CONSIDERING GRADUATE EMPLOYABILITY AS A PREDICTOR FOR THE SHRINKING OF STUDENT ENROLLMENTS IN SELECTED PRIVATE TERTIARY INSTITUTIONS IN RWANDA

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ABSTRACT

This study sought to investigate the influence of graduate employability on the shrinking of student enrolments in selected private tertiary institutions in Rwanda. This study adopted the correlational research design involving quantitative approach. The study was carried out in 6 selected private tertiary institutions in Rwanda. The study involved a population of 13914 subjects and a sample of 382 participants. The data was collected using a structured questionnaire with 5-point Likert scales. The data was analysed using percentages, frequencies, means, standard deviation and regression analysis. The results of this study revealed that graduate employability has no significant influence on the shrinking of student enrolments in private tertiary institutions in Rwanda. However, it was found that job availability among Rwandan university graduates have significant influence on the shrinking of student enrolments in private tertiary institutions in Rwanda while working conditions among employed Rwandan university graduates have no significant influence on the shrinking of student enrolments in the same institutions. The study recommended that the Ministry of Education should make it mandatory for all private tertiary institutions in Rwanda to offer entrepreneurship related courses and ensure that all the students finish their studies with the knowledge of how to run businesses.

Key words: *Graduate, employability, predictors, shrinking, student enrolments, private tertiary institutions*

1. INTRODUCTION

Private tertiary institutions in Rwanda, contribute greatly to the development of the nation by educating its citizen. Amponsah and Onuoha (2013) assert that the major contribution of private tertiary institutions is that of helping the country in funding and providing education to its citizens. The overall functioning of private tertiary institutions in Rwanda depends significantly on the number of enrolled students. The main reason is that tuition is almost taken as the sole means of generating funds for these institutions (Teixeira & Koryakina, 2011). That means, these institutions should get considerable student enrolments for proper performance and for them to survive.

However, since 2014 the rate of student enrolments in private tertiary institutions in Rwanda has started decreasing. A survey conducted by the Ministry of education (MINEDUC, 2018) found that Gross enrolment rate (GER) and the university students decreased between 2015 and 2017. Similarly, the same study testifies a large disparity in terms of student enrolments per field of study in Rwandan private universities. Higher rate of student enrolment was found in the fields like Business, Administration and Law; a low rate in the fields like Natural Sciences, Mathematics and Statistics and a very low rate in the fields like agriculture and humanities. The report of MINEDUC (2018) indicates that the rate of student enrolment has been shrinking gradually since 2014 till today. The report shows that the enrolments in private tertiary institutions increased from 21948 students in 2006 to 28909 students in 2009 (31.7%); from 31170 students in 2010 to 43717 students in 2013 (40.2%) and from 49254 students in 2014 to 50822 students in 2018 (3.1%). Regarding the rate of student enrolments, the report shows that the rate decreased from 40.2% (2010-2013) to 3.1% (2014-2018).

In fact, one wonders why some programs are stuffed with students while others are

experiencing shortages of student enrolments. Once this problem persists, the affected institutions will be forced to close their doors and this will magnify the problem of unemployment in Rwanda. Similarly, the problem may result in the shortages of manpower in Rwanda in some domains and this can inhibit successful achievement of the country's projects geared to develop the nation. The closure of some private tertiary institutions will also hinder successful achievement of "Education for All" policy in Rwanda since it will be difficult for some Rwandese to find nearby universities in which they can study and this may make them stop their initiatives to further their education. Obviously, there is a need to address this issue.

Rwanda is among developing countries whose unemployment rate is still high. This is testified by the report from Trading Economics (2020) which indicates that Rwanda is ranked the 1st country in East Africa Community, the 13th country in Africa and 23rd in the world among the countries with higher unemployment rate. The report indicates that in the 3rd quarter of 2019 the unemployment rate in Rwanda was 16% while in the 4th quarter it was 15.4%. Consequently, many people wonder whether scarcity of jobs among Rwandan university graduates might not be one of the causes of the shrinking of student enrolments in private tertiary institutions in Rwanda.

Due to the above situation we found it crucial to conduct a study with the purpose of investigating the influence of graduate employability on the shrinking of student enrolments in Rwandan tertiary institutions. Consequently, this study aims at answering the following research questions: What is the influence job availability among Rwandan graduates on the shrinking of student enrolments in selected private tertiary institutions in Rwanda? What is the influence of working conditions among employed Rwandan graduates on the shrinking of student enrolments in selected private tertiary institutions in Rwanda?

We believe that this research would provide insights on the influence of graduate employability on the shrinking of students' enrolments in private tertiary institutions in Rwanda and the findings of this study would serve as a good tool in improving student enrolments of the institutions.

2. LITERATURE REVIEW

2.1 Historical background of tertiary education in Rwanda

In Rwanda, education is provided in four levels: pre-primary (kindergarten), primary, secondary and tertiary (MINEDUC, 2013). MacGregor (2014) report that higher education in Rwanda was born on 3rd November, 1963 with opening of National University of Rwanda (NUR) in former Butare prefecture which is today called Huye District. It was created by the government of Rwanda in conjunction with the Dominicans' Congregation from Canada. The law setting up the first university in Rwanda (NUR) was effective since 12th May 1964. At the beginning, the university counted 51 fresher students and 16 teaching staff only. As Tikly et al. (cited in Freedman, Weinstein & Longman, 2006) puts it, by1994 the university had 1,000 alumnae only (30 years since its establishment).

