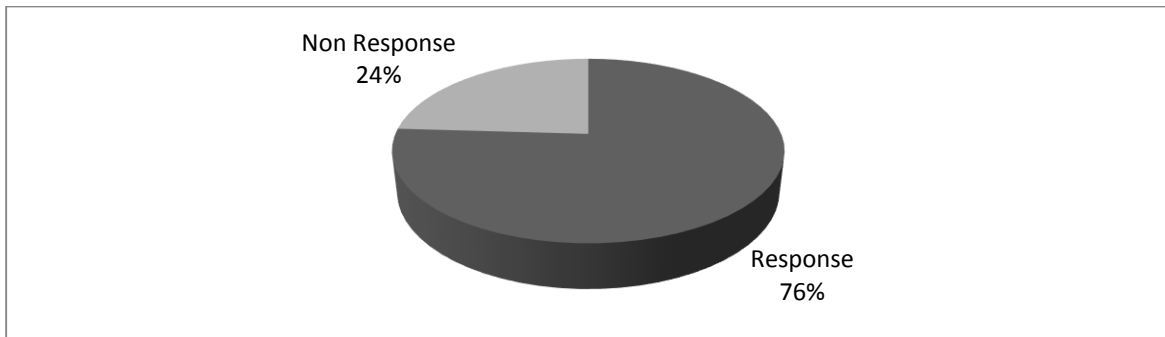
The regression equation took the form ( $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \epsilon$ ):

Where:  $Y$  = Financing Higher Education (HELB),  $X_1$  =ICT (Technology),  $X_2$ = Administrative Challenges,  $X_3$ = Credit Risk,  $X_4$ = Funding Strategies,  $\epsilon$  = Error Term

## RESULTS

### Response Rate

The researcher targeted 133 current HELB staff. However, out of the 133 questionnaires that were issued out to the respondents, only 101 of them were dully filled and returned to researcher. This transpires into a response rate of 76%. This response rate was consistent with the stipulation of Babbie (2004) who asserted that return rates of above 50% are acceptable to analyse and publish, 60% is good and 70% is very good and above 80% is excellent. The findings are presented in Figure 2.



**Figure 2: Response Rate**

### Pilot Results

Data validity is the degree to which results obtained from the analysis of the data actually represent the phenomenon under study (Gill & Johnson, 2010). Reliability on the other hand refers to the consistency of measurement and is frequently assessed using the split-half test reliability method (Ngechu, 2004). The researcher selected a pilot group of 1% of the total of the target population so as to test the reliability of the research instrument. The survey instruments were then subjected to overall reliability analysis. A coefficient of 0.70 or more implies that there is a high degree of data reliability. The findings are summarized in Table 2.



**Table 2: Data Validity and Reliability**

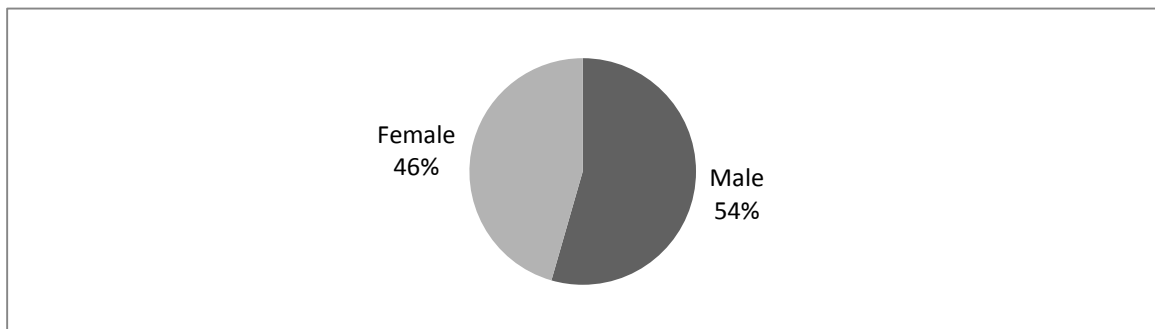
Data Validity and Reliability	Cronbach's Alpha	No. of Items
ICT Challenges	0.711	12
Administrative Challenges	0.718	6
Credit Status	0.727	6
Funding Strategies	0.719	6

Table 2 above indicates the challenges of higher education financing in Kenya. As indicated, ICT challenges  $\alpha=0.711$ , Administrative Challenges  $\alpha=0.718$ , Credit risk  $\alpha=0.727$  and funding strategies  $\alpha=0.719$ . This implies that all the scale was reliable as all the reliability values; exceeded the prescribed threshold of 0.7.

