



WORKING CAPITAL MANAGEMENT IN INSTITUTIONS OF HIGHER LEARNING IN
ZAMBIA.

A Research Thesis

by

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Submitted in fulfillment of the requirement of the Degree of
DOCTOR OF PHILOSOPHY IN DEVELOPMENT STUDIES
in

SPECIALISATION: STRATEGIC FINANCIAL MANAGEMENT

Faculty of Management Sciences

OF THE AFRICA RESEARCH UNIVERSITY

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ABSTRACT

The success of any organization, whether for profit or nonprofit, depends largely on how well the working capital is managed. Working capital management(WCM) is focused on having an ideal balance between working capital variables namely, receivables, inventory, cash and account payables. WCM is very critical to the sustenance of corporate strategy and value creation to business. Thus, it is one of the factors that accounts for the competitive advantage in institutions. Working capital management is defined as the way a company manages the relationship between assets and liabilities in the short term. This thesis which is titled ‘working capital management in institutions of higher learning in Zambia’, aims at examining the working capital management practices employed by public universities and how the same affect the consistent, timely and adequate core service provision. Universities exist to provide three important services of teaching, research and consultancy.

This study was motivated by the proposition that successful university education administration is made possible by the proper integration of working capital management policies in the strategic operations of the institutions. The discussion on managing of working capital is further necessitated by the prevailing economic down turn in Zambia compounded by the fact that very little research has been carried out to discuss the organizational working capital management policy specifically in the Zambian higher education administration despite the significant role that working capital management plays in the success of any organization.

Ultimately, the study proposes a conceptual framework model to improve the provision of core services of research, teaching and consultancy in public universities in Zambia.

This study was guided by two theories: The systems and Institutional theories.

The independent variable (the predictor) in the conceptual frame work is working capital management policy/approach with its interacting working capital components (current assets and current liabilities) while the dependent variables are the services delivered which include: Teaching, Research and Publications. These services/activities translate into and are the determinants of the volume of both expenditure and operating income of the institution and ultimately forms the basis of mission and focus of the institution.

This research used the mixed methods as they were considered to be highly reliable in obtaining knowledge in an objective environment. The choice of this method was backed by the positivist research philosophy which considers the world to exist externally and to be measurable by objective scientific and mathematical methods.

The study was conducted at two public universities; Mulungushi University and the Copperbelt University which were purposively selected on the basis of their long standing history and logistical factors on the part of the researcher. The long standing history as a criterion took into consideration public universities that have been in existence for more than ten (10) years. For easy access and logistical convenience, the location was restricted to the two public universities in the central region of Zambia. Public universities in this study are deemed to be universities under the ownership of the Republic of Zambia.

The selected institutions in this study, represent 67% of population of respondents and this percentage was suitable for the study since it is bigger than the 10% recommended by many research experts. The sample of this study also comprised of the management cadres of only two universities, since it was possible to collect data from all the respondents. Choosing institutions with a long standing history of establishment, provides insight into the potential differences in financial management structures within the sector.

The data findings in the two institutions which are brought together from the review of the relevant records and the analysis of the questionnaires, are presented on a case by case basis.

Under the independent variables, the study presents the management approach taken by each of the two universities on working capital. The working capital issues were investigated using document analysis by looking at the income statement, balance sheet, operating cash flow statements as sources of secondary data. Primary data relating to the independent variables was obtained through questionnaires and interviews with the officers responsible for working capital management. The key issues pursued from both primary and secondary data were: financial resource planning and allocation procedures, operating cycle time, operating efficiency, liquidity position, sources of income and expenditure/cost analyses for at least five years. In order to ensure the secondary data details were authentic the auditor general's reports were consulted. On the dependent variable continuum, the secondary data issues studied included the enrolment patterns over the five-year period of study, the staffing levels, student lecturer ratios, teaching and research. The primary data for the dependent variables was obtained through interviews and questionnaires administered on both academic staff and non-academic staff. The staff interacted with, in the study were those directly or indirectly involved in education service provision. The views of these staff on challenges faced in education services administration were obtained. In addition to the views obtained from staff, student perceptions on timeliness and adequacy of service were also recorded and studied. The summary of these findings are presented on the guidance of the objectives and conceptual frame work of the study.

Operating cycle in the context of this study, is the period in which a full time residential university course work is covered. It stretches from the registration to the time of writing the final exam for the same course. This excludes other modes of study like distance and evening/part-time classes.

The two universities under study presented different operating cycles. CBU was running on a termly system, that is, three to four months, while MU operated on a semester system, i.e. a period of six (6) months. Both institutions operated on the accrual basis of accounting. The receivables collection period was 30 – 60 days for both universities. Within the period of the operating cycle, a full course subject is offered, for which student tuition fees are expected to be collected in full to cover the operating expenses.

An attempt has been made to present and interpret the findings in 2D graphs in an as simple to comprehend format as was possible. For each of the financial ratios used, the trend given is presented on the graphs and illustrated by the equation of the trend line and tested by coefficient of determination (r) and the correlation coefficient (r^2).

The correlation coefficient also known as the product moment correlation coefficient (r) is a measure of the degree of linear association between two variables. The standard range applied in this study was: $r = +1$ means that the variables are perfectly positively correlated; $r = -1$ means that the variables are perfectly negatively correlated; $r = 0$ means that variables are un correlated. The coefficient of determination r^2 was used to indicate the proportion of changes in value of the variable under investigation(y) that could be explained by the changes over time (x). It was obtained by calculating the square of the correlation coefficient.

From the analysis it was established that core educational service provision in public universities was to a greater degree affected by the working capital strategies adopted by the institution. To be more specific, the choice of the operating cycle and the nature of the programmes being undertaken have direct implications on the rate, consistency and quality of service delivery. It was further discovered that Education administrators in public universities are faced with the challenge of striking a balance between the high costs of providing education and the need to satisfy the demand for educational services in the midst of erratic funding from the government and the changes that are taking place in the industry. Furthermore, the study observed that, the challenges were caused by factors which are both internal and external to the institution's environment.

The general conclusion drawn from the study was that a greater percentage of the working capital management challenges affecting service delivery in public universities were attributed to accounts receivable management policies. This was because much of the working capital and internally generated income for public universities was held in accounts receivables in form of uncollected tuition fees.

There exists a positive correlation between cycle and liquidity position, meaning the longer the operating cycle the more room there is for students to settle their accounts and thus the better the liquidity position for the institution. Therefore, in order to maintain sound liquidity and be able to deliver quality core services, consistently and timely, public universities in Zambia should match the operating cycles with the receivables and payables periods. The semester system presents a more favorable operating cycle for full time programmes as it provides sufficient time for both the institution and the students to marshal resources and meet their obligations.

Government funding to universities show a downward trend. The amount and frequency of grants has been decreasing as a result of increase in the number of public universities. This has spanned competition for students and staff among universities. In the two cases, the opening of new universities and upgrading of colleges into universities which have been placed under their supervision has increased the work load on management which implies reduced concentration on the internal affairs of the universities. To this effect, it is recommended here that management of universities should put in place effective measures that would ensure that the Internally Generated Funds that have the potential to contribute significantly to the revenue such as sale of farm products, sale of admission forms, residential and academic facilities rental income are improved upon and efficiently managed to ensure long-term sustainability.

The established positive correlation between the enrollments and the total revenue generated implies that the higher the enrollment the more revenue and vice versa. This means that increase in student's enrolment automatically leads to more revenue generation for a higher education institution. In this regard, the university should continue to make the conscious effort to increase enrolment by introducing more marketable programmes and revising/repackaging the existing programmes so as to increase the capacity for income generation.

In addition to the foregoing recommendations, two conceptual models are proposed to provide a long term solution to the working capital challenges. Model one (1), referred to as the Josephian economic model is aimed at improving the financial condition of the student as a solution to the problem of low and slow payment responses from the pupils/students. Model two (2) aims at

increasing income from research and scholarship by aligning schools with the relevant industries.

The first Model, construed on a Biblical philosophy focuses on securing and improving the financial condition of the student and provides an ideal for developing the culture of savings and investments. This model attempts to address the liquidity problems attributed to accounts receivables policies.

The second model describes a typology that aligns university programmes to the relevant industry. This is done with a view to increasing the capacity of private funding of university education through research services and scholarships and to better prepare graduates for the world of work. In both models government is required to play the role of creating an enabling regulatory frame work.

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DEDICATION

To my beloved God given children, Norman(Mwitwa), Jean (Taonga, Kasangalasha),
Newdawn(Bwale) and all posterity; I dedicate this work as a passionate appeal to you.

Believe in GOD and you shall be established, study the models recommended here in and you shall prosper.

I have set before you a standard to live up to. Settle for nothing less than this. For to do so is to send yourself into misery and public ridicule.

I charge you by means of this work to take and cherish for your guide the philosophy of a saint:

In crucial things - ***Unity;***

In important matters - ***Diversity;*** and

in all things - ***Generosity.***

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ACKNOWLEDGEMENT

To my GOD, the Author and Finisher of my faith, the one who gives me strength and intellectual capability be the glory. Great indeed is His faithfulness. I have come this far by His Grace.

The greatest and most inspiring mountain climbing achievements in history are not so much of individual achievements but stories of the extraordinary power of a unified, talented, prepared team that stays loyally committed to one another and to their shared vision.

Were it not for the determination and unflagging commitment, patience, encouragement, financial support, fervent prayers and synergistic contribution of the people that God assigned, this four-year academic project would have translated into a journey to futility and vanity. Therefore, I am duty bound and heavily obligated to acknowledge, in no uncertain terms, first, the Omnipotent, Omniscient and Omnipresent GOD for the unmerited favor lavished upon me in this study through the indispensable generosity of all my friends, family members, colleagues, leaders (at work and church) and all ARU family.

My special bonafide sentiments of gratefulness to my Supervisor Professor Malan, who nurtured me and facilitated the growth process which culminates into the philosopher that I am today. I am deeply indebted to him for the patience, eye for detail and more conspicuously for the strict fidelity to duty.

I am candidly indebted to My friend and brother Eliudie Masamba, for the immeasurable financial, social and spiritual support. Eliudie is a friend who always provides checks and balance. He was the very essence and reason for my sustained confidence and hope of completing my Doctoral studies. He is a peer whose pressure gives me impetus to pursue higher heights. GOD be praised for such a friend like you.

In all honest I would be doing a disservice if I did not express my profound gratitude to my wife Winnie and the three lilies Norman, Jean and Newdawn for the patience and warm support during the hours of study. I deprived you of your most deserved privileges and rights during those solitary moments.

I ought to acknowledge the support and assistance I received from the faculty, staff and students of the two case institutions which made the whole study to succeed.

I wish to gratefully recognize the assiduity of professor Munshifwa Kabunda of Copperbelt University who provided Turnitin critiques that helped in making the work more professional.

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LIST OF ACRONYMS

CA Current Assets

CBU	Copperbelt University
CL	Current Liabilities
EOQ	Economic Order Quantity
GAAP	Generally Accepted Accounting Principles
GASB	Government accounting standard board
HEA	Higher Education Authority
IGC	Internally Generated Income
LSR	Lecturer Student Ratio
MU	Mulungushi University
NOCF	Net Operating Cash flow.
PL	Professional Learning
WC	Working Capital
WCM	Working Capital Management.
ZMW	Zambian Kwacha

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CHAPTER ONE

1.1 Introduction and Motivation

Higher education world over is undergoing change both in the number of institutions and scope of programmes. The changes in the external environment are both revolutionary and evolutionary. Evolutionary, in the sense that new forms of governance and models that are more advanced than that their prototypes are emerging. According to the World Bank report of 2008, Education institutions, like any other Public institution operate in this dynamic environment. The institutions' responses to the changes that take place in the external environment are at multiple levels - social, political, economic but more technologically driven (World Bank, 2008). These technology-driven events that have financial implications on the education administration processes and other related choices that managers make. This calls for executives who can apply vigorous financial analysis as they measure performance, weigh potential acquisitions and assess global competition. The response to these environmental forces affect the various functional domains of the organization including : marketing, finance, operations, human relations, technology and innovation, leadership, motivation, organization, culture, design and systems. Great pressure has been exerted on public organizations to increase the quality of services, efficiency and effectiveness in utilization of resource in new public management reform. As one kind of public organization, universities have experienced great changes since then. Managerialism and entrepreneurialism concepts need to be increasingly applied to university management. The ideology of university as a corporate actor has increasingly gained importance in systematic coordination in recent years (De Boer et al. 2007). Thus, to adapt, institutions must analyze the trends of the external environment against their own capabilities. To this effect, strategic financial management has been considered as one of the most effective management tools in the understanding of financial information that enables one to evaluate potential mergers and acquisitions, assess growth opportunities, project institution's future performance, develop capital structure strategies and appreciate how the education market rate the value of the education system and be able to react to new ideas for creating value for stake holders. The application of strategic financial management skills strengthens organization performance through effective decision making and systematic strategic formulation and implementation. Although initially strategic financial management was more prevalent in the private sector, it has in recent years gained ground in the public sector and had increased even more (Smith, 1994). Smith's findings reveal that a series of changes have taken place in the public sector since the 1980's resulting from increased awareness on the importance of quality in the public sector.

Smith (1994) further noted that an organization's strategy must be appropriate for its resources, environmental circumstances and core objectives. The process involves matching the company's strategic advantages to the business environment the organization faces. One objective of an overall corporate strategy is to put the organization into a position to carry out its mission effectively and efficiently. A good corporate strategy should integrate an organization's goals, policies, and action sequences (tactics) into a cohesive whole, and must be based on business realities. Business enterprises could fail despite 'excellent' strategy because the world changes in a way they did not understand. It is required therefore that strategy must connect with vision, purpose and the likely future trends.

Chacha (2002) argued that universities all over the world are supposed to be characterized by quality and excellence, equity, responsiveness and effective and efficient provision of services, good governance and excellent management of resources. This is affirmed by the World Bank (2008) analysis which maintains that strong financial management is an effective strategic tool for successful planning in student affairs management. It is therefore crucial that student affairs professionals understand the necessity of linking their strategic planning with their financial management processes. This process requires them to develop skill sets in financial management as well as in strategic planning and implementation. These skills will ensure a place at the decision-making table during the resource allocation process or, more significant, the resource reallocation process.

In this regard it is inferred that making educated decisions about reallocating resources requires a working knowledge of where the resources are and how they are managed. This has become even more crucial as institutions have developed a comprehensive planning process that ties strategic planning and financial management together.