Since 1994 the number of private universities in Rwanda has being increasing in comparison with the period before. In 2015 (after 9 starting from 1994), there were 44 tertiary institutions in Rwanda (including 12 public as well as 32 private). On the contrary, from 1963 till 1994 there were only 2 universities (MINEDUC, 2015). The proliferation of tertiary institutions in Rwanda since1994 has attracted the attention of many Rwandese and felt the willing of studying university. On similar note, a number of people in that period were in search for new jobs and the conditions were to hold a university degree. This is one of the reasons why many people took decisions of studying university (Senyonga, 2013). On seeing the huge demand for university studies in Rwanda, many people started entering the education business by establishing private tertiary institutions. Since then, the number of private

tertiary institutions started swelling and they were established in different parts of the country.

During that time, the public tertiary institutions in Rwanda were not in position of serving the entire population that wanted to join university. For that reason, the Rwandan Government gave accreditation to a number of private tertiary institutions to start offering higher education courses to give a hand to the public ones. As Amponsah and Onuoha (2013) highlighted, the central role of private tertiary institution is assisting the government in the funding of education. Today, Rwanda counts 29 tertiary institutions (27 private, 1 public and the Institute of Legal Practice and Development). It is important to note that, all public tertiary institutions are clustered into one university known as University of Rwanda, established in 2013. In addition, since 2017 till today, the Ministry of Education resorted to stop 8 tertiary institutions because they failed to act in accordance with recommendations emanated from the government audit, by Higher Education Council (Rwirahira, 2017).

However, consecutive reports of the Ministry of Education (from 2014 to 2019 on higher education statistics) revealed a decline in the rate of student enrolments (40.2 % in 2014 to 3.1% in 2018) in private tertiary institutions. This is a big concern for the institutions because it hampers their proper functioning. Shortage of student enrolments in tertiary institutions has made some of these institutions close their programs which made a number of employees lose their jobs. The institutions in partnership with the government should find a proper way to address this issue which is considered as a big threat to the country's development.

2.2 Influence of employment opportunities on the shrinking of student enrolments in private tertiary institutions

Available literature consists of a number of studies which investigated the influence of employment opportunities on the shrinking of student enrolments in tertiary institutions. However, most of the studies are on the influence of unemployment rate on student enrolments in tertiary institutions. Some of the studies are stated below.

The study of Marinnge (2006) investigated the variables influencing students' decision in selecting universities and programs to pursue. The population of the study included sixth form schools and colleges in the Southampton University. The study used a sample of 387 learners (186 boys and 201 girls). In data collection, the study used a self-administered questionnaire in the form of a 10-point Likert scale. It was found that labour market variables affect university choice. The study concluded that higher unemployment rate hinders university enrolments. In other words, the study found that higher unemployment rate influence shrinking of university student enrolments.

Le, Dobele and Robinson (2019) examined the main variables affecting the university choice. The sample of potential learners from Vietnam was used. The findings show that the job prospects are among the most important variables influencing student enrolment in any given university. Furthermore, the study indicated that high unemployment rate within a country can hinder students' decision to go to university.

According to Aydin (2015), rising job opportunities can be considered as the most important variables in students' decision to embark on higher education. Strasser et al. (2002) says that available employment opportunities and conditions are very crucial for students' decision to go to university. That means, scarcity of jobs can make the students reluctant or dubious to join university and this is can lead to shrinking of enrolments especially in private tertiary institution (Soutar and Turner, 2002, Tatar and Oktay, 2006).

In his study conducted among high school leavers, Veloutsou et al. (2004) found that job availability for alumnae is among the most crucial dynamics in the process of selecting a university to join. He also found that higher rate of jobless among graduates has detrimental effect on university student enrolments. On contrary, Kondo (cited in Clarke, 2016), asserts that shortage of jobs at the labour market is a motivating factor for some people to return back to university and this was found stronger for females than males. This means that high unemployment rate pushes people to embark on higher education but most especially among females. In fact, one can conclude that high unemployment rate have influences positively student enrolments in tertiary institutions.

Robinson (2017) conducted a study to measure the influence of poverty in families on university enrolment rate regarding rural American determinism. Advanced structural theory was used in this study to measure some educational variables. Thus, the study examined variables like countryside education, family socio-economic status in Kentucky counties as future determinant for university student enrolments. It was found that family poverty is significantly influenced by living in rural areas. The study further showed that there is a significant connection between employment opportunities; family poverty; single parent families and university student enrolments in Kentucky.

However, the study of Barbu (2015) reached different findings. She carried out a longitudinal study to find out the influence of national unemployment rate and university student enrolments. The findings showed a significant impact of national unemployment rate on university student enrolments and students' success rates. Furthermore, the study revealed a significant effect of national unemployment rate on undergraduate student enrolments, student retention rate and university completion rate. That means, the more unemployment rate increases, the more undergraduate enrolment increase. In other words, higher unemployment rate does not influence shrinking of student enrolments in universities.

Khan (2006) also found opposing results. He used the National Longitudinal Survey of Youth (NLSY) to find out continuous implications of graduation status during the financial downturn of the 1980s on white males in the United States. The study used the white males in the sample and employing the NLSY she could follow up the data on their employment up to twenty-three years after graduation. The study revealed that a higher national unemployment rate influences the likelihood of getting a university Degree. The study also found that the students who graduated during the time of high and average unemployment rates double the possibilities of enrolling in another university just after one year they have graduated compared to those who graduated during the time when there was a low unemployment rate.