## Demographic Results

### Respondents Gender

The study sought to examine the number of male and female participants that were involved in the interview. The findings are presented in Figure 3.

**Figure 3: Respondents Gender**

From the findings in Figure 3, 46% of the respondents were female while 54% were males. This implies that the two genders were equally represented in the study and therefore unbiased information was sought for the study.

### Employment Position at HELB

The study sought to examine the employment position of the respondents at HELB. The findings are indicated in Table 2.

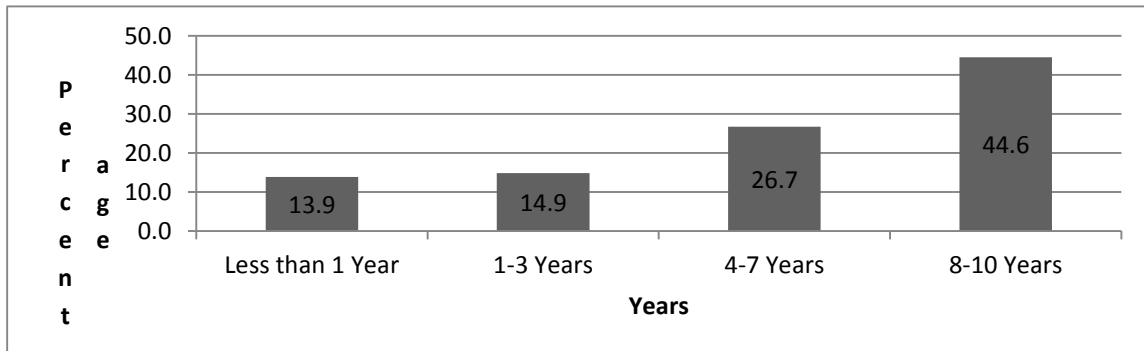
**Table 2: Employment Position at HELB**

Employment Position at HELB	Frequency	Percentage
Senior Management	55	54.5
Technical Committee	20	19.8
HELB Programme Team	15	14.9
Others	11	10.9
<b>Total</b>	<b>101</b>	<b>100</b>

From Table 2 above, 54.5% of the respondents held senior management positions at HELB, 19.8% were from technical committees, 14.9% were from HELB technical team and 10.9% held other positions. These findings imply that most of the respondents were in managerial positions and therefore were informed on the challenges that face Higher education financing particularly at HELB.

**Years Worked with HELB**

The study sought further to investigate the number of years that respondents had worked with HELB and the findings are summarized in Figure 4.

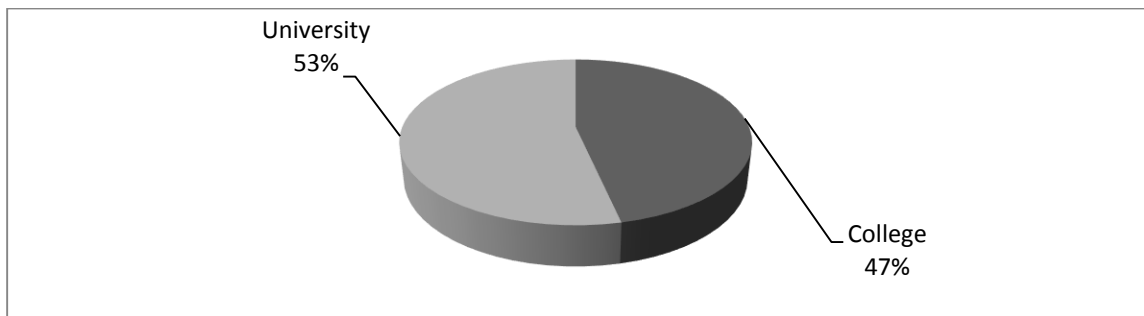


**Figure 4: Years Worked with HELB**

Figure 4 indicates that 13.9% of the respondents had worked with HELB for less than one year, 14.9% for 1-3 years, 26.7% for 4-7 years and 44.6% for 8-10 years. These findings clearly imply that most of the respondents had been exposed to issues of higher education financing for a relatively longer period and they were therefore familiar with the challenges facing the process.