1.2 Background to The Research Problem

According to the World Bank's report of March 2008, higher education faces problems of underfunding throughout the world. This raises concerns about quality and inadequate student support. The World Bank further observes that the financing of the public universities in many countries is regressive because the main source of funding is the general taxation. According to World Bank (1997), it is further posited that, in all countries, especially in developing ones, higher education is heavily dependent on government funding. In this era of widespread fiscal constraints, industrial as well as developing countries are struggling with the challenge of preserving or improving the quality of higher education as education budget and particularly expenditures per student are compressed. It has, however been noted that the distribution of

sources of income and volume varies hugely within and between countries. Generally, Universities receive their funds from a variety of sources, including the following:

Budgetary allocations from the government towards teaching (or for teaching and research combined)

From a variety of government sources that promote Research or grants for research projects

Fees for tuitions collectible from local and foreign students

Various contracts that institutions can engage in such as : research contracts, teaching contracts, consultancy services, or royalties

Income from hiring or leasing out facilities for on-campus services such as conference facilities offered to staff, students, and the public.

Revenues from endowments, gifts, and investments.

Tertiary education is an important element in national economic performance and a major determinant of person's life chances of success.

Anon and viklund (2014) in their study on the global trends on universities further highlighted five methods used by governments to allocate resources to institutions of higher learning to support teaching, and some instances a combination of two or three may be used. The methods highlighted included the following:

As part of the civil service budget - Where the university is treated as a government agency and its academic staff are regarded as civil servants, the mechanisms will follow those for the rest of the public sector with ministers approving estimates and resulting payments for salaries and other operating expenses made directly from the ministry of finance.

Annual negotiation – this is applicable where universities are more autonomous entities. In this situation, universities negotiate their annual budgetary allocation with their ministry on a round of face-to-face discussions and reach agreement on their funding needs. This model involves adjusting the previous year's allocation by a given percentage. That is, increasing or reducing the allocations for the previous year by an agreed upon percentage between university management and the ministry responsible for higher education funding.

Formulae per student – under this approach, the responsible ministry usually allocates funds to the university, based on a previous year's national average costs. These may also be based on targeted costs if the ministry wishes to achieve economies of scale by lowering the cost per student. The formulae per student helps to avoid the negotiation process each year which is regarded as being subjective and time consuming.

Performance-based funding –this approach to funding is based on desired results or performance; the situation that is deemed most appropriate for this approach to funding is where part or all of the grant is attached to the numbers of students completing and graduating, rather than the numbers being taught. Universities will receive no funding for those students who fail to complete or pass their examinations. The logic is that this rewards success.

Competitive bidding - Under this approach, the ministry or the body responsible, mobilizes funds for specific purposes such as the advancement of e-learning and for much more detail on the teaching strategies and how they can be directly related to the national development plan to which institutions bid competitively. Only the best bids receive funding. This therefore attaches greater value to Managing the finances of higher education institutions.

Despite the funding challenges that higher education faces, there are two core objectives: strengthening quality and diversity, both for their own sake and for reasons of national economic performance; and improving access, again for both efficiency and equity reasons.

A great deal of the literature on education management discusses cost sharing and funding leaving accountability and financial management unattended to.

In his research Sifuna (1998) opined that the traditional idea of academic governance stresses the importance of autonomy, which academic institutions have often used to insulate themselves from direct control by external agencies. On the other hand, it is observed that, the increase in size, scope, importance and cost of higher education, has created immense pressures from those funding higher education, mostly the state, for accountability from institutions of higher learning. On the contrary, Lee (1997) posits that too much autonomy might lead to higher education being unresponsive to society; and on the other hand, too much accountability might destroy the necessary academic ethos (Lee, 1997). Academic freedom and university autonomy, though related are not synonymous. According to Berdahl (1990, p. 171) “Academic freedom is that freedom of the individual scholar in his/her teaching and research to pursue truth wherever it seems to lead without fear of punishment or termination of employment for having offended some political, religious or social orthodoxy.”

1.3 The Zambian context.

From inception of public university education in Zambia, services to students have been offered on, a “free” government bursary scheme, which covered tuition expenses as well as stipends for general upkeep. The primary focus of this policy provision was to help Zambia develop through

widespread provision of education to as many citizens as possible (UNESCO, 1991; Kelly, 1991; Masaiti & Chita, 2014). The first public university which was established in 1966, operated on a full government support model, both in the management of the institutions and the provision of bursaries for student tuition and stipends (Coburn, 1993). This policy provision also applied to the second public university, which was opened in 1986. The students did not contribute anything to the cost of this education (Coburn, 1993). With the growth in student population complexity of the programmes, the bursary funding policy provisions proved inadequate for educational institutions, faced with multifaceted challenges such as financial austerity, faculty recruitment and retention, and lack of maintenance of physical facilities (Ministry of Education [MOE], 1992). Thus, with a view to improving the financial situation of public universities, the Zambian government crafted policy guidelines regarding financing of higher education based on cost sharing (MOE, 1996). According to this new policy document, all students in higher education institutions in Zambia were required to pay tuition fees, board and accommodation. More specifically, support for needy students to higher education was now based on a loan scheme. The MOE (1996 p. 105): states “...Government support for students in higher education institutions will be in form of loans that will be recovered during the students’ subsequent working life”.

Dr. Kenneth Kaunda at his inaugural ceremony as the chancellor of the University of Zambia in 1966, said that a University was one of the keys that could open the door to the future of the nation and help to overcome the persisting evils of poverty, ignorance and diseases and that without such an institution there would be no hope to realize the dream of becoming the great nation.

Omar Bongo, the Gabonese President at the 2006 Association for the Development of Education in Africa conference held in Gabonese echoed similar views. He stated that the effective learning institutions were powerful ‘weapons’ against most of the continents’ challenges which include poverty, ignorance, diseases and illiteracy.

However, this strategic role of Zambian Universities is being undermined by the many old challenges they face. Prominent among these are poor and inadequate infrastructure, persistent closures and students’ demonstrations, which are all highly attributed to poor funding and untimely disbursement of funds to the institution. Therefore, addressing these genuine concerns is critical to finding an enduring solution to the Universities' hurdles and improve their image.

As at 2018, there were 44 universities in Zambia: 7 public and 37 private universities. Of the six (6) public universities, three (3) are well established, while the other three had just been upgraded

from college status. All public universities are supported by the government through grants and subventions (MOE, 2010).

The year 2015 recorded several demonstrations not only from university students but also from their college counterparts. The issues raised needed systematic attention from all stakeholders, which are the government, private sector and ex-students. It must however be pointed that the spirit and approach under which these genuine concerns are pursued should be revisited by management and positive strategies adopted. To overcome these challenges, Zambia requires dedicated and committed trained graduates to inspire and advance the cause of the people. Our future hope lies in graduates who are able to transform the dreams and visions of our people into realities.

However, in order for new University graduates to assume and perform this responsibility, major hindrances need to be addressed.

1.4 Problem Statement.

The management of working capital is critical for all businesses. Failure to manage working capital, leads to shortages of cash and the resultant problems of not meeting day to day obligations. Working capital shortages has generally been the biggest cause of failures of institutions of higher education in many countries (Rafuse, 1996). Short-term financial management in institutions is critical as it affects their service delivery and risks, and in the end their value (Smith, 1980). Investments in short-term assets represent a very significant position of total assets. Additionally, there is risk-return trade off, in that, the optimal level calls for a balance between profitability and solvency by minimizing the total costs of liquidity.

The main objective of working capital management is enhancing profitability and liquidity (Pandey, 2008).

Universities, whether public or private, are established to fulfill specific missions.

International Development Research Centre (IDRC) states that these missions are the institution's goals or objectives, namely: Research, Teaching and Service.

It further states that these objectives can be achieved through functions or activities that the University carries out and be corresponding to spread of science, to education and training of humanity, and to creation of society.

A key success attribute of a public educational institution is the attraction of financial resources to be deployed in carrying out these missions. Financial resources (expendable reserves) can be used to fund program initiatives, provide student aid and permit greater long-term funding stability for

operating and capital needs. Such financial resources are required for achieving their mission in both the short and over the long term (Prager, sealy & c., LLC, 2010).

This means that financial resources must be effectively and efficiently managed to bring about the needed change and results from the activity for which the funds have been made available.

As Prager and McCarthy (2000) posited, mission is best activated by a comprehensive strategic plan. Well-managed institutions use their mission to drive success and financial metrics to determine affordability. The strategic plan should always support the mission, otherwise it is rendered useless. Chacha (2002) argued that universities all over the world are supposed to be characterized by quality and excellence, equity, responsiveness and effective and efficient provision of services, good governance and excellent management of resources.

Unfortunately, universities in Zambia have challenges in maintaining a stable and consistent learning environment. Their operations are characterized by strikes, student protests and unpredictable closures which translate in huge losses of man hours. These problems can be attributed to several factors including; complexity of both organizational and financial structures, low funding, political interferences and role confusion by the stake holders. This study though focuses largely on the issue of working capital management policies and practices as they relate to service delivery. It posits that despite the many funding challenges facing Zambian universities, these problems could be better managed within a strong framework underpinned by strategic utilization of the limited resources.

In the midst of scarce resources, optimal working capital management policies will lead to efficient use of resources and consequently, the successful delivery of core services.

The general business problem addressed in this study is that institutions of higher learning in Zambia miss revenue opportunities and fail to provide adequate core services because of inappropriate working capital management policies and an inability to recognize future trends and potential operational risks, resulting from these inadequate working capital management strategies.

This study is motivated by the preposition that successful university education administration is made possible by the proper integration of working capital management policies in the strategic operations of the institutions. The discussion on managing of working capital is further necessitated by the prevailing economic down turn in Zambia compounded by the fact that very little research has been carried out to discuss the organizational working capital management policy specifically in the Zambian higher education administration despite the significant role that working capital management plays in the success of any organization.

1.5 Research Aims and Objectives

1.5.1 Primary Objective.

The primary aim of this research was to investigate the WCM challenges faced by administrator of the higher education institutions with an intent to develop a conceptual framework model and provide recommendations to improve the provision of core services of research, teaching and consultancy in public universities in Zambia.

1.5.2 Secondary Objectives

Further to the foregoing main objective, the study will seek:

1.5.2.1 To investigate the Working capital (WCM) policies, practices and techniques currently employed by public universities in Zambia.

1.5.2.2 To investigate the challenges faced by administrators of education and research services in public universities in Zambia.

1.5.2.3 To find out how the working capital management policies being employed affect the delivery of core services in public universities in Zambia.

1.5.2.4 To develop a conceptual framework model for and recommend the optimum working capital management policies that will enhance core service delivery by public universities in Zambia.

1.6 Research Questions

To ascertain the impact of working capital management on the administration of education in institutions of higher learning in Zambia, the study is guided by the following research questions:

- 1.6.1 what are the working capital management policies, practices and techniques being used by the universities under review?
- 1.6.2 What are the challenges faced by administrators of education and research services in public universities in Zambia?
- 1.6.3 What are the implications of the working capital policies on the core service delivery in public universities in Zambia?
- 1.6.4 What are the possible optimal working capital models and conceptual frame works for institutions of higher learning operating in a turbulent economic environment?

1.7 Research Hypotheses

According to Clever et al (1999, p.457) “the purest method to draw conclusions on the values that are shared in public administrations is by contrasting the opinions of those who have any kind of relationship with the organization, be it direct or indirect.” Research hypotheses considered in this study are:

Ha₁: Cash Management practice has a significant influence on the core service delivery of public universities in Zambia.

Ha₂: Accounts Receivable Management practice has a significant influence on the core service delivery of public and private universities in Zambia.

Ha₃: Inventory management practice has a significant influence on the core service delivery of public universities in Zambia.

Ha₄: Accounts payable management practice has a significant influence on the core service delivery of public universities in Zambia.

Ha₅: There is a significant relationship between working capital management approach and core service delivery in public universities in Zambia.

1.8 Significance of The Study

The answers to the research questions of this study are envisaged to contribute to the knowledge base and appreciation of the subject of working capital management and its application to education administration in institutions of higher learning. This study should be significant in the sense that it will:

- 1.7.1 Allow the identification of the concept and framework of strategic working capital management that considers the nature of work and environment of the learning institutions;
- 1.7.2 Provide a backing to and enrich theory and model of working capital management in public organizations that have similarities in their nature of service with higher education;
- 1.7.3 Generate greater awareness among institutions of higher learning concerning the contribution of an appropriate working capital management model as a means to the effectiveness of the organizational;
- 1.7.4 Be a source of high reliable information about the factors that could be of help in the process of adopting strategic financial management in institutions of higher learning.

1.9 Scope of The Study

Institutions of higher learning in Zambia, at all levels—state systems, individual colleges and universities, and community colleges—are facing extraordinary challenges which include rising costs, infrastructure, continuous complaints by employers over lack of graduated students' skills, funding, political interference, complexity of management systems ranging from student management, staffing to financial management systems.

These pressures and other challenges also present opportunities to the institution and its senior managers to change, adapt and adopt new methods to prosper.

Taking the business model in a liberalized sector for higher education which emphasizes the principles of marketing for Universities in Zambia, the research undertook to investigate the strategic implications of working capital management policies as they are integrated in the education administration by institutions of higher learning. It examines the working capital management practices of public universities in Zambia with a view to identifying challenges that impede university financial sustainability and consistent service delivery. Using this business model, the study seeks to establish the optimal working capital management policies for effective Higher Education administration.

As information and communication technologies have become increasingly integrated into the economy, academic business scholars have noted that the pace at which firms reorganize and redesign their use of resources and processes to deliver value to their customers has been increasing. To this effect therefore, the research sets out from the basic premise of how variations in university financial management practices have impacted service provision to understanding of the institutions have been affected individually.

1.9 Limitation of The Study.

The study was limited to the two public universities in the central and Copperbelt region: The Copperbelt and Mulungushi Universities. The two universities were chosen on account of their long standing history in their status as universities. This is to say they have been in existence for at least ten (10) years to warrant an established financial management system and are within the researcher's manageable proxemics.

These limitations will enable the researcher to make informed inferences regarding working capital management policies within and across each case of study.

1.10 Structure of The Dissertation

This dissertation is presented in a sequence of six chapters.

Chapter One lays an introduction to the study by setting an overview of university governance and the background of the working capital management challenges as they affect the Zambian higher education sector. The chapter profiles the research objectives, questions, the research hypotheses and study scope hence drawing the parameters of the inquiry.

Chapter Two reviews literature related to financial management of higher education from the global perspective and narrows down to working capital management strategies and principles in general business practice and how it applies to the higher education context through to the

individual cases in Zambia. It provides details of the the background, regulatory frameworks, the institutional modus operandus and general business environments of the universities. This is of necessity because it provides the basis for the exposition of the nature of working capital management at the universities as their set up create the factors that influence the educational management processes.

Chapter Three outlines the theoretical and Conceptual frame work of working capital management. It begins with an exposition of theories guiding the management of working capital from the general point of view to focusing on specific studies of key issues of university strategic financial management. The chapter brings to the fore the issues of how governments allocate resources to universities, the costing of university services, structures of financial management information systems and the decision-making structure necessary for effective financial management. An analysis of these theories provided the foundation for the formulation of the conceptual framework. The conceptual frame work identifies the independent and dependent variables for the study.