Similarly, Hoyt and Brown (2003) and Rolfe (2001) in their study, found that employment expectations are the main common cause of embarking on university studies and a significant factor influencing the choice of tertiary institutions and degree programs for almost a half of prospective students. Moreover, their study revealed that many students become unenthusiastic about embarking on higher education if the unemployment rate is high among those who have graduated. In other words, higher unemployment rate influences shrinking of university student enrolments.

Nate (2015) reports that when unemployment rate augments, university student enrolments are likely to increase, and when unemployment rate decreases, student enrolments go up. McKinney (2017) attempted to establish how local unemployment rates correlates with student enrolments in North Carolina Community College. In data analysis the study used a quantitative Pearson product-moment correlation. The results of the study showed a very low correlation between local unemployment rates and general student enrolments.

Furthermore, the study found no significant correlation between local unemployment rates and student enrolments per courses.

Pennington et al. (2002) carried out a wide-ranging research regarding the influence of some financial variables on the entire community college enrolments. The study considered data for 31 years about the economic variables. The study found that a national unemployment rate was an important factor for national enrolment status. Rivers (2010) extended previous studies by investigating the effect of economic variables on student enrolments in some courses in all South Carolina and Virginia community universities. The study found that unemployment rates do not significantly affect university enrolments in South Carolina or Virginia.

Ming (2010) investigated internal variables affecting university choice in Malaysia. The findings revealed that university choice in Malaysia is affected by location of the institution, offered courses, institutional reputation, instructional facilities, university pricing and availability of financial support, job prospects and visits to the campus. Relating these findings on unemployment rate, it could be realized that unemployment rate can influence the shrinking of student enrolments in tertiary institutions. However, the study did not indicate clearly which, between higher unemployment rate and low unemployment rate, influences shrinking of student enrolments in tertiary institution.

To conclude, this section reviewed different studies on the influence of High unemployment rate on shrinking of student enrolments in tertiary institutions. A few studies confirmed that high unemployment rate influences significantly the shrinking of student enrolments in tertiary institutions. These are namely the studies of Marinnge (2006); Le, Dobele and Robinson (2019); Soutar and Turner (2002); Tatar and Oktay (2006); Veloutsou et al. (2004); Hoyt and Brown (2003); Rolfe (2001) and Ming (2010). However, few studies confirmed that High unemployment rate does not have significant influence on the shrinking of student enrolments in tertiary institutions. These are namely those of Barbu (2015); Khan (2006); Nate (2015) and Pennington et al. (2002).

3. METHODS

This section discusses the methodology adopted in conducting this study. It comprises of research design, the target population and sample, data collection instruments and procedures, data analysis tools and procedures.

3.1 Research design

This study adopted the Correlational research design to find out the influence of graduate employability on the shrinking of student enrolments in selected Private tertiary institutions. Cresswell (2012) opined that correlational research designs are measures in quantitative research by which researchers measure the level of association (or relation) between two or more variables using the statistical procedure of correlational analysis. This level of association, presented as a number, shows whether the two variables have a relationship or whether one can predict another. For the purpose of this research, graduate employability was investigated as a predictor of the shrinking of student enrolments in selected private tertiary institutions in Rwanda.

3.2 Participants

This study was conducted in 6 Private tertiary institutions only. These are namely: Adventist University of Central Africa (AUCA), Christian University of Rwanda (CHUR), Institut Superieur de Ruhengeri (INES-RUHENGERI), KIM University, Protestant Institute of Arts and Social Sciences (PIASS) and University of Tourism Technology and Business Studies (UTB). The choice of these universities was made bearing in mind that this is a good number to represent all 29 Private tertiary institutions operating in Rwanda (HEC, 2019). Similarly, the choice was made as per the assumption that at least 30 percent of the entire population

is appropriate for the sample (Borg and Gall, 2003). Given the preferred scope of the study, only those which were 5 years old by the end of 2018-2019 academic year were involved in the study. The 6 Private tertiary institutions were selected using systematic sampling technique whereby the institutions were firstly sorted out alphabetically, and then the interval of four numbers was used to select the ones to be involved in this research. This research involved 13914 subjects as the target population (13902 students, 6 registrars and 6 marketing directors). The study employed 382 participants as the sample (370 students, 6 registrars and 6 marketing directors). The sample for the students was determined using the sampling table by Krejcie and Morgan (1970). The table is based on the following formula.

$$s=X^2 NP(1-P) \div d2(N-1) + X^2 P(1-P).$$

s: required sample size
X^2= the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).
N= the population size
P= the population proportion (assumed to be .50 since this would provide the maximum sample size)
D=the degree of accuracy expressed as a proportion (.05).
Similarly, stratified (probability) sampling technique was used in selecting the undergraduate students. By this technique the researcher divides (stratifies) the population into sub-groups having the same characteristic, and then from each group a particular sample is randomly chosen (Creswell, 2012). In fact, the researcher divided the undergraduate students into groups (strata) according to the years of study and within each group the researcher used simple random sampling to select those to include in the sample. For the academic registrars and marketing officers, the researcher used the census technique (total enumeration). This consists of taking the whole population as a sample because it is too small (Creswell, 2012).