**Highest Level of Education**

The study sought to determine the highest level of education attained by the respondents. The finding is shown in Figure 5.



**Figure 5: Highest Level of Education**

From the responses, 53% of the respondents had university level of education and 47% had college level. This shows that the respondents had relevant knowledge hence they had an ease in addressing the questions and provide correct responses.

## Descriptive statistics

### ICT Challenges

Several statements on how ICT challenges affect the funding of higher education in different countries were carefully identified by the researcher. The respondents were then requested to indicate the extent to which each of the following ICT elements have affected the financing of higher education in Kenya. A scale of 1-5 where 1= no extent, 2= little extent, 3= moderate extent, 4= great extent and 5= Very great extent was used.

**Table 3: ICT Challenges**

ICT Challenges	Mean	Std. Dev
The organization experiences cases of system failure	4.1386	.34727
The organization ICT staff have the required skills	2.6931	1.29416
The organization's ICT system is well maintained	3.0693	1.25903
There is a high level of security in online transaction at HELB	4.1980	.66362
There is compatibility of the information system with other systems at HELB	2.7327	.69125

Results in Table 3 revealed that majority of the respondents indicated that cases of system failure affects HELB financing to a great extent. On the other hand, ICT staffs' skills affect HELB financing to a moderate extent. The findings also revealed that, the level of security in online transactions at HELB affects HELB financing to a great extent while the maintenance of the organization's ICT system affects it to a moderate extent. Lastly the findings also indicated that, compatibility of the information system with other systems at HELB affects HELB financing to a moderate extent.

### Administrative Challenges in Financing Higher Education

A number of statements on how administrative challenges affect funding of higher education in different countries were carefully identified by the researcher. Respondents were then requested to indicate the extent to which each of the following administrative challenges has affected the financing of higher education in Kenya. A scale of 1-5 where 1= no extent, 2= little extent, 3= moderate extent, 4= great extent and 5= Very great extent was used.

**Table 4: Administrative Challenges in Financing Higher Education**

Administrative Challenges in Financing Higher Education	Mean	Std. Dev
HELB staff are competent in what they do	4.1386	.34727
HELB has engaged adequate staff to handle loan disbursement issues	2.6337	.71726
Communication infrastructure at HELB is effective	3.8911	.61483
Administrative costs at HELB are manageable	4.4455	.49950
Administrative policy framework at HELB is functional	4.1782	.60656

The findings in Table 4 revealed that the majority respondents indicate that HELB staff competence affects HELB financing to a great extent. The findings also shows that the number of staff HELB has engaged to handle loan disbursement issues affects HELB financing to a moderate extent. Moreover, the findings reveal that effectiveness of Communication infrastructure at HELB affects HELB financing to a great extent. In addition the findings indicated that, Management of administrative costs at HELB affects HELB financing to a great extent. Lastly the findings also indicated that, functional Administrative policy framework at HELB affects HELB financing to a great extent.

### Credit Status

Some statements on how credit risk affects funding of higher education in different countries were carefully identified by the researcher. The respondents were then requested to indicate the extent to which each of the following credit worthiness elements has affected the financing of higher education in Kenya. A scale of 1-5 where 1= no extent, 2= little extent, 3= moderate extent, 4= great extent and 5= Very great extent was used.

**Table 1: Credit Status**

Credit Status	Mean	Std. Dev
The cost involved in recovering loans from previous beneficiaries at HELB is high	4.4653	.72889
Volatility in the macroeconomic environment affects loan repayment	4.1485	.63853
Inaccurate information about the beneficiaries of loan has hampered loan recovery at HELB	3.9901	.78096
Lack of effective legislation to counter loan defaulters has led to increased number of defaulters	1.6832	.73390
Inability to track beneficiaries outside Kenya has hampered loan recovery	3.2673	1.43451

The respondents revealed that the high cost involved in recovering loans from previous beneficiaries at HELB affects HELB financing to a very great extent. The findings also indicate that the volatility in the macroeconomic environment effect on loan repayment affects HELB financing to a great extent. In addition, the findings also reveal that inaccurate information about the beneficiaries of loan effect on loan recovery at HELB affects HELB financing to a great extent. Moreover, the findings shows that an increase in the number of defaulters due to lack of effective legislation to counter defaulters at HELB affects HELB financing to a little extent. Lastly, the findings also reveal that inability to track beneficiaries outside Kenya effect on loan recovery at HELB affects HELB financing to a moderate extent.