Chapter Four gives an exposition of the study design and methodology which were applied in the collection, collation and analysis of the data. The research design as presented in the of methodology statement presents the application of the case study as the approach undertaken to understand the working capital management for Higher Education (HE). The two last chapters are empirical bedrock of this dissertation and study.

In Chapter Five the research finding of the study are presented on a case by case basis;

Chapter Six presents analyses, interpretations, and implications, highlighting the convergences and divergences of the working capital management strategies of the case institutions.in this chapter, the thesis further presents the principal conclusions drawn from the study, contributions of the study and the recommendation of the model for optimum working capital management approach for sustainable and consistent higher education core service delivery. In the final segment of Chapter six proposes two models for the enhancing working capital management development professional at both institutional and systemic levels and finally the areas of university management begging further research.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Introduction and Overview of the Literature Review.

This chapter aims at providing an overview analysis of the literature related to the working capital management of institutions of higher learning both private and public. The literature in this research is specifically targeted at higher institution financial governance. Therefore, it has been deemed fit to apply what is written generally about higher education and other organizational contexts in such a way that it is meaningful to this industry.

The literature review initially focuses on the global trends in university governance, bringing out the modus operandi of higher education institutions. The second section provides a comprehensive review of financial management approaches in private and public universities. The third section reviews the policies of working capital management. The fourth section focuses on management of accounts receivables in varied contexts and ends with the discussion of service delivery modes in higher education.

2.2 Overview of higher education governance.

Higher education has been identified as a critical element of development in which developing countries must build in earnest, if they are to make progress in a world that feeds on knowledge and breeds on competition (Lapovsky, 2010, p. 46). Lapovsky further states that African countries and other least developed countries could use knowledge to narrow their income gap with developed world economies. A UNESCO task force on higher education in developing countries (UNESCO, 2000) corroborates this, noting that higher education is essential to developing countries, if they are to prosper in a world economy where knowledge has become a vital area of advantage. The task force report further notes that the quality of knowledge generated within higher education institutions and its availability to the wider economy is becoming increasingly critical to national competitiveness. In addition, Bloom, Canning and Chan (2005) provide evidence to show the positive impact that tertiary education can have on economic growth and poverty reduction in the Sub-Saharan Africa.

The higher education sector is still in a crisis throughout the world despite the heavy investment given it for economic growth and social development(world bank 1997) . According to Rottenburg (1987), universities, whether in developing or industrialized countries, are confronted with questions concerning their contribution to the economic growth and social development in their respective societies. Consequently, the universities' "output" in research and in manpower is subject to critical assessment.

According to World Bank (1997), in all countries, especially in developing ones, higher education

is heavily dependent on government funding (Dale, 2015). Dale (2015) referring to this era as one of widespread fiscal constraints, postulates that the industrial as well as developing countries would be struggling with the challenge of preserving or improving the quality of higher education as education budget and particularly expenditures per student are compressed.

The crisis is observed to be most acute in the developing world, both because fiscal adjustments have been harsher and that it has been more difficult for developing countries to contain pressures for enrolment expansion, given relatively low enrolment ratios.

On the other hand, Saint (1992) held that African universities had continued, to achieve some tremendous progress, even in areas such as the human resource development or expansion of staff establishments though relatively new and small. Contrary to the foregoing argument, Blair and Jordan (1994) maintained that the remunerations for staff were generally not attractive and non-competitive and that their lack of purchasing power was the major source of academic staff dissatisfaction and consequent attrition. Attracting and retaining competent staff was and remains the biggest and current problem in African universities (Amonoo-Neizer, 1998). The brain drain syndrome has affected African universities in terms of migration of well and highly trained professionals from the continent. As a result, many African universities have been left with young, inexperienced and insufficiently trained staff. This phenomenon refers to the alarming exodus of human capital from one location to another. Olusola (2007), quoting data from the Economic Commission for Africa, estimates that between 1960 and 1989, some 127,000 highly qualified African professionals left the continent.

Outsole (2007) from the International Organization for Migration reported that Africa had been losing 20,000 professionals each year since 1990. He further disclosed and maintained that the continued outflow of skilled labor contributed to a widening gap in science and technology between Africa and other continents. The effect of brain-drain in Africa is most pronounced in the health and educational sectors. There are more African scientists and engineers in the USA than in the entire Africa continent. The effect of this trend is that Africa is becoming increasingly dependent on foreign expertise for many developmental projects and has its first-class brains serving outside her shores.

As Braimoh (1999) clearly pointed out, without an adequate supply of competent and qualified personnel, the knowledge production process by African universities will be faulty and the end products (that is, graduates) will be unsuitable or unprofitable for the stakeholders and labor market requirements. This is particularly the case as a university's goal to provide quality education is primarily through the competence of its teaching staff. On the other hand, effective

teaching cannot be accomplished without research.

The close of the 20th century witnessed remarkable changes within the universities in Africa. This period saw an increase in enrolment figures; for instance, from an estimated enrolment of 181,000 in 1975, universities in Africa enrolled 1,750,000 in 1995. According to the Global Education Digest (UNESCO, 2000), African higher education had an enrolment of 2,051,751 in 2004. A striking characteristic of the history of higher education in Africa has been the rapid increase in the number and variety of institutions since the 1960s. From a low of 52 in the 1960s, the number of universities almost trebled to 143 by 1980, and more than doubled to 316 by 2000 (UNESCO, 2000).

Overall student enrolment has increased at an equally striking rate as it is indicated above. Whereas these quantitative leaps are welcome, the implications they have had on quality has been of great concern. Without exception, resources failed to match the rate of increase in enrolment. African universities were, therefore, called upon to do more with less in terms of infrastructure, teaching and research facilities, and staff. It is becoming increasingly evident that the 21st century is set to become a crucial and challenging period for universities in Africa.

A synthesis report based on consultations made between March - April, 2008 and review of literature related to higher education and development in Africa, both observe that the higher education sector in Africa faces challenges related to critical shortage of quality faculty; limited capacity of governance, leadership and management; inadequate financial support and problems of diversified funding; inadequate facilities and infrastructures; problems of quality and relevance of teaching and research; limited capacity of research, knowledge generation and adaptation capabilities; and problems in meeting increasing demand for equitable access.

It was further observed that, on average, only 70% of the required faculty positions were filled, and in some departments this was only about 30-40%. Not less than 40% of the faculty in many universities in Africa was near retirement age, and over 30% of faculty sent overseas for training failed to return.

Leadership and management faced many challenges, as expressed by inability to retain and attract faculty, underutilized facilities, duplication of programs, high drop out and uneconomical procurement and large allocation of scarce finance to non-instructional expenditures. Academic leaders had little preparation, orientation and training in skills required for the positions.

In the face of increasing enrollment in higher education - over four fold between 1985 and 2005 in sub-Saharan Africa - quality of education and research was observed to be in a declining trend,

relevance of teaching and research was not maintained, and institutional quality assurance and enhancement mechanisms were either not in place or were very weak and inefficient.

Joseph (2003) argued that the Globalization phenomena and knowledge revolution were two other factors influencing universities management in Africa . he further stated that producing relevant knowledge was central to the role of higher education in contemporary society in the context of changing global relations and the rise of the new information technologies., Carnoy,(1998) and Castells,(1996) observed that, due to advancement of Information Communication and Technology (ICT), new models of learning such as open learning and e-learning had emerged and had been adopted in the universities . As a result of the intensification of globalized socio-economic and cultural relations and of the information technologies which underpin globalization, the world was increasingly entering a new knowledge or “network” society (Carnoy, 1998; Castells, 1993, 1996). In this, the social organization of knowledge and learning is changing dramatically with major implications and challenges for higher education institutions worldwide.

2.3 The Concepts of Financial Management as applied in Higher Education

Coombs and Jenkins (2002, p. 3) in the context of the public sector, defined the concept of financial management as the act of being proactive in the use of financial and other information to actively manage the public sector enterprise to achieve laid down objectives. In agreement with coombs and Jenkins, Ter Bogt (2006) defined the concept of financial management from the perspective of financial resources, solvency and capital investments. He affirmed that the internal and external reporting as well as financial and non-financial performance measurements were key aspects of financial management within the public sector.

The Business Model

The term “business model” consists of the two words “business” and “model”. Therefore, reviewing a dictionary might help to get a first understanding of the meaning. According to the Oxford Advanced Dictionary (2000) a business is “the activity of making, buying, selling or supplying goods or services for money” (p. 160) whereas a model is defined as “a simple description of a system, used for explaining how something works or calculating what might happen” (p. 819). Therefore a business model seems to be a simplified description of how a company is producing and selling goods to earn money. Margareta (2002) asserted that the business model was fundamental to any organization. This concept of the business model was first popularized in the 1990 particularly in the IT sector. During the IT boom a lot of firms failed

to create a sustainable business model (Brunninge and Wrambsy, 2014). In the fast changing environment, companies need to be able to adapt the existing business model or sometimes even develop a new one which is adjusted to the new challenges (De Reuver, Bouwman and Haaker, 2013). However, there is no clear and consistent definition of this concept in the literature and especially regarding links to other concepts, such as strategy, there is a lack of consensus (Al-Debei and Avison, 2010; Brunninge & Wrambsy, 2014; Georg and Bock, 2011).

Components of the Business Model

Customer and Customer Segment

Customers are the centre of value creation for any company (Weinhardt et al., 2011) and therefore the heart of every business model (Osterwalder & Pigneur, 2010). Since no company can survive without customers, it needs to be ensured that the expectations and needs of the customers are met. In order to achieve customer satisfaction, the company should decide for which customer group they want to create value and which are the most important ones. This can be done by classifying the customers into several district segments regarding attributes like their needs, expectations or behaviour. To create a business model a company needs to clarify on which segment they want to focus. Different approaches can be found. The business model for example, can only target a niche market and therefore focus only on one customer segment. Another option is not distinguishing between different customer segments but to target the mass market (Osterwalder & Pigneur, 2010).

Value Creation and Proposition

By transforming raw material through the use of labor and capital into a final state or product a company creates value (Besanko et al., 2013). From a customer perspective value is created if the product or service satisfies its needs (Kotler et al., 2008). The value creation is closely linked to the value proposition of a company, which Osterwalder and Pigneur (2010, p. 22) describe as “the bundle of products and services that create value for a specific customer segment (...) it is the reason why customers turn to one company over another”. Therefore a value proposition consists of a mix of value providing elements which can be of quantitative nature such as price or speed of service or qualitative nature such as design, which create value and satisfy the needs of the customer segment (Osterwalder & Pigneur, 2010).

Customer Relationships and Channels

This component describes which kind of relationship a company has to a certain customer segment. Within a business model a company should clarify this relation, which can include the type of relationship, e.g. personal or automated (Osterwalder & Pigneur, 2010), or a time focus like long-term or short-term customer relations (Peters et al., 2013). Additionally, the relationship

to customers can be driven by motivations such as customer acquisition, sales growth and customer retention (Osterwalder & Pigneur, 2010). Often the business model neglects the customer relationship and focuses on the value creation process and the product. However, this potential should not be underestimated since customers are an important factor for the value creation (Peters et al., 2013).

Apart from customer relations the way a company wants to reach its customers to deliver the value proposition should be considered in a business model, which Osterwalder and Pigneur (2010) refer to as channel. Although this component is not discussed by many authors (Peters et al., 2013), it can be of interest in several industries.

Key Resources and Activities

“Key resources describe the most important assets required to make a business model work” (Osterwalder and Pigneur, 2010, p. 34). These key resources are needed to create a value proposition, sell it on a market, stay in touch with customers and finally generate revenue. They include physical items, financial capital or human resources. Depending on the business model a different mix of key resources is needed (Osterwalder & Pigneur, 2010).

However, to create value not only the resources are needed but also actions. Each business model has some key activities which are of importance for the company to operate successfully. Similar to key resources, they focus on delivering the value proposition to the customer and generate profit, and differ depending on the business model (Osterwalder & Pigneur, 2010).

Key Partnership

“The key partnerships describe the network of suppliers and partners that make a business model work” (Osterwalder & Pigneur, 2010, p. 38). It includes business partners and coalitions and their roles in creating value along the value chain for customers (Weinhardt et al., 2011; Hamel, 2000 in Osterwalder, 2004). Coalitions can be classified as alliances with competitors thinking and acting the same way, whereas partners and suppliers deliver important components to produce the final product or service (Hamel, 2000 in Osterwalder, 2004). Being more specific, apart from the classical business partners such as suppliers; financial institutions, shareholders and even other stakeholders such as legal institutions, can be considered as business partners. This component within a business model describes the role of each of these business partners, as well as the relationship they have with the company.

Cost and Revenue Structure

The last components try to answer the question: how does the company generate profit (Stähler, 2001; Stähler, 2002 in Osterwalder, 2004). While the cost structure “describes the most important cost incurred while operating under a particular business model” (Osterwalder & Pigneur, 2010,

p.40), the revenue structure illustrates how a company generates cash from its customers (Osterwalder & Pigneur, 2010). Thus considering both together shows how a company generates profit. Additionally, a business model should answer the question where does the income come from, thus the connection to customers and value proposition should be considered (Afuah and Tucci, 2003 in Osterwalder, 2004).

From the public sector point of view, financial management focuses on the prioritization and use of scarce resources, on ensuring effective stewardship over public money and assets, and on achieving value for money in meeting the objectives of Government (Burger, 2008:28). Financial management forms part of the total operation of an organization. As such, it relates to the other functional disciplines in the organization, as well as across various managerial levels (Correia et al 2003, p. 20-9). It is clear that financial planning and control are an essential part of the overall Institutional management process.

Relationship to Strategy, Organisation and Performance Measurement

After defining the four main components of a business model, a clear description of the relationship to the concept of strategy and how both are embedded in the organisation should be given. Strategy is traditionally defined as “a plan – some sort of consciously intended course of action, a guideline (...) to deal with situations” (Mintzberg, 1987, p.11), as a company’s position in the market (Porter, 2004) or as a set of long-term objectives, defining steps how to fulfil the goals and how to measure the achievement (Kaplan & Norton, 2004).