3.3 Measures

This study used structured questionnaire to collect primary data. The study also used documentary review to collect secondary data (from journal articles, books, theses, etc.). The questionnaire contained close-ended questions only in the form of Likert scales (*1=Strongly Agree, 2=Agree, 3=Neutral, 4=Disagree, 5=Strongly Disagree).*The questionnaire was to be filled by ticking in the appropriate box with regard to the participants' understanding.
Before collecting data, the researcher sought the authorization to collect research data from the vice-chancellors of the 6 sampled private tertiary institutions. Prior to gathering any data, the researcher sought the informed consent from the respondents using an appropriate form. Before collecting the data, a pilot study was done to establish the validity and reliability of the instruments. This was made by means of Cronbach alpha analysis. The pilot study was done by having 15 undergraduate students to fill the questionnaire and giving their feedback on it. This exercise was conducted in one private tertiary institution that was randomly selected. However, the selected institution for pilot study was not involved again in collecting the data for the main study. The data was taken out from the questionnaires and got into the SPSS 20. The Cronbach alphas scored were extracted as shown in the following table.

Table 1: Reliability Results

Variables	Number of items	Cronbach's Alpha	Comments
JA	15	0.978	Accepted
WC	15	0.952	Accepted

Note: JA = Job availability, **WC**= Working conditions

The Cronbach alphas were above 90%. This indicated that most items in this questionnaire had high squared multiple correlations, an indication that the questionnaire passes reliability test. Cronbach alphas more than 0.7 are considered as satisfactory (George & Mallery, 2003). This meant that the tool was adequate in measuring how job availability among Rwandan graduates and working conditions among employed Rwandan graduates influence the shrinking of student enrolments in some selected private tertiary institutions in Rwanda.

In analysing the data, the researcher used SPSS (Statistical package for Social Sciences) version 20 to make all the due calculations and to design all the important tables. According to Frey (2017), SPSS is commercially distributed software suitable for data management and statistical analysis and whose first version was developed by Norman Nie, Dale Bent, and C. Hadlai Hull in 1968. As earlier mentioned, the analysed data was in the form of 5-point Likert scales whereby each point has been assigned a number which was entered into SPSS for data analysis. The data was made up three items containing 10 options each. The first item was about demographic characteristics of respondents, the second was about job availability among Rwandan graduates and the third was about working conditions among the employed Rwandan graduates. Each option in the items was representing one variable related to job availability and/or working conditions.

The variables under job availability were namely: High rate of unemployment among Rwandan graduates, difficulties in getting suitable jobs by Rwandan graduates, shortage of suitable jobs on the labour market, lack of suitable jobs on the labour market, unfair recruitment process by different companies in Rwanda, requirements about work experience of Rwandan graduates , requirements about age and marital status of Rwandan graduates, underestimation of Rwandan graduates on the labour market, lack of job creation capacity by Rwandan graduates, lack of adequate skills required for job performance by Rwandan graduates. The variables under working conditions among employed Rwandan graduates are namely: Poor salary among employed Rwandan graduates, bad working environment, heavy workload, bad work location, high rate of dismissal, lack of work promotion, lack of recognition among employed Rwandan graduates, high rate of demotion, lack of motivation and inadequate social amenities among employed Rwandan graduates. In the same vein, the researcher used descriptive statistics (percentages, frequencies, means and standard deviation) and inferential statistics (simple linear regression) in data analysis.

4. FINDINGS

4.1 Demographic characteristics of respondents

This study involved 382 participants (370 undergraduate students, 6 academic registrars and 6 marketing officers). In terms of gender, this study involved 226 (59.1%) male participants and 156 (40.9%) female ones. Concerning the age of respondents, 135 (35.3%) were less than 20 years, 221 (57.8%) were 20 to 30 years old while 26 (6.9%) were above 30 years old. Concerning education level, 5 (1.3%) were Master's holders, 33 (8.6%) were Bachelor's Degree holders while 344 (90.1%) were still on their undergraduate studies. This is explained by the fact that in Rwanda some people opt to have more than one degree in order to increase their chance of getting jobs. Thus, some of the participants were doing additional Bachelors' Degrees. With regard to marital status of the respondents, 368 (96.3%) were single and 14 (3.7%) were married. The married participants were very few compared to single ones because the majority of the undergraduate students are generally single and some of them don't even have not attained yet the legal age for marriage in Rwanda (21year).

4.2 Descriptive statics on job availability, working conditions and the shrinking of student enrolments

This section presents the descriptive statistics with regard to the variables under study as well as the level of agreement and disagreement with the provided options by the respondents.

Table 2: Descriptive statics on job availability

Options	N	Min	Max	Mean	STD
High rate of unemployment among Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	2.7618	1.38356
Difficulties in getting suitable jobs by Rwandan graduates influence the shrinking of student enrolments in this university	382	1.00	5.00	2.2775	1.55780
Shortage of suitable jobs on the labour market influences the shrinking of student enrolments in this university	382	1.00	5.00	2.7670	1.43106
Lack of suitable jobs on the labour market influences the shrinking of student enrolments in this university	382	1.00	5.00	2.8246	1.38159
Unfair recruitment process by different companies in Rwanda influences the shrinking of student enrolments in this university	382	1.00	5.00	2.9660	1.34042
Requirements about work experience of Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	3.6335	1.42226
Requirements about age and marital status of Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	3.8979	1.31119
Underestimation of Rwandan graduates on the labour market influences the shrinking of student enrolments in this university	382	1.00	5.00	3.4817	1.49133
Lack of job creation capacity by Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	3.5445	1.46950
Lack of enough skills for job performance by Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	3.5340	1.45542
Overall	**382**			**3.168**	**1.4424**

Note: Strongly Agree= [1-2[= **Very High mean;** Agree= [2-3[**=High mean; Neutral**= [3-4[=**moderated mean;** Disagree= [4-5[**=Low mean** Strongly Disagree = [5-[**= Very Low Mean**
Source: Research data

The results in table 2 show that the majority of respondents agreed and agreed strongly that the following variables influence the shrinking of student enrolments in private tertiary institutions in Rwanda. These are namely: High rate of unemployment among Rwandan graduates (μ=2.7618 and STD= 1.38356), difficulties in getting suitable jobs by Rwandan (μ=2.2775 and STD=1.55780), shortage of suitable jobs on the labour (μ=2.7670 and STD=1.43106), lack of suitable jobs on the labour market (μ=2.8246 and STD=1.38159), and unfair recruitment process by different companies in Rwanda (μ= 2.9660 and STD=1.34042).

