Exploring Barriers and Enablers to revenue generation among state universities in Zimbabwe

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Abstract
The study examined barriers and enablers to resource mobilisation among selected ten Zimbabwean state universities. A mixed research method was employed to maximize on the benefits of both the qualitative and quantitative method. The quantitative method included ninety participants comprising forty-five deans/chairpersons of faculties and forty-five senior non-academic members of staff who completed the questionnaire to explorethebarriers and enablers of resource generation. Quantitative data was analysed using inferential statistics. In addition, qualitative data was gathered from ten bursars who were purposively selected for interviews. Data from interviews was analysed using the grounded theory, which allowed patterns, themes, and categories to emerge. The study findings established no significant differences between the views of females and males on the barriers and enablers to resource mobilisation at state universities. The study also revealed that Zimbabwean universities have come to realise the need to augment government economic efforts through undertaking industrialisation and innovations thus embracing education 5.0. In addition, the study exposed that economic and political environments are the greatest push for revenue diversifications and finally government's failure to fund for capex and operations as barriers to revenue generation among state universities. On the way forward, the study recommended that state universities must empower respective top-managers with imaginative, creative and innovative skills in order to raise sustainable revenue for universities.

Keywords: Sustainable, resources, fiscus, barriers, state universities.

1. Introduction

Financial sustainability had been one of the key barriers for Sub-Saharan African public universities in the last three decades (Gebreyes, 2015). Many scholars (Gebreyes, 2015; Clark, 2004) have reported that public universities around the globe face financial challenges. Sub-Saharan Africa being the most affected (Gebreyes, 2015). It is believed that the rapid changes in the higher education context across the globe, driven by economic, social, political, and technological forces, have created an unprecedented set of barriers for financing universities (Zhou etal, 2016; Hanninen, 2013). Research established that the total number of students pursuing higher education in Sub-Saharan African universities has tripled since 1991, climbing from 2.7 million to 9.3 million in 2006. If the current trend continues, the total number of university students in the African continent could reach between 18 million and 20 million by 2015. It is also established that the public resources allocated to expenditure in the higher education sector only doubled between 1991 and 2015. Given the

above, this financial gap indicates that the percentage of government funding in the overall budgets of Sub-Saharan African public higher education organisations continues to drop, at a time when higher education is experiencing rising enrolments (Johnstone and Marcucci, 2010; Bundy, 2004). To exacerbate the situation, many national governments, including Zimbabwe have made it clear that it will no longer be possible for public universities to rely solely on the state or their governments for funding (Zhou etal., 2016). This indicates that higher education systems often face formidable economic policy challenges in balancing the need to raise educational quality with increasing demands for access.

2. Background of the study

In the past years, 2000 to 2009, Zimbabwe has been experiencing serious economic, social and political challenges and the government has failed to live up to its responsibility of supporting universities fully from the fiscas. Underfunding from the government has resulted in archaic and primitive technological equipment in higher institutions of learning (Mutenda, 2012 and Garwe, 2014). Gandawa (2016) reported that the laboratories in most institutions of higher learning are poorly equipped and lack reagents to use. The computer/student ratio in most universities is pathetic and internet is unbearably slow. Lack of hands on skills has resulted in production of graduates who are ill-prepared for work in the industry (Chimbganda, 2014). On the way forward, measures related to cost-sharing or cost recovery could be used at the tertiary education level to correct the imbalance in the funding scheme.