However the relationship between strategy and business model is discussed controversially in literature. Magretta states “a business model isn’t the same thing as strategy” (2002, p.89) and Kotler, Berger & Bickhoff point out that a business model is “a simplified description of a company’s strategy” (2010, p.56). Therefore strategy can be seen as a precondition for a business model defining the vision and objectives of a firm (Weinhardt et al., 2011), which is similar to Osterwalder’s framework. He defines a business model as “the translation of a company’s strategy into a blueprint of the company’s logic to earning money” (Osterwalder, 2004, p. 14). Thus based on the previous considerations both business model and strategy address a comparable problem namely finding a sustainable way of earning money. However it takes place on a different business layer (Osterwalder, 2004). Therefore we can

conclude that the business model is a simplified version of the company to explain and predict how the company’s strategy can be achieved to generate long-term profit. Meaning the

company's strategy and vision are implemented through the business model by translating it into the value creation, profit generation as well as network and customer logic (Osterwalder, 2004). Having defined that, the relationship between business model and the organisation as well as the link to performance measurement can be of concern to understand the business model concept in its entirety. Based on Osterwalder's framework, the organization is the implementation of "the business model into appropriate business structures and processes" (2004, p. 17). Thus the organization represents the operational realization of the business model. Additionally, the business model points out which areas are of particular interest and therefore should be monitored (Osterwalder, 2004). In this case performance measurement could be seen as a tool to evaluate and measure the implementation of the strategy and business model as well as the achievements. Performance measurement can be defined as the implementation of measures for different dimensions like for example cost, time, quality or customer satisfaction which are used to measure and evaluate the efficiency and effectiveness of company, employee or process performance (Gleich, 2011). A commonly used performance measurement system is the Balanced Scorecard (BSC), introduced by Kaplan and Norton in the early 90s. In contrast to the traditional performance measurement system which mainly focused on the financial performance, the BSC included non-financial measures and indicators which should support management in monitoring the business (Osterwalder, 2002). Therefore the BSC uses four perspectives namely the financial, customer, internal business processes and learning and growth perspective. Within each perspective, objectives and measures are included which are derived from the company's vision and strategy (Kaplan & Norton, 2004). However a comparison of the four perspectives of the BSC to the main components of a business model shows that they are quite similar (Osterwalder, 2004). Thus the BSC or performance measurement in general can be classified as a tool to measure the achievements of the strategy as well as the business model depending on the chosen measures.

The public universities ought to review and revise the old Customs of dependency on the single public source of funding status (Modell, 2004). According to Wellman (2010, p. 31) these old traditions include 'unmonitored expenditure fluctuations and undefined performance incentives as a measure of performance'. Wellman (2010) further posits that Public institutions needed to manage to keep pace with what he deemed to be an ever increasing number of resource providers who at times had competing financial reporting and performance management requirements. In agreement with this Clark, (2001), maintained that the complexity of financial management increased in direct proportion with the increase in enrolment and number of resource

providers; Slaughter and Leslie (1999) also made similar observation. Lapsley and Miller (2004) held that this would require a transition from the old and bureaucratic management system to a more versatile arrangement with the capability to handle the changed position of the institutions (Clark, 2001; Lapsley and Miller, 2004; Venieris and Cohen, 2004). On the contrary Private institutions have to create structures and mechanism that can ensure that they exist as legal entities within the industry, and these may not necessarily be the most effective in HE or the public domain (Ashworth, Boyne, and Delbridge, 2009).

Liefner, (2003) observed that most of the African countries had common approaches to finance for their Higher Education Institutions (HEIs), which were predominated by three sources, namely):

- First and most prevalent are Government appropriations in form of grants through the medium term expenditure framework adopted by government;
- The second in rank are resources internally generated from tuition and other user fees; and
- The third stream of income is what the institution receives from international bodies and associations as research grants in addition to an emerging category of investments, enterprises and technology transfer initiatives. The first category of resources are more applicable to the public institutions, while the other two source are applicable to both public and private universities. In certain instances, private universities may attract some endowments and private sector investments.

Despite all these similarities and the commonality of the modus operandi, the source and conditions of funding generate differences between the private and public universities. These may manifest in various ways ranging from the strategic plans that outline the mission, vision focus and culture of the institutions to the financial management structures used in their operations to fulfil the mandate. The new trend advocates the adoption of the rational approach, which matches resource allocation to accountability for results (Wellman, 2010). Hood (1995) argued for the approach that advocated for institutions to produce results against a stated pathway within a specified financial resource as a measure of performance. This according to Pollitt (2001) can be assessed by the interface between the financial and strategic performance and depicts the extent of integration as a desired state within public enterprises. From another view point,

Kaplan and Cooper (1998) present the ideal typical model as an integrated system where financial reporting reflects operational and strategic performance.

In the Zambian HE system, like in many other African countries, public universities are faced with the challenges of erratic supply of funding, whereas, private institutions grapple with the

problems of operating in an environment where there is no government subsidy or supplement (Kasozi, 2009). This had destroyed the spirit of fair competition in the industry, since the fees paid in private institutions were within the same range as what was charged in public institutions. Furthermore, the decrease in public financial support and increased private financing in public institutions would have translated into more efficient resource allocation and utilization, in accordance with the concept of NPM. Brinkman, (2006) further observed that this would lead to the realization of economies of scale that would have been generated by the growth of these institutions as they transition from small exclusive and elite institutions into large organizations. Nonetheless, private institutions seem to have developed mechanisms that have enabled them to firmly establish themselves with some reporting innovative systems particularly with regard to the way their financial resources were managed since they competed with public universities for students, staff and other necessary requisites.

Ter Bogt (2006) and Tillema (2005) in agreement with many other scholars argued that the ability of the institution to adopt sophisticated management accounting systems was dependent upon the scope and capacity of that institution. The larger the institution, the more decentralised and sophisticated the system will be and the more likely it will conform to established regulatory frameworks within the industry. Under these circumstances, the concept of isomorphism and the need for legitimacy within the industry extend to how organisations manage their finances (Meyer and Rowan, 2006).

Michael (2004, p.124) opined that the developments in HE took a similar pattern to those developments in the financial institutions of the corporate world. The current practice now advocates for some complex policies of the corporate financial management including hiring of top notch business managers charged with the duties of developing marketing strategies, creative austerity measures, and embarking on strategic resource allocation and budgeting. Whereas previously, only a single Bursar was employed to steer the finances of the universities, there are several persons involved in managing the financial affairs of the university (Otley, 2001).

Five principles encapsulate financial management as seen from the perspective of evolutionary management accounting Otley (2001). They further highlight the tension that organisations face as they try to integrate the traditional accounting models with the newer performance based management control systems. As a framework the Otley (1999) study has been used to analyse case studies of management control systems (see Ferreira and Otley, 2009). For the current study, whereas the Otley (1999) framework could easily be applied to public universities, it would also

represent the operations of private institutions; more especially because both public and private HEIs as outlined in this study are considered to be non-profit organisations.

2.4 Public vs private university

As public institutions evolve to accommodate the transformations, private universities that are more autonomous develop as rational systems designed to achieve specific goals through creation of functional structures at inception (Meyer, 2002). Private institution management structures are likely to take into consideration the resource envelope vis-à-vis the requirements of the institutions. On the other hand, it is also possible that these are mimetic in nature and learn from what has worked in the older public institutions; a contention that is discussed as one of the tenets of isomorphism (DiMaggio & Powell, 1983; Meyer & Rowan, 2006).

Internal processes and external pressures will however, determine the extent of adaptation as well as the diversity within organizations irrespective of their public or private orientation. These processes also represent the success or failure of an institution to establish a fit with its environment. Within this study, universities are perceived as organizations operating within the same industry that in the process of seeking legitimacy from the environment have divergent responses and interpretation of the same environment (Meyer, Scott, & Deal, 1980; Oliver, 1991). Hansmann (1981) categorized them as donative-commercial non-profits, because they derive revenues from both donations and the sale of services in form of tuition. The contention however, is that since they are not expected to distribute dividends and profits at the end of each financial year, there is reduced incentive for efficient resource utilization, an assertion that is related to the fact that universities are revenue maximizers (Bowen, 1980; Wellman, 2010).

Despite this similarity in categorization and the congruence of the contextual environment, the source and conditions of funding generate differences between the private and public universities. These may manifest in different aspects ranging from the strategy that outline the mission, focus and culture of the institutions to the financial management structures they operate in the fulfillment of their mandates. The new trend is to adopt the rational approaches that are defined by the NPM concept. This approach which largely borrows from the private sector matches resource allocation to accountability for results (Hood, 1995). The best practice has been for institutions to produce results against a stated pathway within a specified financial resource as the measure of performance. This according to Pollitt (2001) can be assessed by the interface between the financial and strategic performance and depicts the extent of integration as a desired state within public enterprises. From another view point, Kaplan & Cooper (1998) present the ideal typical model as an integrated system where financial reporting reflects operational and

strategic performance. Under this integration model, financial and strategic components of the organization interface via linked databases and Management Information Systems (MIS).

Changes in the HE spectrum have implications for the financial management of both private and public institutions. The public institutions have to unlearn the traditions that characterised their single predominantly public source of funding status (Modell, 2004). These according to Wellman (2010, p. 31) include ‘unchecked cost increases and limited incentives for performance measurement’. Public institutions also have to cope with an increased number of resource providers who sometimes have competing financial reporting and performance management requirements. In addition, the complexity of financial management increases with the increase in enrolment and number of resource providers (Clark, 2001; Slaughter & Leslie, 1999). This would call for a transition from the old collegiate and bureaucratic management system to a more versatile arrangement with the capability to handle the changed position of the institutions (Clark, 2001; Lapsley & Miller, 2004; Venieris & Cohen, 2004). Private institutions on the other hand have to create structures and mechanism that will ensure their legitimacy within the industry, and these may not necessarily be the most effective in HE or the public domain (Ashworth, Boyne, & Delbridge, 2009).

2.5 Working Capital Management.

2.5.1 Working capital (WC)

The concept of working capital can be traced from as far back as 1917. Lough quoted (in meyer,2007, p.27).

“Sufficient working capital must be provided in order to care of the normal process of purchasing raw materials and supplies, turning out finished goods, selling the products and waiting for payments to be made. If the original estimates of working capital are sufficient, some emergency measures must be resorted to or the business will come to a dead stop”.

WC can be considered as a collective term for short-term balance-sheet items (Meyer, 2007). Nevertheless, a consistent definition of WC cannot be found in literature. There are mainly two definitional distinctions of WC: Net Working Capital (NWC) and Gross Working Capital (GWC). Schulte (2011) defines WC as GWC only including a firm’s investments in current assets. This concept is based on the consideration that companies earn their profit through investing their funds in fixed and current assets. Thus increasing overall investments lead to an increase in WC (Chadamiya and Menapara, 2013). However the majority of authors describe WC as NWC defined as current assets less current liabilities, which is a more conservative view (see for example Heesen and Moser, 2013; Klepzig, 2014; Preve and Sarria-Allende, 2010). By including current liabilities this concept describes how a company’s investments in current assets are

financed, which facilitates the drawing of conclusion regarding a company's liquidity (Chadamiya and Menapara, 2013).

The majority of authors concentrate on the four main WC components, using the following method to calculate WC (Klepzig, 2014):

$$\text{working capital} = \text{cash} + \text{receivables} + \text{inventory} - \text{payables}$$

However, Heesen and Moser (2013) for example argue that cash can be neglected because its percentage on the balance sheet is minor. Since a detailed consideration of cash would go beyond the scope of this thesis we will disregard cash as well and focus on the three main WC items receivables, inventory and payables.

The level of WC differs from company to company. Factors influencing a company's WC are diverse. It depends on the type of business and industry (Berk and DeMarzo, 2013), as well as the size of the company, the production cycle process, seasonal variations and plans regarding a firm's growth and expansion (Chadamiya and Menapara, 2013).

2.5.2 Working capital management

Working Capital Management(WCM) was earlier defined as the ability of the organization to fund in to the short term assets and short term liabilities (Harris, 2005). Working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet short term obligations on one hand and avoids excessive investment (Eljelly, 2004).

Pandey (2008) identifies two concepts of working capital as gross and net working capital. He defines gross working capital as a firm's investment in current assets and further defines Current assets as assets which can be converted into cash within an accounting year, and include cash, short term securities, accounts receivables, bills receivables and inventory. Net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders which are expected to mature within an accounting year and include accounts payable, bills payable and outstanding expenses (Pandey, 2008). He argues that net working capital is a qualitative concept, indicating the liquidity position of a firm.

Lyytinen (2009) further defined Working Capital in the following concepts:

1. *Gross Working Capital*: which refers to the firm's investment in total current or circulating assets.
2. *Net Working Capital*: The term "Net Working Capital" has been defined in two different ways: It is the excess of current assets over current liabilities. This is, as a matter of fact, the most commonly accepted definition. Some people define it as only the difference between current

assets and current liabilities. The former seems to be a better definition as compared to the latter.

It is that portion of a firm's current assets which is financed by long-term funds.

3. Permanent Working Capital: This refers to that minimum amount of investment in all current assets which is required at all times to carry out minimum level of business activities. In other words, it represents the current assets required on a continuing basis over the entire year. It also grows with the size of the business. In other words, the greater the size of the business, the greater is the amount of such working capital and *vice versa*. Permanent working capital is permanently needed for the business and therefore it should be financed out of long-term funds (Johan Marx, 1999).

4. Temporary Working Capital: The amount of such working capital keeps on fluctuating from time to time on the basis of business activities. In other words, it represents additional current assets required at different times during the operating year. For example, extra inventory has to be maintained to support sales during peak sales period. Similarly, receivable also increase and must be financed during period of high sales. On the other hand, investment in inventories, receivables, *etc.*, will decrease in periods of depression. Suppliers of temporary working capital can expect its return during off season when it is not required by the firm. Hence, temporary working capital is generally financed from short-term sources of finance such as bank credit.

5. Negative Working Capital: This situation occurs when the current liabilities exceed the current assets. It is an indication of crisis to the firm. Gordon, (2010) is of the view that Working capital management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities and the interrelationship that exists between them. The term current assets refer to those assets which in the ordinary course of business can be, or will be, converted into cash within one year without undergoing a diminution in value and without disrupting the operations of the firm. The major current assets are cash, marketable securities, accounts receivable and inventory. Current liabilities are those liabilities which are intended, at their inception, to be paid in the ordinary course of business, with in a year, out of the current assets or earnings of the concern. The basics current liabilities are accounts payable, bills payable, bank overdraft, and outstanding expenses.

Gordon further postulate that, the goal of working capital management is to manage the firm's current assets and liabilities in such a way that a satisfactory level of working capital is maintained. This is so because if the firm cannot maintain a satisfactory level of working capital, it is likely to become insolvent and may even be forced into bankruptcy. The current assets should be large enough to cover its current liabilities in order to ensure a reasonable margin of safety.

Each of the current assets must be managed efficiently in order to maintain the liquidity of the firm while not keeping too high a level of any one of them. Each of the short-term sources of financing must be continuously managed to ensure that they are obtained and used in the best possible way. The interaction between current assets and current liabilities is therefore, the main theme of the theory of working management. The basic ingredients of the theory of working capital management may be said to include its definition, need, optimum level of current assets, the trade-off between profitability and risk which is associated with the level of current assets and liabilities.

On the basis of the foregoing premises working capital management can therefore be defined as the steering, planning and control of a firm's operational investments with the WC components, cash receivables, inventory and payables and their interactions (Hofmann et al, 2011).

Jain (2013, p178) states the main objective as ensuring an optimal balance of each component referred to as the level where risk and efficiency are in equilibrium. A company's operative actions are only possible if the firm invests in WC. A sufficient level of cash is needed to be able to react to unexpected expenditures. The same counts for raw material and finished goods inventory to ensure a frictionless production and sales process. Additionally, companies have to cope with customers who not immediately pay after the delivery of the goods (Berk & DeMarzo, 2013). These investments are financed by the short-term liabilities of a company, mainly credits provided by suppliers (Preve and Sarria-Allende, 2010).