The results in table 2 also show that the majority of respondents agreed and agreed strongly that the following variables influence the shrinking of student enrolments in private tertiary

institutions in Rwanda at a moderate mean. These are namely: Requirements about work experience of Rwandan graduates (μ=3.6335 and STD=1.42226) , requirements about age and marital status of Rwandan graduates(μ= 3.8979 and STD=1.31119), underestimation of Rwandan graduates on the labour market (μ=3.4817 and STD=1.49133), lack of job creation capacity by Rwandan (μ=3.5445 and STD=1.46950) and lack of enough skills for job performance by Rwandan graduates (μ= 3.5340 and STD=1.45542). Overall, the results in table 2 show that the majority of respondents agreed and agreed strong with the provided options at a moderate mean (μ= 3.168 and STD=1.45542).

Table 3: Descriptive statics on working conditions

Options	N	Min	Max	Mean	STD
Poor salary among employed Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	2.3901	1.19588
Bad working environment among employed Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	3.5942	1.19723
Heavy workload among employed Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	3.5785	1.27477
Bad work location among employed Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	4.4843	1.16083
High rate of dismissal among employed Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	4.4555	1.14413
Lack of work promotion among employed Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	4.5314	1.20053
Lack of recognition among employed Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	4.8822	1.33762
High rate of demotion among employed Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	4.5236	1.08351
Lack of motivation among employed Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	3.5628	1.12475
Lack of social amenities among employed Rwandan graduates influences the shrinking of student enrolments in this university	382	1.00	5.00	3.5785	1.27477
Overall	**382**			**3.958**	**1.199**

Note: Strongly Agree= [1-2[= **Very High mean;** Agree= [2-3[**=High mean; Neutral**= [3-4[=**moderated mean;** Disagree= [4-5[**=Low mean** Strongly Disagree = [5-[**= Very Low Mean**
Source: Research data

The results in table 3 show that the majority of respondents agreed and agreed strongly that poor salary among employed Rwandan graduates influences the shrinking of student enrolments (μ= 2.3901and STD=1.19588). The results also show that most of the respondents agreed and agreed strongly with the following 4 variables at a moderate mean. These are namely: Bad working environment among employed Rwandan graduates (μ=3.5942 and STD=1.19723), heavy workload among employed Rwandan graduates (μ= 3.5785 and STD=1.27477), lack of motivation among employed Rwandan graduates (μ= 3.5628 and STD= 1.12475) and lack of social amenities among employed Rwandan (μ=3.5785 and STD=1.27477). The results in table 3 also show that the majority of respondents disagreed and disagreed strongly that the following variables influence the shrinking of student enrolments in private tertiary institutions in Rwanda. These are namely: Bad work location among employed Rwandan graduates (μ= 4.4843 and STD=1.16083), high rate of dismissal among employed Rwandan graduates (μ= 4.4555 and STD= 1.14413), lack of work promotion among employed Rwandan graduates (μ= 4.5314 and STD=1.20053), lack of recognition among employed Rwandan graduates (μ= 4.8822 and

STD=1.33762) and high rate of demotion among employed Rwandan graduates (μ= 4.5236 and STD= 1.08351). Overall, the results in table 3 show that the respondents agreed and disagreed with the provided options at a moderate mean (μ= 3.958 and STD= 1.08351).

Table 4: Descriptive statics on the shrinking on student enrolments

Options	N	Min	Max	Mean	STD
The number of applicants in this university has decreased over the last five years	382	1.00	5.00	3.8717	1.35809
The number of graduates in this university has decreased over the last five years	382	1.00	5.00	3.6597	1.39906
In the last five years the dropout rate has increased in this university	382	1.00	5.00	3.7670	1.43106
In the last five years this university has merged some of its classes	382	1.00	5.00	3.7696	1.39339
In the last five years this university has merged some of its campuses	382	1.00	5.00	3.7749	1.41851
In the last five years some of the accredited programs of this university did not start till now	382	1.00	5.00	3.6806	1.34870
In the last five years the number of students who graduate each year has been bigger than the one of the students who register in this university annually.	382	1.00	5.00	3.8534	1.28976
This university has closed some of its programs in the last five years	382	1.00	5.00	3.6702	1.48168
In the last five years, graduation ceremonies have been postponed to wait for more student to complete in this university	382	1.00	5.00	3.7827	1.39456
In the last five years the interuniversity transfer rate in this university has increased	382	1.00	5.00	3.5916	1.45112
Overall	**382**			**3.742**	**1.396**

Note: Strongly Agree= [1-2[= **Very High mean;** Agree= [2-3[**=High mean; Neutral**= [3-4[=**moderated mean;** Disagree= [4-5[**=Low mean** Strongly Disagree = [5-[**= Very Low Mean**
Source: Research data