Over the past decade, many African countries, including Zimbabwe, have sought ways to enhance financial sustainability of state universities. The minister of finance then in Zimbabwe, Mr Chinamasa in August 2016 made it clear that it will not be possible for public universities to depend only on the state for financing. Consequently, universities have been challenged to create their own funds and to be sustainable. There is therefore dire need for higher education institutions to consider varying the sources of funding against the background of dwindling funding from the government. Various stakeholders such as families, civil society and private sector should be involved. Other innovative income generation ways include short courses, collaborative research or consultancies, centres of excellence, fundraising, industrial doctorates and incubation centres (Garwe, 2014; Mutenda, 2012 and Gurira, 2012). Based on existing research efforts on revenue generation for public universities, this study examined and evaluated barriers and enablers to resource generation in Zimbabwe. Despite the great diversity that exists in Zimbabwean universities, all tertiary education systems are continuously under pressure owing to the expansion of student population and the rising costs of teaching and research. The situation calls for universities to be proactive hence should come up with locally-driven solutions to boost both economic activities and employment creation to support the growth and survival of universities. Public authorities seem to be growing more aware of the need for higher education organisations to develop a reasonably diversified funding structure, attracting funding from other sources including the private sector (EUA, 2011).

Several scholars suggest that revenue generation is one tool to ensure financial sustainability in higher education policies (EUA, 2011). Literature review studied established that some universities have benefited financially from creative state-level mechanisms to stimulate workforce training and development in the form of short-term or long-term programmes for industry and other stakeholders (Hearn, 2003). Many public universities have moved towards offering special versions of high-demand courses at high tuition levels. Such efforts can

include evening courses, summer courses, short courses, online courses, credentialing programs in areas demanded by the labour force and offerings abroad (Hinchcliff, 2000).

Another category of revenue generation activities for public universities is that of research and consultancy services. Many universities are repackaging and reorganising their research and analysis capabilities, often in pursuit of revenue (Clark, 2008). Prominent initiatives involve business incubators, technology transfer offices, research and technology centres and parks, small business development centres, and research collaborations with private industry and the government. Some scholars suggest that more revenue comes from more applied and problem-solving research (Gulbrandsen and Smeby, 2005).

Some of the revenue generation activities in this category may be organised into separate university-owned spin-off companies. Money can be earned from patents and licences, direct consultancy or commercial research partners (Jacobet al., 2003). Consultancy is one stage further than contract research from core academic activities. It is normally undertaken primarily for financial gain. Joint research projects or commissioned research seem to be among the most common forms of cooperation between public universities and their regions and are likely the important sources of nongovernmental resources and co-learning (Benneworth and Sanderson, 2009).

Another feature that has sprung up in financing higher education due to the increased liberalisation of the education market is the internationalisation of education. Certain regions, especially Asia, have been increasingly characterised by the setting up of branches by prestigious universities from mainly developed countries. Altbach (2009) indicates that over 200 institutions have programs in China and at least 150 foreign academic institutions had various kinds of collaborative arrangements in India. However, Teferra (2007) notes that this concept is still unpopular in Sub-Saharan Africa with the exception of South Africa largely due to economies of scale, financial and infrastructural issues.

Revenue can be received from leasing university property to private entities or by the exploitation of university facilities for commercial purposes (Geiger, 2002). Many universities obtain such revenues through rental of residences, catering, consultancy, libraries, museums, training centres or resource centres, printing and binding, sport facilities, language centres and scientific test equipment. It is, therefore, reasonable to say, universities have considerable opportunities to exploit their facilities in order to generate revenue.

Currently, higher education in Zimbabwe faces challenges which include dropouts, high tuition and accommodation fees, under funding, staff shortages and economic decline and large public debt (Shizha and Kariwo, 2016). The government's budgetary allocation to the higher education has been in drastic decline (Chetsanga, 2010). University education in Zimbabwe, traditionally was "heavily subsidized by the government, (80%) for their capital and recurrent expenditures, 15% funding comes from the fees and 5% from other sources. In the past 3 years, Zimbabwe has been experiencing serious economic, social and political challenges and the government has failed to live up to its responsibility of supporting universities fully from the fiscus. The reduction in government support was unplanned and abrupt thus affecting the running of almost all state universities. It is against this background that this study examines the enablers and barriers faced by universities today with the aim of proposing sound innovative solutions to the problems.

3. Methodology

This study adopted the pragmatism paradigm which takes a practical middle point between positivism (quantitative) and interpretative (qualitative). Pragmatism encouraged the adoption of an eclectic approach to thinking about methodology and methods in research thus allowing the researcher to adopt the use of Mixed Methodology Research (MMR).