Top management is usually more interested in larger investments like property, plant and equipment than in classical WC components, such as inventory, receivables and payables. Inventories are typically in the responsibility of material disposal or production planning whereas receivables and payables are part of the finance department's responsibilities. This shows on the one hand that only approximately 30 % of the assets are determined by the top management (Klepzig, 2014). Hence using WCM as a strategic tool including it in top management decision making brings along significant potentials. On the other hand it demonstrates as well that WCM is a multilevel and department overarching task, which might entail problems regarding conflicting goals of the involved departments (Klepzig, 2014). A company's operative actions are only possible if the firm invests in WC. A sufficient level of cash is needed to be able to react to unexpected expenditures. The same counts for raw material and finished goods inventory to ensure a frictionless production and sales process. Additionally, companies have to cope with customers who not immediately pay after the delivery of the goods (Berk & DeMarzo, 2013).

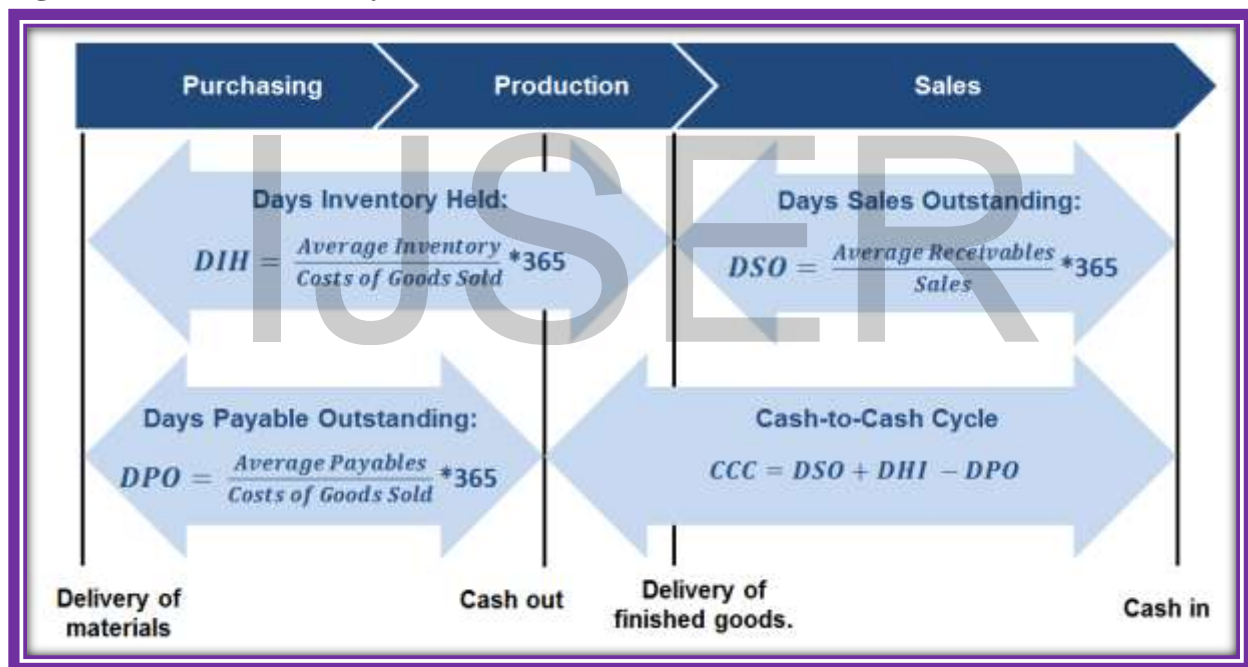
These investments are financed by the short-term liabilities of a company, mainly credits provided by suppliers (Preve & Sarria-Allende, 2010).

The Cash-to-Cash Cycle

The most common tool to measure and control the effectiveness of WCM is the Cash-to-Cash Cycle (CCC), which is also known as Cash-Conversion-Cycle. It represents the timespan between cash outflow for raw material to suppliers and cash inflow for the delivery of finished goods to customers (Hofmann et al., 2011).

Apart from the CCC, the operating cycle concept can be found in literature as a tool for measuring WCM. However this approach is based on the definition of WC as GWC (Knauer and Wöhrmann, 2013) and therefore not considering accounts payable. In the case that the company's raw materials are paid cash, the operating cycle is identical with the CCC, but in today's business this is quite uncommon (Berk and DeMarzo, 2013).

Figure 2.1 Cash-to-Cash Cycle



Source: Cash-to-Cash Cycle (based on Nevris and Gebhardt, 2013 and Hofmann et al., 2013)

The purchase of raw materials leads to increases in inventory and accounts payable which, depending on the payment conditions, is followed by a cash outflow to the supplier. During production, raw materials are transformed into finished goods and therefore raw material stocks decrease while finished goods stocks increase simultaneously. As soon as the customer buys products of the company, the finished goods stock decreases and accounts receivable increase followed by a future cash inflow (Meyer, 2007). Therefore, three sub-processes of the CCC can be identified: order-to-cash, forecast-to-fulfill and purchase-to-pay (Klepzig, 2014).

The cash-to-cash cycle time is a measure related to the CCC concept (Hofmann et al., 2011). Compared to the absolute measure WC, the CCC time is a relative ratio which facilitates inter- and intra-firm benchmarking (Knauer and Wöhrmann, 2013). Stewart (1995, p. 43 in Farris, Hutchison & Hasty, 2005) explains this measure as the “average days required to turn one dollar invested in raw material into one dollar collected from the customer”. It considers the three main WC items represented by the three sub-processes calculated through the measures: days payables outstanding (DPO), days inventory held (DIH) and days sales outstanding (DSO) (Hofmann et al., 2011). The formulas to calculate the CCC, DIH, DPO and DSO can be seen in figure. Improvements of these three components lead to increases in WC and further subsequent improvements which will be developed in the next section. According to Meyer (2007) the value generation on the basis of the CCC depends mainly on the interaction of the level of WC, its risk structure, opportunity costs for alternative investments and the industry and business model of the company. Each industry has special characteristics which influence the CCC and the level of WC as well as every WC item. Grocery stores for example usually sell on a cash basis and therefore have a low DSO (Berk & DeMarzo, 2013).

Adequacy of working capital is very important in a way that the working capital represents near about half of all the value of assets in balance sheet. It is necessary to maintain a proper balance between current assets and liabilities otherwise it may affect an enterprise badly and even become the cause of liquidation (Kosimbei, 2014).

Working capital should be sufficient to enable a company to conduct its business on the most economical basis and without financial stringency and to meet emergencies and losses without danger of financial disasters.

Adequacy of working capital is also necessary to protect it from shrinkage in the value of current asset (Naas, 2015). It also makes it possible to take advantage of cash discount and also helps to determine credit terms to customer. It enables a company to operate its business more efficiently because there would be delay due to credit difficulties in obtaining materials services and supplies.

It should be noted here that excess working capital especially in the form of cash and marketable securities may be as unfavorable as inadequacy of working capital because of large volume of funds not being used productively.

Idle funds involve a lower amount of income and often lead to investment in undesirable projects or in unnecessary plant facilities equipment. In fact, availability of excess working capital may

lead to carelessness about cost and therefore to inefficiency in operations.

Mismanagement of working capital leads to adverse effects. Parasanna Chandra(1984) explained working capital by saying *Just like excess food (obesity) in a human body is as dangerous as little food (malnutrition)*, in a company, the excess working capital leads to inflation and inadequate working capital leads to deflation. Sufficient working capital permits the carrying of inventories at a level that would enable a business to serve satisfactorily the needs of customers. It enables a company to operate its business more efficiently because there would be no delay in obtaining materials caused by credit difficulties. Adequate working capital enables a business to withstand periods of depression smoothly i.e. Business run efficiently in adverse circumstances. Several other benefits accrue to the business when there is adequate working capital. The following are some of the benefits opined by Naas(2015):

- It enables a company to extend credit to its customers.
- Increasing price may necessitate investment in inventories and fixed assets.
- There may be unwise dividend policy.
- The management is not in form to manage credit for further expansion.
- The current funds may be invested in non-current assets.
- The management is not in position to manage funds for meeting debentures on maturity and liabilities timely (as and when required).
- There may be operating losses.
- There may be decrease in profit and decrease in retained earnings.
- To protect the organization from the adverse effect from the shrinkage in current assets.
- It ensures to a greater extent the maintenance of company's credit standing and provides for such emergencies as floods strikes etc.
- For smoother running of a business, an adequate amount of working capital is very essential. In its absence, fixed assets cannot gainfully be employed.

WCM and Liquidity

Even though WC as a measure is not a suitable indicator to evaluate companies' liquid funds (Chiou and Cheng, 2006), improvements in WC influence a firm's liquidity situation directly (Kim et. al, 1998; Opler et. al, 1999). Liquidity can be understood as a company's ability to pay the bills as soon as they come due (Sagner, 2011). Liquidity problems occur if there is a mismatch between current assets and current liabilities, therefore having a high amount of WC protects companies from getting illiquid (Bhattacharya, 2012). On the other hand having a high amount of

WC is related to opportunity costs. Funds invested in inventory, cash or receivables could be used to pay debts or shareholder dividend instead (Berk and DeMarzo, 2013). Thus by reducing WC, opportunity costs can be minimized and liquidity is set free. Hence WCM is about right-sizing. The company needs a certain level of WC to ensure liquidity even in unexpected situations, but amounts above this level lead to inefficiency. Johan Marx (1999) stated that sufficient cash was required for the business to meet its currently maturing obligations, to avoid unnecessary interruption in the production schedule and to maintain sales. A firm needed cash to finance inventories and receivables (Johan Marx, 1999). The adequacy of cash and other current assets together with their efficient handling virtually determine the chances of survival. Cash is the lifeblood and the controlling nerve center of a business. Inadequate working capital is a business ailment. If a business maintains an adequate amount of working capital it not only gets rid of the threats of closing up but also enjoys a good reputation and receives cash discount on its payments. It can pass a period of depression without much difficulty (Johan Marx, 1999).

Just as inadequate working capital is dangerous to the business so is Excess working capital especially in the form of cash and marketable securities may be unfavorable because of the large volumes of funds not being used productively. Idle funds involve a lower amount of income and often lead to investment in undesirable projects or unnecessary plant facilities and equipment.

In fact, availability of excess working capital may lead to carelessness about and therefore to inefficiency of operation (Chandra, 1984). Credit is extended to undesirable cases and collection efforts get slackened, in the case of firm having more of the adequate working capital. On the one hand, people think that the management is conservative and that it does not want to expand the business and take full advantage of the funds at its disposal, on the other hand, unnecessary expansion takes place in these firms. It also includes the management into speculative activities. Sometimes directors exploit the situation of excess working capital for their personal benefit by giving liberal dividend which otherwise are not justified (Coats, n.d.).

The situation of excess working capital also brings many disadvantages to the firm. Besides, the cost of holding it, which may demand on the source of financing working capital, excess working capital causes inefficiency in the management. It tempts the management to invest a large portion of funds in slow moving assets particularly inventories (Michaela Martin, 1999). Filling up of inventories out of proportion may itself create a situation of cash shortage. Too much working capital is as dangerous as too little of it. Excessive working capital creates the following problems:

- A Company may enjoy high liquidity and at the same time, suffer from low profitability.

- A Company may be tempted to over trade and loss heavily.
- Excessive working capital may be as unfavorable as inadequacy of working capital if the large volumes of fund are not being used productively.
- A Company may keep very big inventories and tie its funds unnecessarily.
- There may be an imbalance between liquidity and profitability.

High liquidity may induce a company to undertake greater production, which may not have a matching demand. It may find itself in an embarrassing position unless its marketing policies are properly adjusted to boost up the market for its goods.

A Company may invest heavily in its fixed equipment that may not be justified by actual sales or production (Coats, n.d.). The immediate effects of excess working capital are:

- Low inventory
- Low working capital turnover
- Higher cost of inventory
- Higher bad debts losses
- A business enterprise has excess working capital due to following reasons:
 - Excess inventory
 - Over investment in receivables.
 - Over investment in marketable securities.
 - Excess of liquid funds.

2.5.3 Disadvantages of Excessive Working Capital.

The need of adequate working capital can hardly be questioned. Just as blood is necessary for a human being (and yet too much of it may be as harmful as too little of it) so is working capital to an organization. In an enterprise, too little working capital means starvation and too much leads to inflation, which is certain to affect the strength of operations.

Inadequate working capital affects the firm's solvency adversely and excessive working capital affects the firm's profitability adversely. Inadequate working capital implies shortage of regular funds to carry on the normal business operation (Archer and Choate, 1979). A business may have inadequate working capital mainly because of the four reasons: under investment in inventories, under investment in marketable securities, insufficient or under investment of receivables, shortage of liquid funds such as cash. If a firm plans working capital requirement properly it may have at one-time inadequate working capital and at another time excess working capital (Abraham, 2006).

When working capital is inadequate, the company faces the following problems:

- The modernization of equipment and even routine repairs and maintenance facilities may be difficult to administer.
- A Company cannot afford to increase its cash sales and may have to restrict its activities to credit sales only.
- It is not possible for it to utilize production facilities fully for want of working capital.
- A Company may not be able to take advantage of cash discount facilities
- The credit worthiness of the company is likely to be jeopardized because of lack of liquidity.
- A Company may not be able to take advantage of profitable business opportunities.
- A Company will not be able to pay its dividends because of the non-availability of funds.
- A Company may have to borrow funds at exorbitant rates of interest.
- Its low liquidity may lead to low profitability in the same way as low profitability results in low liquidity. Low liquidity would positively threaten the solvency of the business. A Company is considered illiquid when it is not able to pay its debts on maturity. Overall inefficiency in the organization may be the only outcome.
- The excessive working capital may draw to speculative transactions.
- Due to low rate of return on investments, the value of shares may also fall.
- Irregularity or late payment in short term liabilities results in loss of reputation and also makes firm unable to get good credit facilities.
- Regular supply of material cannot be maintained due to inadequate working capital. This affects the whole production cycle.
- It cannot buy its requirements in bulk and cannot avail of discounts.
- It cannot undertake profitable projects due to lack of working capital.
- It becomes difficult to pay day to day expenses of firm's operations and it creates inefficiency, increases cost and reduces the profits of the business.
- The rate of return on investments also falls with the shortage of working capital

On the grounds of the foregoing discourse, it can be inferred that proper management of working capital is keeping the working capital in equilibrium. Working capital should neither be inadequate nor should it be excess.

Thus, excess working capital is as dangerous as too little capital because of the portion of funds not being used gainfully. It tempts the management to invest funds in slow moving assets particularly inventories. It also causes carelessness about cost, and the result in inefficiency all around. Therefore, working capital should be just adequate, not more or less, for the need of a business firm. Excess working capital should be avoided because it impairs a firm's profitability,

as idle investment in current assets earns nothing. On the other hand, inadequate amount of working capital, particularly shortage of cash, can threaten the solvency of the firm if it fails to meet its current obligations.