The results in table 4 indicated how the respondents agree and agreed strongly with the involved indicators of the shrinking of student enrolments in private tertiary institutions in Rwanda. These are namely: The number of applicants has decreased (μ= 3.8717 and STD=1.35809), the number of graduates has decreased (μ=3.6597 and STD=1.39906), the dropout rate has increased (μ=3.7670 and STD=1.43106), some classes have been merged (μ=3.7696 and STD=1.39339), some campuses have been merged (μ=3.7749 and STD=1.41851), some of the accredited programs did not start (μ=3.6806 and STD=1.34870), the number of students who graduate each year has been bigger than the one of the students who register annually (μ=3.8534 and STD=1.28976), some programs have been closed (μ= 3.6702 and STD=1.48168), graduation ceremonies have been postponed to wait for more student to complete (μ=3.7827 and STD=1.39456) and the interuniversity transfer has increased (μ= 3.5916 and STD=1.45112).

4.3 Regression analysis for the influence of job availability on the shrinking of student enrolments

Table 5: Model Summary on job availability

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.752[a]	.566	.511	.06239

a. Predictors: (Constant), Job availability

Results in table 5 showed that 56.6% of the variation in the dependent variable (shrinking of student enrolments) can be explained by job availability and the remaining percentages can be attributed to other variables which are not contained in the model.

Table 6: Analysis of variance on job availability and shrinking of student enrolments

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.041	1	.041	10.415	.012[a]
	Residual	.031	8	.004		
	Total	.072	9			

a. Predictors: (Constant), Job availability

b. Dependent Variable: Shrinking of student enrolments

The analysis of variance in table 6 revealed that job availability had a significant relationship (F= 10.415, p value <0.05) with the shrinking of student enrolment in private tertiary institutions in Rwanda.

Table 7: Regression coefficients on job availability and shrinking of student enrolments

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.383	.422		5.651	.000
	Job availability	.368	.114	.752	3.227	.012

a. Dependent Variable: Shrinking of student enrolments

The results in table 7 revealed a significant influence job availability (**β=0.368** and p value **<0.05)** on the shrinking of student enrolment in private tertiary institutions in Rwanda. The results were dependent on the following model.

$\hat{Y} = \alpha + \beta x + \varepsilon$

Y=2.383 + .368X + €

Where Y= Shrinking of student enrolments, X= job availability and €= error term.

4.4 Regression analysis for the influence of working conditions on shrinking of student enrolments

Table 8: Model Summary on working conditions

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.073[a]	.005	-.119	.09440

a. Predictors: (Constant), Working conditions

Results in table 8 showed that 7.3% of the variation in the dependent variable (shrinking of student enrolments) can be explained to working conditions and the remaining percentages can be attributed to other variables which are not contained in the model.

Table 9: Analysis of variance on working conditions and shrinking of student enrolments

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.000	1	.000	.043	.841[a]
	Residual	.071	8	.009		
	Total	.072	9			

a. Predictors: (Constant), Working conditions

b. Dependent Variable: Shrinking of student enrolments

The analysis of variance in table 9 revealed that working conditions had a significant relationship (F= 0.43, p value >0.05) with the shrinking of student enrolment in private tertiary institutions in Rwanda.

Table 10: Regression coefficient on working conditions and shrinking of student enrolments

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	3.614	.617		5.853	.000
	Working conditions	.050	.241	.073	.208	.841

a. Dependent Variable: Shrinking of student enrolments

The results in table 4 revealed a significant influence of working conditions (**β=0.050** and p value **>0.05)** on the shrinking of student enrolment in private tertiary institutions in Rwanda. The results were dependent on the following model.

$\hat{Y} = \alpha + \beta x + \varepsilon$

Y=3.614 + .050X + €

Where Y= Shrinking of student enrolments, X= working conditions and €= error term

4.5 Ordinary Least Squares Regression Analysis for graduate employability and shrinking of student enrolments

Table 11: Model Summary for graduate employability and shrinking of student enrolments

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.755[a]	.570	.447	.06639

a. Predictors: (Constant), Job availability, Working conditions

The results on primary data indicated that the predictor variables were able to explain much of the movement of the dependent variable as shown in Table 11. The R square was 0.570%. Based on the OLS regression model, the study tested the hypothesis that the predictor variables collectively have a positive effect on the dependent variable.

Table 12: Analysis of variance of graduate employability and shrinking of student enrolments

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.041	2	.020	4.632	.052[a]
	Residual	.031	7	.004		
	Total	.072	9			

a. Predictors: (Constant), Job availability, Working conditions

b. Dependent Variable: Shrinking of student enrolments

This test is directed by F statistic in Table 12 which indicated that its *p* value of 0.052 is greater than α of 5% for each variable's coefficient, hence statistically significant different from zero. This meant that at 5% significance level, the study accepted the null hypothesis and inferred that the independent variables in focus were jointly statistically insignificant in predicting the value of changes in the shrinking of student enrolments in private tertiary institutions in Rwanda. Based on results above, the study concluded that the independent variables have no significant influence on the dependent variable.

Table 13: Regression coefficients for graduate employability and shrinking of student enrolments

Coefficients

.Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	2.274	.620		3.667	.008
	Working conditions	.043	.170	.063	.255	.806
	Job availability	.367	.121	.751	3.029	.019

a. Dependent Variable: Shrinking of student enrolments

Results in Table 13 revealed positive and significant relationship between job availability and the shrinking of student enrolments (β= -0.376, p value <0.05). This implies that a unit of change in job availability increases the shrinking of student enrolments by -0.376 units while holding constant working conditions. Secondly, there was a positive and insignificant relationship between working conditions and the shrinking of student enrolments (β = 0.43, p value >0.05). This implies that a unit of change in working conditions increases the shrinking of student enrolments by 0.43 units while holding constant job availability.