### Funding Strategies

Several statements on how funding strategies affects funding of higher education in different countries were carefully identified by the researcher. Respondents were then requested to indicate the extent to which each of the following funding strategy elements

has affected the financing of higher education in Kenya. A scale of 1-5 where 1= no extent, 2= little extent, 3= moderate extent, 4= great extent and 5= Very great extent was used.

**Table 2: Funding Strategies**

<b>Funding Strategies</b>	<b>Mean</b>	<b>Std. Dev</b>
There has been an increase in the proportion of government grants in terms of student loans	3.6040	.82558
There has been an increase in the proportion of government grants in terms of bursaries	2.6139	.48929
The funds adequacy has limited the amounts disbursed to beneficiaries at HELB	2.1287	.98654
There has been an implementation of effective loan recovery strategy	4.0198	.73458
The organization has entered into credit facility agreement with various financial institutions	4.3960	.49151

The findings reveal that an increase in the proportion of government grants in terms of student loans at HELB affects HELB financing to a great extent. The findings also indicate that an increase in the proportion of government grants in terms of bursaries at HELB affects HELB financing to a moderate extent. Moreover, the findings show that the funds adequacy limit amounts disbursed to beneficiaries at HELB affects HELB financing to a great extent. Additionally, the findings indicate that the implementation of effective loan recovery strategy at HELB affects HELB financing to a great extent. Lastly, the findings show that the credit facility agreement with various financial institutions with HELB affects HELB financing to a great extent.

### **Financing Higher Education**

A number of statements on financing HELB were carefully identified. Respondents were then requested to indicate the extent to which you agree with each of these statements on financing higher education. A scale of 1-5 where 1= no extent, 2= little extent, 3= moderate extent, 4= great extent and 5= Very great extent was used.

**Table 3: Financing Higher Education**

<b>Financing Higher Education</b>	<b>Mean</b>	<b>Std. Dev</b>
There has been an increase in the proportion allocated	1.7030	.71477
There has been a timely allocation students loans	4.0594	.61354
There has been a timely allocation bursaries	2.4851	.50227
There has been in increase in the number of beneficiaries	4.4653	.50129

The results in Table 7 summarize the findings on financing of higher education in Kenya. The findings show that an increase in the proportion allocated at HELB affects HELB financing to a little extent. Likewise, the findings from the respondents reveal that a timely allocation of student's loans at HELB affects HELB financing to a great extent. Finally, the findings show that increase in the number of beneficiaries at HELB affects HELB financing to a great extent.

### **Correlation Analysis**

The researcher conducted correlation analysis so as to establish the challenges facing higher education financing in Kenya. A benchmark where 0.1 – 0.29 indicates a weak correlation between variables; a correlation coefficient of between 0.3-0.49 is deemed a medium correlation of the variables while 0.5-1.0 indicates a strong correlation between the study variables. The findings of the correlation analysis are presented in Table 4.8.

**Table 4: Correlation Analysis**

		ICT challenge s	Credit status	Funding strategies	Administrative challenges
ICT challenges	Pearson Correlation Sig. (2-tailed)				
Credit status	Pearson Correlation Sig. (2-tailed)	.235*	0.017		
Funding strategy	Pearson Correlation Sig. (2-tailed)	0.158 0.113	.207* 0.037		
Administrative challenges	Pearson Correlation Sig. (2-tailed)	.213* 0.031	0.111 0.269	0.129 0.196	
Financing Higher Education	Pearson Correlation Sig. (2-tailed)	-.360** 0.000	-.327** 0.001	.306** 0.002	-0.17 0.089

\* Correlation is significant at the 0.05 level (2-tailed).  
\*\* Correlation is significant at the 0.01 level (2-tailed).