WCM and Internal Financing

Additionally, WC improvements strengthen the internal financing capability of a company, which is one reason why WCM got popular during the financial crisis. Companies' limited access to liquidity through external finance forced them to focus on internal financing options (Nevries and Gebhardt, 2013). By reducing the assets tied up, capital is set free and the financing need in general decreases. Consequently, dependence on external financing sources such as banks decreases as well, since financing can take place more and more through the company's cash flow. Thereby a company's debt-to-equity ratio gets improved, too, which leads to higher company ratings and the ability to raise credits more easily (Schulte, 2011).

Pandey (2008) states that two aims of working capital management are profitability and solvency. Thus, a liquid firm has less risk of insolvency. However, there are costs associated with sound liquidity in that funds will be held up in current assets and the firm's profitability will suffer. McLaney (2000) argues that one way to avoid the risk of liquidity is to maintain large amounts of cash on short term interest bearing deposits. In this way cash can be made available quickly to meet demand. Most business failures result from a deficiency in working capital.

Pandey (2008) outlined some major determinants of working capital, these include: nature of the business whether manufacturing or service rendering; the market demand conditions in that working capital needs are related to sales which depends on demand conditions; technology and manufacturing process in that the longer the manufacturing cycle, the larger the firms working capital requirement; credit policy of a firm which affects the working capital by influencing the level of debtors; availability of credit suppliers in that a firm offering liberal credit terms will need less working capital and absence of supplier credit will require the firm to borrow from the bank; operating efficiency in that optimum utilization of all resources of a firm reduces costs and also accelerates the cash conversion cycle; and finally price level changes affect working capital requirement in that a rise in prices means a higher amount of working capital.

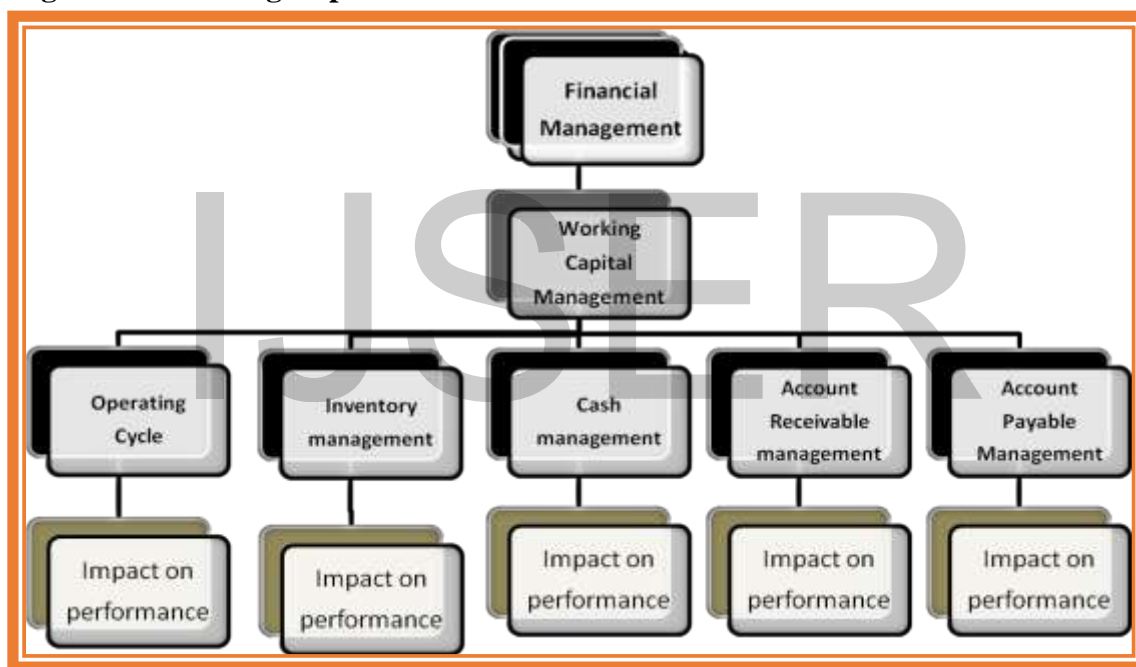
Management of short-term assets and liabilities needs a careful attention since the WCM plays an important role in the determination of the profitability, liquidity and risk as well as the ultimate objective of firm's value (Smith, 1980). The greater the investment in current assets leads to the lower risk in terms of settling short term obligation, while gaining lower profitability because of the inability to invest in the profitable long-term investments. Efficient management of working

capital is a fundamental part of the overall corporate strategy to create the shareholders' value.

2.6 Objective of Working Capital Management (WCM)

The main objective of WCM is to maintain an optimal balance between each of the working capital component. Business success heavily depends on the ability of financial executives to effectively manage the working capital component of receivables, inventory, and payables (Filbeck and Krueger, 2005). According to Gitman (2009) Working Capital Management (WCM) should aim at minimizing the Cash Conversion Cycle (CCC), thereby reducing the amount of capital tied up in the firm's current assets. It should focus on controlling the account receivables and their collection process, and managing the investment in inventory. Working Capital Management is vital for all business survival, sustainability and its direct impact on performance.

Figure 2.2 Working Capital Model



Adapted from: Wiley's Concept of Working Capital Model 2016

2.6.1 Working Capital Management Conceptual Model for short-term Liquidity .

Baker and Powell (2005) asserted that one of the most important areas of financial management in every business function is working capital management. As depicted in Wiley's conceptual model in figure 2-6-1 Working Capital Management deals with the administration of the liquidity components of the firms' capital which include a mix of short-term current assets and current liabilities (Baker and Powell, 2005; Brigham and Ehrhardt, 2005; Gitman, 2009). The most important current assets are cash, debtors or account receivables, stock or inventory and these are financed by the current liabilities consisting of creditors or account payables, accrued expenses,

taxation liabilities, short-term debt such as commercial bills, and provisions for current liabilities such as dividends declared but not yet paid (Birt 2011, Gitman, 2009 and Sharma 2009).

2.7 Strategies/Approaches to working capital management.

Archer and Choate(1979), defined Working Capital Management Practices (WCMP) as the firm's way of making investment in their current assets which was referred to as working capital investment policy and the use of short-term liabilities to finance firms' assets commonly known as working capital financing policy. The Hanover Research Council (2009) observed that, a firm can, theoretically adopt different working capital management practices as Aggressive working capital management practice, Moderate working capital management practice and Conservative working capital management practice based on its investment and financing strategies. Further research affirmed these theories and further argued that these different practices affect the profitability, liquidity, risk, and finally the value of the firm in different ways. Depending on the mix of short-term and long-term financing, a company may adopt any of the approaches to working capital management (Mwangi, n.d.). Aisha (2016) added another approach to working capital management known as the zero working capital strategy. The next segment of this section is a detailed discussion of each of the different approaches to working capital management.

2.7.1 Matching Approach

The firm can adopt a financial plan which matches the expected life of assets with the expected life of the sources of funds raised to finance assets. Thus, a ten-year loan may be raised to finance a plant with an expected life of ten years; stock of goods to be sold in thirty days may be financed with a thirty-day bank loan and so on. The justification for the exact matching is that, since the purpose of financing is to pay for assets, the source of financing and the asset should be relinquished simultaneously. Using long-term financing for short-term assets is expensive as funds will not be utilized for the full period. Similarly; financing long-term assets with short-term financing is costly as well as inconvenient as arrangement for the new short-term financing will have to be made on continuing basis. When the firm follows matching approach (also known as hedging approach), long-term financing will be used to finance fixed assets and permanent current assets and short-term financing to finance temporary doer variable current assets. However, it should be realized that exact matching is not possible because of the uncertainty about the expected lives of assets (Chandra, 1984, Archer & Choate, 1979). The firm's fixed assets and permanent current assets are financed with long-term funds and as the level of these assets increases, the long-term financing level also increases. The temporary or variable current assets are financed with short-term funds and as their level increases, the level of short-term

financing also increases. Under matching plan, no short-term financing will be used if the firm has a fixed current assets need only.

2.7.2 Conservative approach

A firm in practice may adopt a conservative approach in financing its current and fixed assets. The financing policy of the firm is said to be conservative when it depends more on long-term funds for financing needs. Under a conservative plan, the firm finances its permanent assets and also a part of temporary current assets with long-term financing. In the periods when the firm has no need for temporary current assets, the idle long-term funds can be invested in the tradable securities to conserve liquidity. The conservative plan relies heavily on long-term financing and, therefore, the firm has less risk of facing the problem of shortage of funds.

2.7.3 Aggressive approach.

A firm may be aggressive in financing its assets. An aggressive policy is said to be followed by the firm when it uses more short-term financing than warranted by the matching plan. Under an aggressive policy, the firm finances a part of its permanent current assets with short-term financing. Some extremely aggressive firms may even finance a part of their fixed assets with short-term financing. The relatively more use of short-term financing makes the firm riskier (Coats, n.d.).

2.7.4 The zero working capital approach.

Under this approach, Aisha (2016) observed that the organization ensures that at all times the current assets equal the current liabilities. Excess investment in current assets is avoided and firm meets its current liabilities out of the matching current assets. As current ratio is 1 and the quick ratio below 1, there may be apprehensions about the liquidity, but if all current assets are performing and are accounted at their realizable values, these fears are misplaced. The firm saves opportunity cost on excess investments in current assets and as bank cash credit limits are linked to the inventory levels, interest costs are also saved. There would be a self-imposed financial discipline on the firm to manage their activities within their current liabilities and current assets and there may not be a tendency to over borrow or divert funds (R.M.S., 2010).

Zero working capital also ensure a smooth and uninterrupted working capital cycle, and it would pressure the Finance Managers to improve the quality of the current assets at all times, to keep them 100% realizable. There would also be a constant displacement in the current liabilities and the possibility of having over-dues may diminish. The tendency to postpone current liability payments has to be curbed and working capital always maintained at zero (Peterson, 2012). Zero working capital would call for a fine balancing act in Financial Management, and the success in

this endeavor would get reflected in healthier bottom lines. The equation to present this working capital management approach is:

$$\begin{aligned} & \text{Total Current Assets} = \text{Total Current Liabilities} \\ & \text{or Total Current Assets} - \text{Total Current Liabilities} = \text{Zero} \end{aligned}$$

2.8 Principles of working capital management

The following are the general principles of a sound working capital management policy as opined by Peterson (2012).

- Principle of risk variation
- Principle of cost of capital
- Principle of equity position
- Principle of maturity of payment
- Principle of circulation
- Principle of liquidity

2.8.1 Principle of risk variation

According to Peterson (2012), the word "Risk" refers to the inability of a firm to maintain sufficient current asset to pay for its obligation. He further stated that If working capital varies relatively to fixed assets investment or sales, the amount to risk that a firm assumes also varies and the opportunity for gain or loss is increased.

This principle assumes that a relation exists between the degree of risk that a firm assumes and the rate of return i.e. the more risk the firm assumed, the greater is the opportunity for gain or loss. As the level of working capital relative to sales decreases the degree of risk increases.

When the degree of risk increases, the opportunity of gain or loss also increases. Thus, if the level of working capital goes up, the amount of risk goes up and vices versa. The opportunity for gain or loss is likewise adversely affected. Depending upon their attitudes, the management changes the size of their working capital. A conservative management prefers to minimize risk by holding a higher level of working capital, while liberal management assumes greater risk by reducing this level.

The goal of a management should; however, be that level of working capital optimizes a firm's rate of return. This point at which a firm is unable to meet its obligations as and when they become due for payment is termed as a risk. A conservative management prefers minimum risk with less profitability while a liberal management goes with high degree risk and wants high profit.

However, the goal of the management should be to establish a suitable tradeoff between profitability and risk. The various working capital policies indicating the relationship between

current assets and sales are depicted back.

2.8.2 Principle of cost of capital

The sources of working capital have different costs with changing degrees of risk involved. A sound working capital management should always try to achieve a proper balance between cost and risk. Generally lower the risk higher is the cost and higher the risk lower is the cost.

The type of capital used to finance working capital directly affects the amount of risk that a firm assumes as well as the opportunity for gain or loss and cost of capital. This principle emphasizes that different sources of finance have different costs. It should be remembered that the cost of capital moves inversely with risk. Thus, additional risk capital results in increase in the cost of capital.

2.8.3 Principle of equity position

The principle deals with defining the amount of working capital out of the total investment. According to this principle every kwacha invested in the current assets should contribute to the net worth of the firm. The level of current assets may be measured with the help of law of ratios.

2.8.4 Principle of maturity of payment

The principle deals with the ability of a firm to meet the current liabilities. According to this principle, a firm attempts to pay matured liabilities from internal funds. Generally, shorter the maturity schedule of current liabilities in relation to expected each inflow the greater the inability to meet the obligations in time.

The greater the disparities between the maturities of firm's short term debt investment and its flow of internally generated funds, the greater the risk and vice versa.

A company should make every effort to relate maturity of payment to its flow of internally generated funds. There should be the least disparity between the maturities of a firm's short-term debt instrument and its flow of internally generated funds because greater risk is generated with greater disparity. A margin of safety should, however be provided for any short-term debt payment.

2.8.5 Principle of circulation

In a genuine management of working capital, the cycle of working capital should be minimum. In other words, the circulation of working capital should take minimum time period. The shorter the time period of circulation, the more peculiar is the management of working capital.

2.8.6 Principle of liquidity

In determination of firm's liquidity, the proportion of net working capital and liquid funds plays a

more important role than that of inventory. If there are assets like government securities, bonds, and debentures and share that known to be readily marketable they may be liquidated at a moment's notice when cash is needed. If these assets are not present in the business, the firm will stand in need of cash as it cannot obtain cash readily and the result will be that the opportunity will go out of hand. In the same way it is also notable that when there is any excess of cash at any time, the firm can invest it in short term investment and maximize its profitability. It is also possible only when the liquidity is higher in working capital management.

2.8.7 Principle of adequacy

Firms, which manage adequate working capital, always earn higher profit than the firms, which fail to manage adequate working capital (Ejelly, 2004). As a result of inadequate working capital to pay their obligation, firms will resort to borrowing higher interest rates and the higher the interest the lower the profit of an enterprise. This principle states that a firm should have adequate working capital to obtain the higher rate of return on capital employed.

2.9 Significance of Working Capital Components Management

Working capital is so important for business day-to-day operations. A decision made on one of the Working Capital components has an impact on the other components. In order to maximize the performance of a business, the Working Capital Management should be integrated into the short term financial decision making process (Crum, Klingman, and Tavis, 1983).