3.1 Research Design

This study adopted a convergent parallel Mixed Method Research (MMR) design that integrates quantitative (positivistic) and qualitative (interpretive) research traditions.

The convergent parallel design (triangulation design) occurs when the researcher use concurrent timing to implement the quantitative and qualitative studies during the same phase of the research process (Goldkuhl, 2014). The two methods in this design have an equal priority so that both play an equally important role in addressing the research problem. This design keeps the studies independent during the data collection and analysis and then mixes or merges the results during the overall interpretation (Creswell, 2014).

In the study, a convergent parallel design was used because it is an efficient design, in which both types of data are collected during one phase of the research at roughly the same time. Also, each type of data can be collected and analysed separately and independently, using the techniques traditionally associated with each data type to identify phenomena through how they are perceived by the actors in coming up with sustainable financial strategies in order to cope in a volatile economic environment in Zimbabwe. The convergent design also permits the integration of as many methods as possible to explore (Saunder, Lewis, and Thornhill, 2010).

3.2 Sampling and Sample Size

Sampling procedures in this study adhered to MMR sampling standards. The sample was quantitatively and qualitatively drawn from the population at appropriate stages as dictated by the convergent research design.

3.3 Quantitative Sampling and Sample Size

For the quantitative component of the study, participants were selected through stratified random sampling. Stratified random sampling involves dividing the population into distinct subgroups such that each unit belongs to a single stratum (for example, teaching (academic) and non-teaching staff) and then units were selected at random from each of the stratum identified. When stratifying the population is achieved, then research participants were drafted into the sample using the systematic simple random sampling technique. The total quantitative sample was, therefore ninety (90), comprising 45 deans and chairpersons and 45 senior non-academic staff.

3.4 Qualitative Sampling and Sample Size

Qualitative sampling techniques were used to select information rich participants for in-depth interviews. In this study, the sample of ten (10) bursars/financial directors was purposively

drawn from the ten established universities in Zimbabwe to respond to qualitative interviews. Purposive sampling was considered by Creswell (2014) as the most important kind of non-probability sampling to identify the primary participants. In this study, the researchers purposively selected financial directors because they are already in the financial management of universities and are thus the right people to advice on barriers and enablers to resource mobilisation at state universities.

3.5 Instrumentation

In this MMR, instruments were drawn from both quantitative and qualitative research traditions.

3.6 Quantitative Instrumentation

Quantitative data was gathered through a closed ended questionnaire. Closed questions ensured that respondents were restricted to the provision of categorical data required by the researchers. Closed form questionnaire were easy to use, score and code for analysis even on a computer. The researchers disseminated the questionnaires in person to avoid non-completion of questionnaires. This also helped the researchers to explain to respondents what they did not understand on the questionnaires.

3.7 Qualitative Instrumentation

In this study qualitative data was collected through face to face interviews to ten university financial directors or bursars. The advantage of interviews was that questions would be repeated over and over again; where necessary explaining meanings in case they are not understood by the respondents.

3.8 Data Analysis

Mixed methods data analysis comprises analysing the quantitative data using quantitative methods and the qualitative data using qualitative methods. This methodology involves integrating quantitative and qualitative data collection and analysis within a single study or program of inquiry (Creswell, 2014). The underlying logic of mixing quantitative and qualitative data is that, on their own, neither method is sufficient to capture the details and trends of the topic under study. When used in combination, quantitative and qualitative data complement one another and yield a more complete analysis (Babbie, 2016 and Creswell, 2014).

3.9 Quantitative Data Analysis

Data from all the questionnaires were aggregated and presented using both inferential and descriptive statistics, expressed as percentages, means and standard deviations, presented in tables for analysis. Inferential statistics was in the form of the chi square tests and the t-tests. The chi-square test focused on testing if associations existed between variables while the t-test was used to ascertain if significant differences existed between variables of interest. Such a presentation permitted the researchers to reveal strategic trends in terms of their implementation of economic sustainable measures adopted by universities. In this study, both inferential and descriptive statistics were therefore used to analyse quantitative data.