The study revealed that there was a negative correlation between ICT challenges and higher education financing. The correlation was significant as indicated by a level of significance of 0.000. The findings imply that an increase in ICT challenges for instance cases of system failure, lack of maintenance of ICT systems and high level of online insecurity leads to a decrease in higher education financing in terms of timely allocation. The findings of the study are consistent with the findings of a study by Idowu and Esere (2013) who examined ICT and higher educational system in Nigeria and revealed that the educational systems in Nigeria is suffering from numerous deficiencies like ICT challenges. Moreover, The study findings are consistent with the findings of a study by Krishnaveni and Meenakumari (2010) who examined the usage of ICT for information administration in higher education institutions and found that ICT usage in higher education institutions improves on functional areas especially in general administration which in turn enables overall information administration enhancement in the realm of global competitive environment.

Additionally, the findings reveal that there was a negative correlation between credit status and financing higher education. The correlation was significant as indicated by a level of significance of 0.001. The study findings imply that an increase in credit status for instance,

cost involved in loan recovery, ineffective legislation mechanisms to counter loan defaulters and volatile economic environment leads to a decrease in higher education financing. The study also reveals that there was a positive correlation between funding strategies and Financing higher education. The correlation was significant as indicated by a level of significance of 0.002. This implies that an improvement in funding strategies leads to an improvement in higher education financing. The study findings are consistent with the findings of a study by Stensaker and Harvey (2010) who sought to identify problems of higher education financing in Africa , poor use of existing resources and inadequate resources and found that the presence of weak economic rationale for higher education financing affects higher education financing. Finally, the findings indicate that there was a negative correlation between administrative challenges and financing higher education. The correlation was not significant as indicated by a level of significance of 0.089. This implies that an increase in administrative challenges for instance staff competence, communication infrastructural challenges and administrative operational costs lead an insignificant effect in higher education financing. The study findings are also consistent with the findings of a study by Dynarski (2014) who examined student loans and found that there are considerable administrative barriers to accessing student loans which explain the low take-up rate.

### Regression Analysis

The researcher further conducted multiple regression analysis to investigate relationship between the study variables. The findings are summarized in subsequent Tables. From the Model Summary Table 9, the value of R is 0.576, R square is 0.332 and adjusted R square is 0.304. This implies that ICT challenges, Administrative challenges, credit risk challenges and funding strategies account for up to 30.4% of the variation in the higher education financing in Kenya. This implies that the remaining 69.6% is explained by other factors not considered by the study.

**Table 5: Model Summary**

R	0.576
R Square	0.332
Adjusted R Square	0.304

To test the fitness of the model in estimating the influence of the independent variables on financing of higher education in Kenya, two way ANOVA was carried out where the F statistic of 11.542 was significant as indicated by a p-value = 0.000 implying that the model was significantly fit to be used in predicting the challenges of higher education financing at the Higher education Loans Board. This is because the P-value of 0.000 is less than 0.05 at 5% level of significance. The model significance was also tested by comparing the Calculated F value of 11.542 with a critical F value of 6.764 read from the F distribution table using 4 degrees of freedom and 96 degrees of freedom at 5% level of significance. Since F calculated was greater than the F critical, the model was significant.

**Table 10: Model Fitness**

	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.653	4	2.663	11.542	0.000
Residual	6.954	96	0.232		
<b>Total</b>	<b>17.607</b>	<b>100</b>			

The study lastly established the challenges of higher education financing at the Higher education Loans Board using a least square regression model. The results are presented in Table 11.

**Table 11 Regression Coefficients**

Variables	Beta	Std. Error	t	Sig
(Constant)	5.374	0.425	12.635	0.000
ICT challenges	-0.272	0.071	-3.827	0.000
Administrative challenges	-0.153	0.071	-2.151	0.034
Funding strategies	0.240	0.069	3.485	0.001
Credit status	-0.255	0.073	-3.505	0.001

Dependent Variable: Higher education Financing

The study findings indicate that ICT challenges affect higher education financing negatively as indicated by a beta coefficient of -0.272. The effect is also significant as shown by a significance level of 0.000 which is less than 0.05 at 5% level of significance. The findings imply that an increase in ICT challenges for instance cases of system failure, lack of maintenance of ICT systems and high level of online insecurity by one unit leads to a 0.272 decrease in higher education financing in terms of timely allocation.