Working Capital or Net Working Capital is “the difference between current assets less current liabilities” (Arnold, 2008). In financial annual reports, working capital is defined in an algebraic expression as follows:

$$\text{Net Working Capital (NWC)} = \text{Current Assets (CA)} - \text{Current Liabilities (CL)}.$$

The investment in NWC is so vital and helps the capital budgeting analysis of a given firm. Working Capital (WC) can be invested in short-term sources of finance, such as cash, inventories, account receivables, and notes receivables. WC is minimized in terms of payments made to account payables (creditors), account notes payable and other accrued liabilities. In order to balance out the optimal levels of costs and benefits, then the liquidity components of working capital must be managed with appropriate techniques through raising or lowering the stocks, cash, account receivables and account payables (Arnold, 2008; Gitman, 2009).

2.10 Inventory management

According to Arsham (2006) inventory management is the procedure for the minimization of the entire cost of inventory. This means keeping the general costs linked with having inventory as

little as possible devoid of creating troubles. Stock and inventory are often used interchangeably to attribute to the same thing (Wild, 2002), but as it stands when inventory management is mentioned there is a slight difference with stock: the scope of inventory management is quite broad than stocks: as its define as management of materials either in motion and at rest, (Coyle et al, 2003). Oxford Learner's Dictionary defines inventory as the catalog of merchandise and materials that are held accessible in stock by a business. A company's working capital consists of its reserves in current assets, which includes short-term assets cash and bank balance, inventories, market securities and receivables.

According to Wild (2002) inventory controls organizes the convenience of items to the customers. It coordinates the purchasing, manufacturing and distribution purpose to congregate the marketing needs. This responsibility includes make available of current sale items, new products, consumables: spare parts, obsolete items and all other supplies. For effective inventory management practices, quantity to be ordered and time or period of order, are two key factors which needs to be considered (Adu, 2013). Therefore, the questions of how much and when it should be ordered. The economic order quantity model as a determinant of optimal inventory level, which takes into account total cost, inventory carrying and shortage cost (William, 2014).

In reference to Clodfelter (2003), inventory control system offer succeeding benefits to sales. But not for inventory control events in place, stores can turn out to be overstocked or under stocked. According to (Reid & sanders, 2007) there are two goals that inventory management practice seek; first a good practice of inventory management must ensure the availability of goods. Secondly not all items can be held in stock against every cost. In this regards emphasizing the pertinence of the subject matter, Gourdin (2001) remarks that inventory is one spot of logistics that has received enormous deal of management's awareness over the years. Therefore, Executives currently realize that holding extreme stocks is purely too costly.

2.10.1 Purpose of an Inventory Control System

The usual objective of an inventory control system can be summarized as providing an agreed level of customer service for the cheapest price. Michael and Lawrence (1977) postulated three fundamental and interrelated aspects in an inventory control system which they identified as: Forecasting future demand; deciding when and how much to re-order and deciding where stocks should be held.

Forecasting: Practical experience from as reported by Michael and Lawrence (1977), has shown that computer aided forecasting which includes routine management review and adjustment provides a better, more reliable and consistent forecast than either a statistical or a subjective forecast alone. All products must be forecasted statistically based on its marketing, product and

customer experience and knowledge.

Re-Order Point: The factors that go into re-order decision include forecast accuracy, customer service level desired, distribution of lead time for manufacturing re-orders and distribution of lead time for branch re-orders. All these factors are product dependent. The re-order quantity is calculated on an approximate basis using the simple Economic Order Quantity (EOQ) model. While it was recognized in the work of Michael and Lawrence. (1977) that this approach would lead theoretically to a too low re-order quantity when compared to an "exact" solution, the lack of accuracy of the re-order cost estimate made a more refined computational procedure seem a waste of time. Wider readings seem to point out that inventory management practices seek to improve forecasting accuracy and inventory re-order point and re-order quantity calculations; all in attempt to increase customer service level, reduce stock and trim down cost.

The level of inventory varies greatly among the firms. For firms with large inventories a drop of 1% in inventory can save the firm over a million dollars in interest costs alone (Levy and Sarnat, 1998). Training institutions will hold stocks in form of stationery, food stuff (boarding), teaching materials and consumable stores which generally vary with student enrolment. Firms attempt to minimize the cost of holding inventory because inventory decisions are repetitive. the relevant management decision often relates to 'how often' and 'how much' inventories should be replenished. The requirements for inventory vary with activity and time of the year. According to McLaney (2000) firms should seek to balance the cost of holding stock with those of holding no (or low) levels of stock. While the costs of holding stocks are loss of interest, storage and insurance costs, obsolescence, it is difficult to identify the costs of failing to hold stock because they may not occur (risk) hence their costs are in the nature of expected values i.e. the cost combined with the probability of occurrence. The cost of holding no (or low) stocks include loss of customer goodwill, production dislocation, loss of flexibility which lead to „hand to mouth existence“ such that even a slight increase in sales demand (or consumption) the firm will be unable to meet the demand (McLaney, 2000). Reorder costs also increase as a firm is forced to place a large number of small orders at short notice because the firm is operating at danger level of stocks (Din, 1984).

2.11 Account Receivables Management.

Yeung and Cheng (2009) defined Account Receivables (Debtors) as customers who have not yet made payment for goods or services that the firm has provided to them. In the same argument they identified the main objective of Account receivables management as the minimization of the time-lapse between completion of sales and receipt of payment. In support of this argument, Kelly

and McGowan (2010) asserted that sales for a business would significantly increase if the customers were given a flexible credit transaction policy. The management of accounts receivable is largely influenced by the credit policy and collection procedure. A credit policy specifies requirements to value the worth of customers and a collection procedure provides guidelines to collect unpaid invoice that will reduce delays for customers who have not yet made payment for goods or services and outstanding receivables (Hills and Sartoris, 1992, Richards & Laughlin, 1980).

In this respect the cash budget must show that credit sales create trenched cash flow otherwise it would create cash flow problems if they delay the receipt of cash to meet its financial obligations. Profit may only be called real profit after the receivables are turned into cash. According to Falope and Ayilore (2009) Aligning the management between cash, inventory and payable are an important, stimulus to researchers' studies on integration of the working capital management (WCM) components in strategic management. In this respect accounts receivable (AR) is calculated as receivables divided by sales. This variable represents the rate at which the firm collects payment from its customers.

Profit may only be called real profit after the receivables are turned into cash. The management of accounts receivable is largely influenced by the credit policy and collection procedure. A credit policy specifies requirements to value the worth of customers and a collection procedure provides guidelines to collect unpaid invoice that will reduce delays for customers who have not yet made payment for goods or services and outstanding receivables (Hills and Sartoris, 1992, Richards & Laughlin, 1980).

Aligning the management between cash, inventory and payable are important, and a stimulus to researchers' studies to integrate the working capital management (wcm) components.

Falope and Ayilore (2009); Basley and Brigham(2005);SamiLoglu and Demirqunes (2008), Sharma and kumar (2011); examined the influence accounts receivable has on profitability in their different countries. Thus, it is important for the financial manager or account receivables manager to establish a good policy that controls the advantages of offering credit with the associated costs.

The notion of credit policy management on credit customers was initially propounded by Kelly & McGowen (2010). They proposed that the credit policy offered to the credit customers should include the following;

Setting Credit Terms – This portion of the credit policy would be concerned with how long the business should extend credit. It also considers the type of discount should be offered to persuade

credit customers to settle their accounts in time.

Establish Credit Standards – These standards deal with the eligibility of the customer for credit, the type of personal details required to help in determining how much credit one qualifies to get. The policy should also determine the strictness of standards.

Design Appropriate Collection Policy – This part of collection policy deals with how aggressive should the business be at collecting overdue accounts and the time to take legal action against defaulting credit customers or to hand over the outstanding accounts to collection agencies.

2.11.1 Average Collection Period (ACP)

The Average Collection Period (ACP) is the second component of the cash conversion cycle. This period is the average length of time from a sale on credit until the payment becomes usable funds for the firm (SME) (Megginson, Smart, & Gitman, 2007).

Accounts receivable is a resource that is of great importance for a business and it is therefore important to understand the resource and how it affects a business. Shorthose (2013, p. 57) states that account receivables are displayed in a company's sales ledger as a record of a business owings; it shows by whom and when the payment is due.

Further the authors argue that in order to show this in a truthful and realistic way it needs to be accurate and clean. Generally Accepted Accounting Principles (GAAP) is overall accepted accounting standards prevailing at an international level (Blake et al,1998, pp. 144-150). According to GAAP accounts receivable should be presented in the financial statements as gross receivables minus calculated allowance for bad debt, i.e. an estimated amount that will not be collected (Savage and Van Allen, 2002, p. 33).

Estimates of this kind will make difficult for businesses to properly value this asset with regards to its uncertainty (Hendriksen & Van Breda, 1992, p. 562). In relation to GAAP it is the International Financial Reporting Standards (IFRS) adopted by countries within the European Union (Soderstrom and Sun, 2007, p. 675). The IFRS (2014) standard IAS 18, state that revenue should be recognized at fair value as either received or as a receivable in the financial statements. When the cash inflow is deferred fair value is computed with the effective interest rate (IAS 18, p. 11). IAS 32 defines accounts

receivable as a non-derivative financial asset, which the entity will receive (IAS 32 p.11).

Previous literature is stating that there are two different approaches to look at the strategic impact of accounts receivable, either companies see it as a capital investment contributing to the total assets of the company, this asset diverse in value each year and the rate of return is uncertain (Salek, 2006, p. 56). Second, receivables can be looked upon as a risk of default, and a possible

expense, the reason is the possibility of disputes that might occur, therefore companies seek to minimize the cost of these assets without affecting sales too much (Salek, 2006, p. 55). Salek (2006, p. 55) emphasis that there are different views of internal strategies of accounts receivables, they can be used as a tool to help customers finance their purchase and an important source of cash flow for the business. This literature is showing upon the broad spectrum of views a business can take when considering their receivables and that the resource is valued in different ways depending on their view.

Account receivable management can be a complex field for the financial departments and their decisions can both affect the company's value and relationship with customers. Michalski (2008, p. 94) argue that companies that have a liberal policy of giving trade credit, have a great amount of money tied up in their accounts receivables that in turn will lead to an increased managing cost. Mortensen (2009, p. 54) continue to argue for the importance of collecting accounts receivable, according to him, receivables as a revenue should not considered true until it is visible on a company's bank account. These arguments are further strengthening the importance of receivables and the vitality for businesses to learn how to collect this resource. Moreover, Mortensen (2009, p. 55) state that personalized collections are an approach where the company contacts the customer whilst an invoice is past due. By using this approach, the customers realize that there is no way to get rid of the "collector" and continue to pay their invoices in the future. This is strengthened by the argument of Atkinson (2011), personalization of the collection process moves the company up on the payment list if the customer is contact in a consistent and friendly manner. The process of contacting customers for a reminder of payment has been perceived in different ways. Some companies believe that it can jeopardize the customer-supplier relationship, others consider that if contact is set up in a professional and non-threatening way it can evolve into a stable and good payment habit (Mortensen, 2009, p. 55).

In the article by Mortensen (2009) a few companies expected a penalty system to be a successful solution to decrease accounts receivables. According to Salek (2005, p. 104) late payment fees are a type of penalty system that companies use as a charge to cover the cost of the extra days of credit. The effect of these charges is questionable since a lot of companies do not pay this extra fee and the risk for a dispute must be taken into consideration. Mortensen (2009, p. 55) emphasis that a great amount of companies shares the view that penalty system would be more harmful for the customer relationship. Instead the companies believed that a "prompt payment discount" would prove to be more effective when collecting the receivables. with this method, the weakness is that customers use the prompt payment even if their invoices have expired which leads to extra

work for the personnel and an extra cost for the company (Salek,2005 p. 104).

This shows upon the great diversity in what approach to undertake when collecting the receivables. Previous literature is both strengthening the importance of good relationships and argue for fees as an alternative solution. This is can be seen a two distinct views and show that there is no universal clear-cut strategy for managing account receivables.

2.11.2 Reasons for a customer's late payment

When looking at explanations to why customers do not pay on time the arguments split again. Previous research mentioned that some customers intentionally delay payments as a part of cash management and the reason can be found in the maximization of their own cash flow (Atkinson, 2011). Additional reasons can be; temporary financial problems or a potential risk for bad debt, sometimes that the customer is too lazy or disorganized to pay on time, the invoice is sent to the wrong address, or applied to the wrong account, the customer is not receiving what the contract says, the invoice and the purchase is showing different rates, technical issues or that the customer is promised a discount that is not displayed on the bill (Atkinson, 2011 ,Rodriguez, 2011, pp.165-166).

Since every business is different it is also clear that there should be different reasons for why their customers do not pay on time. This is strengthened by Salek's (2006, p. 56) statement "Experience shows that over half of receivables greater than 30 days past due are disputed, so the speed in which disputes are researched and resolved with the customer can directly decrease the number of past-due receivables". His statement is pointing out the importance of solving disputes in management of account receivables.

There can be different reasons for a dispute and Salek (2006, p. 56) further argues that most disputes occur because the customer believes that to be an error. He therefore points out that a lot of money can be saved through facing this issue as soon as possible.

An example is a case study mentioned by Salek (2006, p. 56), where a high technology firm was experiencing a receivables management problem. With a redesign of the managerial process and an implementation of a dispute-resolution process they decreased their days of sales outstanding from 104 to 61 and decreased disputes by 75 per cent.

2.11.3 Customer relations.

One approach of collecting accounts receivables is the executive portfolio strategy; this approach emphasizes the importance of knowing your customers and managing receivables in different ways depending on who your customers are (Salek, 2006, p. 55). Salek (2006, p. 55) stated that "just as different customer segments require customized marketing approaches, various collection

approaches are needed for distinct categories of customers". What he implies with his statement is that the collection process of a small-volume customer will diverge from a customer with a large account.

Atkinson (2011) emphasized the importance of keeping a good relationship with customers throughout the collection process. He argued that the expense of locating and keeping customers through sales and marketing must be considered as it is costly to recruit new customers and it is a process that takes time.

Further, his article revealed that the credit department was an important part of the company's sales process because of the crucial role it played of keeping a good relationship with the customer until the final stage. He also emphasized that companies must stop thinking about debtors, and instead focus on customer. To keep a good customer relationship, it is crucial to treat the customer in a proper and respectful manner. As stated above, a loss of one customer can be a great expense for the business. As long as your customers are paying they will continue to purchase your products and you have a loyal customer relationship that hopefully will keep on going for years (Atkinson, 2011, p. B)

2.11.4 Effects of Improper Account Receivables Risk Management

The effects of accounts receivables during financial crisis period would be enormous as working capital is locked up and financial intermediaries become extra cautious about giving financial aid to companies at such positions (Bastos and Pindado, 2012). Receivables are large investments in firm's asset, which are, like capital budgeting projects, measured in terms of their net present values (Emery 2004) and according to Enzhu (2008) the outcome of improper risk management of accounts receivable leads to a decrease in company profits. Sinha (1988) in the study in India revealed that a large proportion of their working capital was locked up in accounts receivables which lead to the corporation losing their profits and unpredictable cash inflows and large volumes of the companies' money going into bad debt. Similarly, Baveld (2012) studies indicated a statistically significant negative relation between accounts receivables and gross operating profit during non-crisis period. On the other hand, during crisis period, no significant relation between these two variables was observed. Whether this a relationship exist or not, one question that must be asked is there in existence a debt management strategy that outlines the target for total acceptable debt portfolio (Melecky, 2007)

Padachi (2006) also added that poor management of accounts receivables had a negative effect on the company's profitability and in addition Deloof (2003) found a significant negative relation between gross operating income and the number of days accounts receivables, inventories and

accounts payables of Belgian firms. The risk of improper management of accounts receivables is a direct financial crisis in which the company would have no cash to operate and even run into debts (Enzhu, 2008). The situation is worse as this increases the bargaining power of buyers to the sellers company because insufficient funds leading to sell at lesser prices for the cash instead of accounts receivables (Love et. al., 2007).