The sample of ten (10) bursars/financial directors was also purposively drawn from the ten established state universities in Zimbabwe to respond to qualitative interview,the responses

from interviews were analysed using the grounded theory technique approach to allow patterns, themes, and categories to emerge rather than being imposed prior to data collection and analysis.

The research instruments were validated and the reliability, validity, credibility and trustworthiness of data were ascertained. Member checking was adopted to ensure accuracy of data and to identify convergence and divergence in viewpoints.

3.10 Ethical Considerations

The approval/permission to carry out this study was secured from the Ministry of Higher and Tertiary Education, as well as from the selected university vice chancellors. The ethical considerations that were observed in this study included informed consent, confidentiality, deception and debriefing. Through informed consent, the participants were made aware of both the advantages and disadvantages of participation thus, the benefits and risks were clearly outlined. Participants were not coerced to participate. Confidentiality was also upheld. Deception was discouraged and the researcher tried to build trust and transparency.

4. Findings and Discussion

4.1 Enablers to revenue generation among universities in Zimbabwe

The majority of the participants who completed the questionnaire agreed that universities established enterprises to generate revenue for the university; new regulations have been put in place with respect to use of space, infrastructure and facilities to generate revenue and universities have made changes in their programme supply or modes of educational delivery in order to generate additional resources from external sources as revealed by sentiments derived from the mean score of 3.80, 3.46 and 3.90, respectively. It was also agreed that research co-operations between universities and stakeholders bring in significant additional resources as supported by the mean score of 2, 67 and standard deviation of 1,572. It was also noted that resource generation was done in a way that did not compromise the academic activities of the universities. These findings reinforced findings from the interviews which established that the technological revolution currently underway was contributing significantly to changes for many universities and could be considered a major trigger for the expansion and diversification of sources of revenue for state universities by expanding opportunities for education services.

The result of the chi square test signifies that both academic and non-academic staff members generally had the same views with regard to their knowledge of enablers and barriers to revenue generation among universities in Zimbabwe, all things being equal. This implies that the research participants' knowledge of enablers to revenue generation among universities in Zimbabwe did not hinge on their employment status. One implication of the result of the chi square test was that in cases where the majority of the respondents gave a common decision, it meant both academic and non-academic staff members were included as shown on the diagram below.
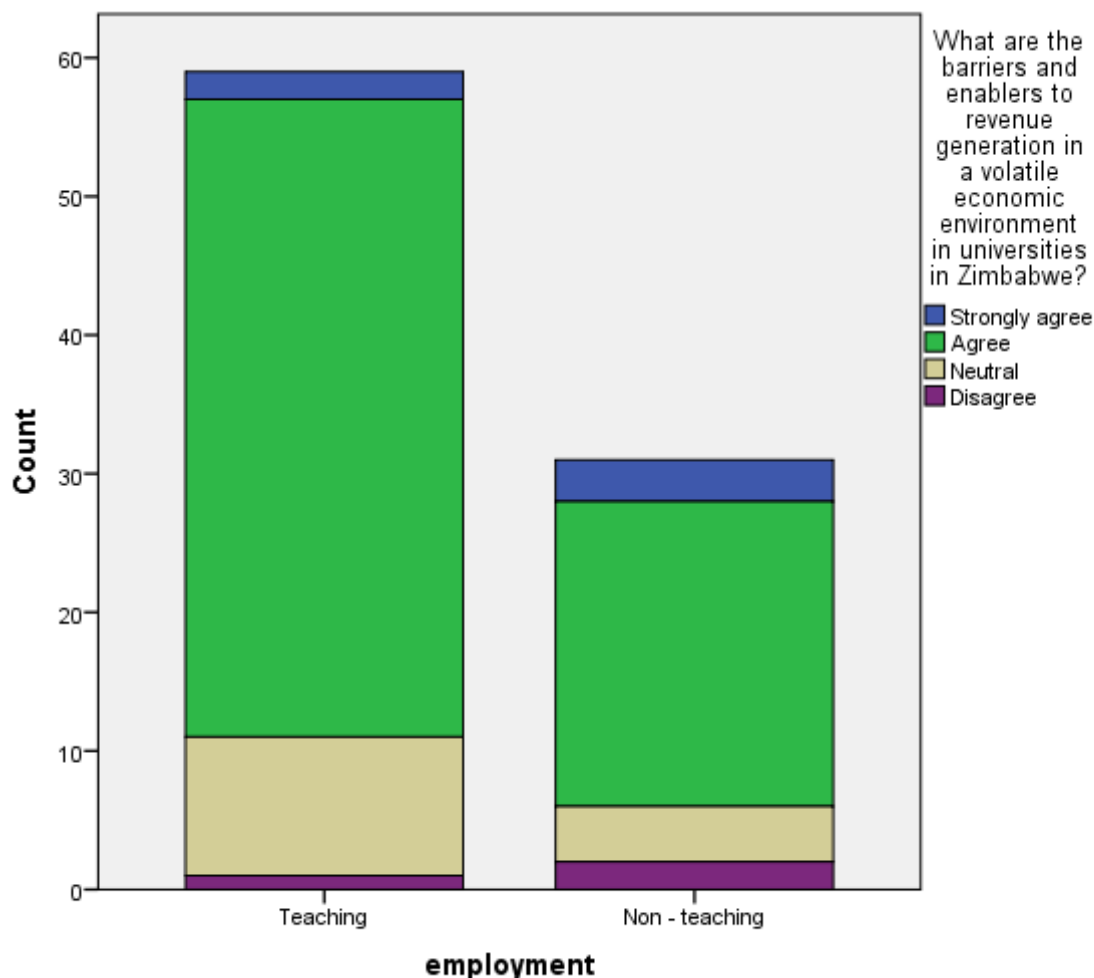
Fig 1: Distribution of employment status versus knowledge of barriers and enablers to revenue generation at Zimbabwe state universities