These results are in agreement with the results of a study by Kinyulusi (2014) conducted on influence of information communication and technology on management of higher education in Kenya and concluded that the overall improvement of the ICT infrastructure in the institution has improved the management of education to a very great extent. The study findings further indicate that administrative challenges affect higher education financing negatively as indicated by a beta coefficient of -0.153. The effect is also significant as shown by a significance level of 0.034 which is less than 0.05 at 5% level of significance. The findings indicate that an increase in administrative challenges for instance staff competence, communication infrastructural challenges and administrative operational costs by one unit leads to 0.153 decreases in higher education financing. The study findings are also consistent with the findings of a study by Krishnaveni and Meenakumari (2010) who argued that solving administration challenges helps to improve performance of higher education financing.

The study findings also indicate that funding strategies affect higher education financing positively as indicated by a beta coefficient of 0.24. The effect is also significant as shown by a significance level of 0.001 which is less than 0.05 at 5% level of significance. Additionally, the study findings indicate that an increase in funding strategies for instance,



proportion of government grants in terms of student loans, loan recovery strategy and unlimited disbursement amounts by one unit leads to 0.24 increase in funding strategies. The study findings are consistent with the findings of a study by Dynarski (2014) who examined growing demand for access and constraints on government budgets and found that resource constraints for higher education institutions are compounded by government commitments to subsidize student living expenses and it affects higher education financing. The study findings reveal that credit status affect higher education financing negatively as indicated by a beta coefficient of -0.255. The effect is also significant as shown by a significance level of 0.001 which is less than 0.05 at 5% level of significance. Moreover, the study findings indicate that an increase in credit status for instance, cost involved in loan recovery, ineffective legislation mechanisms to counter loan defaulters and volatile economic environment by one unit leads to 0.255 decrease in higher education financing. The study findings are consistent with the findings of a study by Endege (2015) who examined the strategies used by HELB in loan recovery from beneficiaries in Kenya and found that continued contact and follow up approach system, loan tracking control system and early warning system were the main strategies adopted by HELB organization in debt recovery and that effective implementation of this strategies affect higher education positively.

Overall regression Model

***Effective Higher Education Financing = 5.374 – 0.272 (ICT Challenges) – 0.153 (Administrative Challenges) – 0.255 (Credit Status Challenges) + 0.240 Funding Strategies***

## **Conclusion**

The study concluded that ICT challenges negatively and significantly affect higher education financing at HELB. An increase in ICT challenges leads to a significant decrease in higher education financing in terms of untimely allocations. Some of the ICT challenges that affect higher education financing at HELB are system failure, lack of competent ICT staffs, level of insecurity in online transactions at HELB and lack of frequent maintenance of the organization's ICT system.

The study concluded that Administrative challenges negatively and significantly affect higher education financing at HELB. An increase in Administrative challenges leads to an insignificant effect in higher education financing. Some of the administrative challenges that affect higher education financing are staff incompetence at HELB, ineffective communication infrastructure, inadequate number of staff engaged to handle loan disbursement issues, high administrative costs and dysfunctional administrative policy framework. The study concluded that credit status affect higher education financing negatively and significantly. An increase in the costs involved in loan recovery, ineffective legislation mechanisms to counter loan defaulters and volatile economic environment leads to a decrease in higher education financing at HELB. The study also concluded that funding strategies positively and significantly affect higher education financing at HELB. An improvement in funding strategies leads to a significant improvement in higher education financing at HELB. An improvement in the proportion of government grants in terms of

student loans, loan recovery strategy and unlimited disbursement amounts will lead to an improvement in higher education financing.

### **Recommendations of the Study**

The study recommends that HELB should implement strategies to solve the ICT issues of system failure and insecurity in online transactions. There should also be regular maintenance of the organization's ICT system to mitigate system failure so as to improve the financing in terms of timely allocation. The study also recommends that HELB should conduct regular skill audit and conduct staff training to up hold staff competence as well as effect communication infrastructure to smoothen information sharing for effective operation. The organization should also aim to cut the high administrative costs implementing strategies geared towards doing that. The study also recommends that HELB should implement cost effective loan recovery procedures for instance having agreements with various financial institutions in the country to do that. Policies to counter loan defaulters should also be put in place in order to reduce the cases of loan defaulting.

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