$Y= 2.274+0.043X_2+ 0.367X_2$

Where:

Y refers to the shrinking of student enrolments

X_1 refers job availability

X_2 refers working conditions

5. DISCUSSION

As earlier mentioned, this study aimed at investigating the influence of graduate employability on the shrinking of student enrolments in selected private tertiary institutions in Rwanda by answering the following research questions: What is the influence job availability among Rwandan graduates on the shrinking of student enrolments in selected private tertiary institutions in Rwanda? What is the influence of working conditions among employed

Rwandan graduates on the shrinking of student enrolments in selected private tertiary institutions in Rwanda? The following are the findings for each research question.

Concerning the research question number one, the study found that job availability among Rwandan university graduates has significant influence on student enrolments in private tertiary institutions in Rwanda. These results are explained by the fact that nowadays it is very difficult for university graduates to get jobs in Rwanda. The study by Inter-University Council for East-Africa (IUCEA) in 2014 revealed that 52% of graduates in Rwanda are unemployed (Rwamwenge, 2017). Therefore, there is a general belief among university students in Rwanda that there are no jobs for alumni who are finishing university nowadays. This has become a slogan in Rwanda and it probably has a negative effect on S6 leavers' decisions to study university. In addition, research has shown that in the most developing countries education is consider as an economic investment (Agabi, 2012). Similarly, the majority of people in Rwanda study university with the purpose of making money through acquisition of jobs just after their studies.

With regard to research question number two, the study revealed that to working conditions among employed university graduates in Rwanda have no significant influence on the shrinking of student enrolments in private tertiary institutions in Rwanda. These findings are explained by the fact that working conditions in terms of salaries and wages in Rwanda are not satisfactorily enough such that many Rwandese are always on search for new positions which can provide better pays. The World Bank (2015) reported that for the majority of Rwandan population earnings are low. This report indicates that in 2011 half of workers earned Rwf 18,175 per month or less (amounted to $31 as per the exchange rate of the time), 90% of workers earn less than 65,000 Rwf per month and less than 6% of employed Rwandans earn 100,000Rwf or more. This report also indicates that one third of employees had so-called low-earning jobs, meaning that their labour earnings were lower than the national poverty line. In fact, this situation makes many people in Rwanda to study university so that they can get other jobs with higher salaries.

Overall, the study found no significant influence of graduate employability on the shrinking of student enrolments in private tertiary institutions in Rwanda. These findings are similar to those of Barbu (2015); Khan (2006); Nate (2015) and Pennington et al. (2002) whose studies confirmed that high unemployment rate does not significantly influence shrinking of student enrolments in tertiary institutions. However, the findings contradict with those of Marinnge (2006); Le, Dobele and Robinson (2019); Soutar and Turner (2002); Tatar and Oktay (2006); Veloutsou et al. (2004); Hoyt and Brown (2003); Rolfe (2001) and Ming (2010) whose studies found that high unemployment rate influences significantly the shrinking of student enrolments in tertiary institutions.

6. Conclusion

As per the above findings, it was concluded that job availability among university graduates has a significant influence on the shrinking of student enrolments in private tertiary institutions in Rwanda while working conditions among the employed Rwandan university graduates have no significant influence on the same variable. Overall, it was found that graduate employability has no significant effect on shrinking of student enrolments in private tertiary institutions in Rwanda.

7. Recommendations

Based on the findings, the study recommended that university students should always be encouraged to go to university because this is among the best way to earn life. However, they should be characterized by job creation spirit rather job seeking one. This will help them

understand that higher unemployment rate in Rwanda should not prevent them from studying university.

a) Parents should always understand that education is among the best way of preparing the lives for their children. Therefore, they should always encourage their children to study university and make them understand that without education life would be in danger.
b) The study also recommended that it should be mandatory for private tertiary institutions in Rwanda to offer entrepreneurship related courses and make sure that all the students finish their university studies with knowledge of how to run businesses. This will shun away the students' idea that the primary purpose of studying university is to get a job.
c) For more encouragement, private tertiary institutions should sign MOUs with different companies aiming at offering jobs to their alumni.
d) The ministry of education should allow all private universities to teach entrepreneurship courses and make it mandatory and cross-cutting for all the students. This will help all university students complete their studies with business ideas which will encourage them to create their own jobs rather than spending a long time looking for jobs.

REFERENCES

Agabi, C.O (2012). Education as an economic investment. *International Journal of Scientific Research in Education (IJSRE), 5*(1), 1-11.

Amponsah, E. B. & Onuoha, L.N. (2013). The Performance and challenges of private universities in Ghana and Nigeria. *International Journal of Business and Social Science, 5* (4), 256- 257.

Aydin, O.T. (2015). University Choice Process: A Literature Review on Models and Variables Affecting the Process.
Journal of Higher Education, *5*(2):103–111.

Barbu, D.G. (2015). *The Relationship between Unemployment related and College Enrolment and Success Outcomes*. (Doctorate dissertation, Florida state University, 2015).

Becker, G.S. (1964). *Human capital: a theoretical and empirical analysis, with special reference to education*. New
York: Colombia University Press.

Borg, W. R., & Gall, M. D. (2003). *Educational Research: An Introduction* (5th ed.). New York: Longman.