A closer look at Fig. 1 above shows that the stacks representing the two employment statuses have a very similar distribution suggesting similar views by both teaching and non-teaching staff to the variable: knowledge of barriers and enablers to revenue generation at Zimbabwe state universities. The bulk of the respondents from both groups seemed to possess knowledge of barriers and enablers to revenue generation at Zimbabwe state universities. To further test the relationship between the two variables, a chi square test for independence was carried out to test the hypotheses:

H_o: Knowledge of barriers and enablers to revenue generation at Zimbabwe state universities is independent of the respondents' employment status (academic versus non-academic staff)

H_1: Knowledge of barriers and enablers to revenue generation at Zimbabwe state universities is dependent on the respondents' employment status (academic versus non-academic staff)

A calculated value of $\chi(3) = 3.171, p = .366$, was not significant. Hence the null hypothesis was not rejected. It can be concluded therefore, that there is no relationship between knowledge of barriers and enablers to revenue generation at Zimbabwe state universities and whether one is employed as an academic or non-academic staff.

To consolidate the above findings, the descriptive statistics on objective 2 (What are the barriers and enablers to revenue generation in a volatile economic environment in universities in Zimbabwe) alsoattempts to unpack the barriers and enablers to revenue generation in a volatile economic environment in universities in Zimbabwe

Table 1 below attempts to answer questions on the barriers and enablers to revenue generation in a volatile economic environment in universities in Zimbabwe
Table 1: Barriers and enablers to revenue generation in a volatile economic environment in universities in Zimbabwe

Table 1: Descriptive Statistics

Item description	N	Mean	Std. Deviation	Variance
2.1 University has clear strategies for revenue generation.	90	3.20	1.408	1.982
2.2 Parents failing to pay tuition for students.	90	3.78	1.270	1.613
2.3 Government students support schemes not available.	90	3.43	1.484	2.203
2.4 Economic sanctions in Zimbabwe exacerbate the financial situation at State universities in Zimbabwe.	90	3.87	1.104	1.218
2.5 Academic staff is having difficulties in attracting funding for research.	90	4.24	.940	.883
2.6 Inappropriate use of resources is a barrier to sustainable economic development of universities.	90	4.27	.897	.804
2.7 Government controls tuition and financial activities at universities.	90	3.87	1.210	1.465
2.8 University education is internationally recognized.	90	3.99	.966	.932
2.9 Universities are attractive to foreign students.	90	3.78	1.252	1.568
2.10 Donors support university activities.	90	2.36	1.401	1.962
2.11 University facilities are sufficient for engaging in revenue generating activities.	90	3.13	1.408	1.982
2.12 Existing staff are competent and properly oriented to engage in revenue generating activities.	90	2.02	1.461	2.134
Valid N (listwise)	90			
Average score		**3.50**	**1.233**	**1.562**

Field data, (2020).

The standard deviation ranges from 0.897 to 1.484 with 1.233 being the average. The mean ranges from 2.02 to 4.27. The average mean score of 3.5 implies that most respondents agreed that the above mentioned items affect the revenue generation in a volatile economic environment in universities in Zimbabwe. From the analysis, the majority of the respondents indicated that the academic staff is having difficulties in attracting funding for research and inappropriate use of resources is a barrier to sustainable economic development of universities as supported by the mean score of 4.24 and 4.27, respectively.

Other respondents reported that parents failing to pay tuition for students and economic sanctions in Zimbabwe exacerbate the financial situation at state universities in Zimbabwe and also the fact that government controls tuition and financial activities at universities further amplifies the problem. On a positive note,the participants agreed that Zimbabwe

university education is internationally recognized and universities are attractive to foreign students. These were shown by the mean score of 3.78, 3.87, 3.87, 3.99 and 3.78 respectively. Majority of the universities disagreed with the assertion that donors support university activities as supported by the score of 2.36.

University facilities were also noted to be insufficient for engaging in revenue generating activities. Participants from six established universities agreed that the existing university workers are competent and properly oriented to engage in revenue generating activities while the majority from the four universities said that the existing staffs is incompetent and poorly oriented to engage in revenue generating activities.

Information technology and modern telecommunication, including computers, accompanied by increasingly sophisticated software were another important enabler for revenue generation as they have significant impacts on how students learn, how professors teach and conduct research, and how administrators manage the university.Most industrial firms interact with nearby universities when seeking advice on matters of technological and organisational innovations, conducting contract and joint research and getting training courses customised to their needs (Gulbrandsen and Smeby, 2005; Jongbloed and Van der Sijde, 2008). The technological revolution currently ongoing in most countries brought about significant changes for many universities and it can be considered a major trigger for expanding and diversifying sources of revenue for public universities by expanding opportunities for education services. Information technology and modern telecommunication, including computers, accompanied by increasingly sophisticated software were other important enablers for revenue generation as they have significant impacts on how students learn, how professors teach and conduct research, and how administrators manage the university (Chun and Gumport, 1999).

Almost all interview participants mentioned that the organisational autonomy of state universities was a key condition for successful revenue generation and diversification and for universities long-term financial sustainability. Participants said that financial and staffing autonomy were highly associated with revenue generation activities or market orientation. This may be because universities by their very nature are bottom heavy organisations that have traditionally been self-governing centers of education and research with adequate substantive autonomy (Zhao and Zou, 2015; EUA, 2010, 2011, 2012 and 2015).It should be noted that internal resource allocation mechanisms and management influence revenue generation in state universities. The ten financial directors interviewed identified the organisational autonomy of state universities as a vital condition for successful revenue generation and diversification and for their long-term financial sustainability. The participants of this study also stressed that the university leadership becomes more important in revenue generation because they are mainly responsible for the development and implementation of strategies that help to reduce dependency from the government.