Clarke, M.A. (2016). *How the unemployment related rate in Spain affects university enrolment.* (Unpublished Bachelor's thesis, University of Arkansas, 2016).

Creswell, J. W. (2012). *Educational Research planning and evaluating quantitative and qualitative research*. Boston: Pearson Education Inc.

Freedman, S. W., Weinstein, H.M. Longman, T. (2006). *Teaching the history of Rwanda: Participatory approach. Human Rights centre,* University of California: Berkeley.

George, D., & Mallery, P. (2003). *SPSS for Windows Step by Step A Simple Guide and Reference. 11.0 Update* (4th Edition). Boston: Allyn & Bacon.

Higher Education Council (HEC, 2019), *List of private tertiary Institutions in Rwanda*. Retrieved on May 12th 2020, from https://hec.gov.rw/index.php?id=4

Hoyt, J. E., & Brown, A. B. (2003). Identifying college choice variables to successfully market your institution. *College and University*, 78(4), 3–10.

Kahn, L. (2006). The Long-Term Labour Market Consequences of Graduating from College in A Bad Economy. *Labour Economics*, *17*, 303-316. Doi 10.1016/j.labeco.2009.09.002.

Krejcie, R. V., & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement, 30*, 607-610

Le, T. D., Dobele, A.R., & Robonson L. (2019). *Understanding high school students use of choice variables and word-of-mouth information sources in university selection*. Retrieved April 14, 2019, from https://www.researchgate.net/publication/330130672

MacGregor, K. (21 June 2014). A new university, new international leader, new future. Retrieved from https://en.wikipedia.org/wiki/National_University_of_Rwanda

Marinnge, F. (2006). University and Course Choice: Implications for Positioning Recruitment and Marketing. *International Journal of Educational Management* 20(6):466-479.

McKinney, S. N. (2017). *Correlation of local unemployment related rates and North Carolina Community College enrolments*. (Doctoral dissertation, Liberty University, 2017).

Ming, J. S. K. (2010). Institutional Variables Influencing Students' College Choice Decision in Malaysia: A Conceptual Framework. *International Journal of Business and Social Science, 1*(3), 53-58.

Ministry of education (2013*). Education Sector Strategic Plan 2013/14 –2017/18.*Kigali-Rwanda*: MINEDUC*

Ministry of education (2015). *2014 Education statistical yearbook*. Retrieved October 21, 2018 https://mineduc.gov.rw/fileadmin/user_upload/pdf_files/2014

Ministry of Education (2018). *Education Statistical 2017.* Retrieved October 21, 2018 from https://mineduc.gov.rw/fileadmin/user_upload/Amatangazo/2015

Nate, J. (2015). *The Unemployment related -Enrolment Link*. Retrieved February 18, 2020, from https://www.insidehighered.com/views/2015/08/27/

Pennington, K. L., McGinty, D., & Williams, M. R. (2002). Community college enrolment as a function of economic indicators. *Community College Journal of Research and Practice*, 26(5), 431-437.

Rey, F. (2017). FSPSS (Software). In J. P. Matthes, R. Potter, & C. S. Davis (Eds.). *International Encyclopaedia of Communication Research Methods*. Wiley Blackwell.

Rivers, H. E. (2010). An analysis of economic variables affecting enrolments in the South Carolina technical college system and Virginia community college system (Doctoral dissertation). Retrieved from ProQuest Dissertations & Theses Global. (Order No. 3413294).

Robinson, B. (2017). *Structural Poverty and College Enrolment: The Impact of Rural American. Determinism.* (Unpublished Doctoral thesis, Bellarmine University, 2017).

Rwamwenge, E. (May 1, 2017). Why are there many jobless graduates in Rwanda? Retrieved on May 15, 2020, from https://taarifa.rw/why-are-there-many-jobless-graduates-in-rwanda

Rwirahira, R. (2017). Private Universities petition over president over closures. Retrieved from https://www.universityworldnews.com/post.php?story=20171027071144525

Senyonga, A.B. (June 12, 2013). Demand for higher education keeps growing. *The New Times*. Retrieved from http://www.newtimes.co.rw/section/article/2013-05-01/107020/

Soutar, G. N. & Turner, J. P. (2002). Students' preferences for university: A conjoint analysis. *International Journal of Educational Management*, 16(1), 40 – 45.

Schultz, T. W. (1961). Investment in human capital. *The American Economic Review, 51* (1), 1–17.

Strasser, S. E., Ozgur, C., & Schroeder, D. L. (2002). Selecting a business college major: An analysis of criteria and choice using the analytical hierarchy process. *American Journal of Business*, 17(2), 47–56.

Tatar, E., & Oktay, M. (2006). Search, choice and persistence for higher education: A case study in Turkey. *Eurasia Journal of Mathematics, Science and Technology Education, 2*(2), 115–129.

Teixeira, P. & Koryakina, T. (2011). Funding reforms and revenue diversification: patterns, challenges and rhetoric. *Studies in Higher Education, 8*, 1-18.

The World Bank (2015). Rwanda Employment and Jobs Studies. Washington: Poverty Global Practice for African Region

Trading Economics (2020). *Rwanda Unemployment related Rate*. Retrieved on June 3, 2020 from https://tradingeconomics.com/rwanda/unemployment related -rate

Veloutsou, C., Lewis, J.W. & Paton, R.A. (2004). University selection: information requirements and importance. *International Journal of Educational Management*, 18(3), 160–171.