The top management at all the universities visited include vice chancellors, pro vice chancellors, bursars, registrars and librarians and their deputies, middle management (deans), operational level management (department chairs), administrative officers (supervisors, directors), academic staff, support staff and students who have certain powers/authority and autonomy by which they seek to produce and influence decisions on the university issues. Leadership cannot be restricted to a single post or even to a team or subset of colleagues in the centre, but, rather, is dispersed around a university (EUA, 2011) for

effective management of resources. Thus, at any state university, differentiation and integration can help to understand university behaviour in general and leadership roles in particular. This view is consistent with Dumestre (2016), who proposes that financial viability (or autonomy) is a crucial condition as well as, in some cases, a precondition for implementing financial sustainability. This is because the degree of autonomy makes a difference to the income and cost structure of universities. In fact, financial autonomy allows universities to react quickly in a constantly changing environment and enables them to obtain good financial conditions. Against this background, there is need for the government to change restrictive legislations that hinder innovation and financial sustainability among state universities.

The study also noted that financial incentives can encourage universities to meet certain conditional policy goals, including implementation of revenue generation strategies and activities. This is in line with studies done by Dill and Sporn (2015) and Jongbloed (2004). Several resource allocation mechanisms such as line-item budgeting, block grant, targeted funds, indirect funding, competitive funding, could be employed in allocating government funds to universities to achieve certain policy goals. These funding mechanisms were noted to enable revenue generation of state universities. Findings of this study also revealed that the shift from 'budgets itemised by function' towards 'budgets itemised by performance targets' or output-oriented funding marks the road to revenue generation. The underlying rationale was that state universities themselves know best how and where to use their resources to meet their objectives.

This study noted that revenue generation typically spreads unevenly within universities that have widely divergent fields of study. The participants of this study highlighted that the mission statements of each of the state universities studied provide a springboard for establishing more specific objectives and strategies. Given the above mission statements from the ten universities, universities therefore, follow different traditions that shape their core missions. The performance of the university has to be assessed against its mission (Mufudza, Jengeta and Hove, 2013). In the simplest language, the mission highlights the actual activity that lies at the core of university life. The mission thus appears to be something that the university is collectively striving to achieve or claim as a legitimate objective.

It is critical to note that, a man's best resource is the human mind. As Professor R.J. Zvobgo put it, 'the greatest asset of an organisation is the human mind' (Zvobgo, 2017). Management has to fully exercise their minds and forget about appealing to the government for the funding of their activities (Zvobgo, 2017). He goes on to state that African universities can survive with imaginative, creative and innovative leadership. Government support will continue to dwindle as economies continue to face challenges. Universities must invest in themselves if they are to remain viable centres of higher learning. This means that they must provide yearly budget allocations for education materials, library acquisitions, research, staff development, and the maintenance of buildings and equipment (Mufudza, Jengeta and Hove, 2013). Appropriate economic models and fresh directions for development are to be crafted by universities, academically and financially sound universities are an imperative for Sub-Saharan Africa (Gebreyes, 2015). Last but not least, in order to increase access, maintain standards of educational quality, and ensure institutional stability, universities must diversify their financial bases, particularly through cost-recovery for non-academic services, the introduction of targeted fees, and a calculated expansion of income-generating activities.

5. Conclusion and Recommendations

Zimbabwean universities have been greatly affected by the economic challenges facing the country. Thus,   government is failing to meet its obligation in supporting Higher Education.This study established that the macro-economic environment**,** current legislation on tuition fees, limited fiscal space and equipment, reduction in government support, rising demand for higher education, severe financial stringency, limited entrepreneurial skills among university staff.   The enablers for revenue generation noted in this study included, internalization, the adoption of the parallel and block release programmes, higher education marketingand innovations, supporting of research activities and various income generating projects.

Basing on the findings of this study, the following recommendations were suggested:

There is dire need for the universities to be allowed to determine their own tuition fees. Government should also reduce bureaucracy and red tape, incentivising those who attract/raise revenue at state universities.Last but not least, universities must be given increased autonomy to be able to react quickly to economic and political situations. This will enable higher education institutions to grab opportunities as soon as they arise and arrest threats before they cause damages.

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