In the opinion of Brealey et al (2006), a strong policy can positively affect the revenue of a firm but can create a conflict between sale and collection. on this premise it was postulated that a firm would either control and manage every credit administration within their company, or give it out to a credit supervisor who serves as a specialist agent of credit monitoring (Wendorf ,2011). Notwithstanding the fact that firms have the choice of internally negotiating for credit extension by getting in touch with the creditor (Wendorff, 2011). in order to give a direction for the credit, the company must devise a strategic credit policy. According to (William, 2014) It must always be observed that account receivables are arise through credit sales, which is recorded by the seller as account receivables and by the buyer as account payables.

2.11.5 Determinants of Account Receivable Management Practices

Developing a strong account receivable (AR) department is vital for business success. A lot of organizations are struggling to identify success surrounding the entire 'credit to cash" cycle. Numerous businesses work to make their Account Receivables departments faster at collections or more cost effective, assuming that these steps are the keys to a best practice solution. Burnett (2005) makes it clear that the "faster and cheaper" concept for Account Receivables management best practices is a partial thought process. There is also no "one size fits all" blue print for a best practice solution. What works for one industry or company is not guaranteed to be economical or effective for another. A key to a successive new approach to internal AR challenges is to examine your internal structure- across departmental lines and the landscape of your current customers along with some core guidelines and principals. This will provide a base for a new best practice process. In essence, what Burnett (2005) is trying to put across is that, to produce an effective solution for collections and dispute management, companies must address their inimitable challenges. Companies need not seek out for that one best practice blueprint that solves every issue. In implementing a new solution and process, may it be a new software or structure: you will want to keep an eye on flexibility with workflow, efficiency approaches, dexterity with analysis and automating workflow and communications. You will certainly have a set of your own custom best practices that fit your customer base, your organization and your industry.

2.11.6 Achieving Excellence in Managing Accounts Receivable

Achieving excellence in managing accounts receivable is critical to realizing and optimizing the profit (Salek, 2006). This approach, by default, seeks to minimize the investment in receivable management and cost of the asset, while not constricting sales too much. In the process of implementing best practices in receivables management, Salek (2006) has suggested three keys for unlocking greater profitability which need to be present:

Executive Portfolio Strategy: A portfolio strategy is a definition of how to manage a receivables asset. Just as different customer segments require customized marketing approaches, various collection approaches are needed for distinct categories of customers. For instance, categories to be managed differently are government vs. private sector, export vs. domestic and national accounts vs. small accounts. This will keep cash flowing and minimize bad debt exposure.

Dispute Resolution Process: A dispute is any reason (other than cash constraints) for a customer to delay or take a "deduction" from an invoice. Disputes generally arise from invoicing the wrong price or quantity, omitting purchase order numbers or product or service quality issues. Experience by Salek. (2006) shows that over half of receivables greater than 30 days past due are disputed, so the speed in which disputes are researched and resolved with the customer can directly decrease the number of past-due receivables.

Accurate Order Fulfillment and Invoicing: The receivables asset reflects the quality of the entire revenue cycle operation. If an error is made in taking an order, fulfilling it, invoicing it or applying the customer payment, or if the customer is dissatisfied with the product or service, it will manifest itself as a past due or short payment in the receivables ledger. The quality of the receivables asset is an excellent barometer of customer service. Accurate order fulfillment and invoicing is the corollary of an effective, rapid dispute resolution process. If all orders are fulfilled correctly and billed accurately, the customer has no good reason to delay or short-pay an invoice, and disputes should be prevented. (Abdul, 2007) (Bhunja, 2007) (C.K., 2012) (Ejelly, 2004)

2.11.7 Average number of days' accounts receivable

The average number of day's accounts receivable is used as a measure of accounts receivable policy. It represents the average number of days that the company uses to collect payments from its customer. This metric is received by dividing the sum of the opening and ending balance of account receivables with two and divide this with the net sales and then multiply the outcome with the average number of days in a year. Similar to the inventory, a low number of days is desirable to keep the cash conversion cycle short (Lantz, 2008, p. 115).

The calculation of the Average number of days' accounts receivable is as follows:

$$= \frac{\text{Average accounts receivable} \times 365}{\text{Net Sales}}$$

Deloof (2003) found a significant negative relation between the average number of days accounts receivable and gross operating income as a measure of profitability. Boisjoly (2009) provide the evidence that companies have focused on improving the management of accounts receivable as their accounts receivable turnover increase over the 15 year time period for 1990-2004. Several techniques can be applied such as strengthen their collection procedures, offer cash discount and trade credit, and use receivables factoring (Boisjoly, 2009).

2.12 Cash Management

In a financial sense, the term cash refers to all money items and sources that are immediately available to help pay firms bills (Hampton, 2004). Managing cash is becoming ever more sophisticated in the global and electronic age of the 1990s as financial managers try to squeeze the last dollar of profit out of their cash management strategies (Block and Hirt, 1992). The management with account payables and receivables that has been described above and below goes under the term of cash management. Following paragraphs summarizes what cash management engage in order to shorten the cash conversion cycle (Lantz, 2008, p. 119);

- Extend the credit time for account payables
- Shorten the credit time for account receivables
- Incorporate more efficient methods for the management of account payables and receivables, internet banking for example
- Improve the procurement of capital surplus and deficits (Lantz, 2008, p. 119)

Despite the ambition to minimize the cash conversion time and therefore the costs in the conversion cycle, the companies cannot escape all costs since they have their own obligations to consider. Taking into the account these responsibilities companies must keep some cash for expected as well as unexpected expenditures that occur in their everyday business. Lantz have mentioned about these three motives why companies should hold cash (Lantz, 2008, p. 119);

The transaction motive: the company must be able to manage their own obligations like payments to suppliers. They should not be dependable on customers paying in time since they can be late and pay after due date which will involve extra costs.

The speculative motive: the market is unpredictable and opportunities could turn up at any time and when they do, companies should see to that they have money available if they would like to invest.

The precautionary motive: As well as the market is unpredictable so are the activities in the business. Unexpected events like; machines breaking down, a suddenly increase or decrease of the demand and more, can occur and could have a very negative influence for the whole company if not taken care of (Lantz, 2008, p. 120).

2.12.1. Cash planning

According to Pandey (2003) cash planning is a technique used to plan and control the use of cash. It involves preparation of forecasts of cash receipts and payments so as to give out an idea of the future financial requirements. Therefore, the management of the school needs to determine the schedules of monthly disbursements and collection schedules of creditors. With efficient cash planning system, the financial needs of the school will be met, with reduced possibility of the cash balances which lowers the school's profitability and cash deficits which can lead to school's failure. He further notes that a cash budget is the most significant device used to plan for and control cash receipts and payments.

2.12.2. Cash budget

The firm's budget is the mechanism by which operating funds are allocated to various divisions in the university. As such, it is the primary tool in the management of the university and in enabling it to fulfil its mission and achieve its academic goals. (Taskforce to review approach to budgeting, 2006)

Cash budget is a tool used to manage the cash flow of a business. This is a budget that is focused on the cash coming into the business and the cash that leaves the business. Moore, William and Longenecker (2010) believed that the cash budget is most important to a small business. A cash budget is a summary statement of the firm projected time period. This information helps the financial manager to determine the future cash needs of the firm, plan for the financing of these needs and exercise control over cash and liquidity of the organization (Kakuru 2003). According to Brigham and Houston (2014) cash budget refers to a table showing cash flows (receipts, disbursements, and cash balances) for a firm over a specified period of time.

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2.12.3. Cash collection

Külter, and Demirgüneş (2007), noted that cash collection systems aim to reduce the time it takes to collect the cash that is owed to a firm. Some of the sources of time delays are mail float, processing float, and bank float. These three "floats" are time delays that add up quickly, and they can force struggling or new firms to find other sources of cash to pay their bills (Lazaridis, 2006).

A firm can conserve cash and reduce its requirements for cash balances if it can speed up its cash collections. A number of methods are designed to speed up the collection process and they include the following;

Reducing the period, it takes for payment from clients to reach the account of the school. According to Kakuru (2001) the school could use a system of pre-authorized debts where an arrangement is made in advance that clients could automatically transfer funds from the client account to the school account at a specified future date. Reducing the collection float; according to Pandey (2003), the collection float is the total time it takes a cheque to reach the business, from the time it is put in the mail by the client to when cash is actually available for use in the school.

2.12.4 Cash control

This is the overall attitude and actions of management regarding control system of cash in the firm. A strong control is one with tight budgetary control over cash received, cash banked, cash Cheques, and effective control cash balances, cash brought down. According to Hamilton (2001) main aim of an institution of learning with regards cash policies is to control and manage its cash affairs in such a way as to keep the balance at a minimum level and invest the surplus cash. Puxty and Dodds (2002), it is essential to keep some of the organization's resources in cash due to generally recognized motives for holding cash by business unit.

Therefore, the availability of cash resource mitigates their effects and keeps the organization profits in balance (mantilla et al 1999).

According to van Horne (2005), the purpose of managing cash balance is to avoid having idle cash reserves that cannot be invested preferably in short term ventures like treasury bills and other forms of commercial paper, or having cash deficits which lead to financial distress.

2.12.5 Financial performance

Although "performance" may appear to be an easy concept, a unique definition in the literature does not exist. Moreover, academics often use special definitions tailored to fit the individual research purposes (Langfield-Smith, 1997). The financial performance is often measured using traditional accounting Key Performance Indicators such as Return On Assets, Operating Profit margin, Earnings Before Interest and Tax, Economic Value Added or Sales growth (Ittner and Larcker, 1997; Fraquelli and Vannoni, 2000; Crabtree and DeBusk, 2008). The advantage of these measurements is their general availability, since every profit oriented organization

2.13. Accounts payable management.

Accounts payable is one of the major sources of secured short- term financing (Gitman 2009, till and Sarton 1992). Utilizing the value of relationship with payee is a sound objective that should

be highlighted as important as having the optimal level of preventions (Hill and sartorial 1992). As a consequence, strong alliance between company and its suppliers will strategically improve production lines and strengthen credit record for future expansion. Singh, (2004) stated that the liquidity of Positionary firm mainly depends, upon accounts receivable collection and payable deferred policy as well as inventories conversion period of firm.

There is an adage in business which says that if you can buy well then you call sell well. Management of your creditors and supplier is just as important as the management of your debtors.

In order to manage the accounts payables efficiently, the general guidelines advocate for the scheduling of payments. Maness and Zietlow (2005) suggested two justifications for companies to extend expected period of settlements of their accounts. The first is that Companies should try to prolong the time of payment to the extent that they can take advantage of their suppliers financing their investments until payment has been made. The second argument for prolonging the time for payment favor those companies engaged in manufacturing. This is meant for them to create an allowance of time to convert their purchased raw material into finished saleable products and get cash in return. though not always profitable Some suppliers offer their customers cash discounts to get their customers to pay their receivables before maturity date. Paying after due date should always be avoided unless the company has fallen in financial difficulties and there is no other choice. The reason for this is that delayed payments can result in unnecessary costs such as penalty fees (Dolfe and Koritz, 2000, p. 49).

2.13.1 Average Number of Days Accounts Payable

The average number of days' account payable is used as a measure of account payable policy. It represents the average number of days the company takes to pay its suppliers.

While the two previous metrics is preferred to keep short, more number of day's accounts payable is considered better for shorter cash conversion period (Lantz, 2008, p. 116).

Average number of days' accounts payable

$$= \frac{\text{Average accounts payable}}{\text{Cost of goods sold}} \times 365$$

The study of Deloof (2003) shows a negative relation between average number of day's accounts payable and profitability which indicates that profitability has an effect on accounts payable policy as a company with less profit takes longer payment period. In the case for Belgian companies, suppliers offer their customers substantial discount for the cash payment customer which lead to increasing profit of the company (Deloof, 2003). In the study of Boisjoly (2009), the result shows an increase in account payable turnover over the 15-year time period which is

contrary to expectation as large companies have extended their payment period to suppliers from 45 to 60 days or 60 to 90 days. The explanations are that only few companies succeeded in increasing their payment terms, increasing in amount of accounts payable or decreasing in fund for working capital (Boisjoly, 2009).

2.13.2 Measures of Liquidity.

A wide range of higher education institutions use several ratios: liquidity, debt capacity, sources of funds, net operating results, financial reserves, and cause-and effect.

Liquidity is the ability to convert current assets into cash with a minimum of loss. Current ratio is one of the most common indicators of financial strength. The basic issue underlying this ratio is the ability to meet current obligations with a margin of safety in case of loss of value in various current assets. Current means that the assets are convertible into cash within one accounting period or less and that the liabilities must be paid during the same accounting period.

The current ratio data used are unrestricted current funds that provide a better indicator of liquidity. Restricted current funds are subject to use for current operating purposes and those monies stipulated by individual donors as to the purpose for which they can be expended.

$$\text{Current Ratio} = \frac{\text{Unrestricted Current Assets}}{\text{Unrestricted Current Liabilities}}$$

For analysis, the benchmark is 2:1 or 2:0. That is, for every ZMK2.00 of current assets, there should be no more than K1.00 of current liabilities for the institution of higher education to indicate financial strength (Sergei P. Sazonov, 2015).

A 2:1 current ratio allows bills to be paid on time, discounts to be taken, and minimum interest on short-term debt.

A more severe test of liquidity is the quick ratio. It attempts to eliminate some of the disadvantages of the current ratio by focusing on liquid assets whose value is reasonably certain. Inventories and supplies are stated at the lower of cost, on a first-in, first-out bases, or market value.

The benchmark for the quick ratio is 1:1.

$$\text{Quick Ratio} = \frac{\text{Unrestricted Current Assets} - \text{Inventories}}{\text{Unrestricted Current Liabilities}}$$

The available funds ratio is an even more conservative indicator. This ratio permits the institution to identify its true cash position. The benchmark for the available funds ratio is 0.75.

$$\text{Available Funds} = \frac{\text{Cash} + \text{Short-term Investment}}{\text{Unrestricted Current Liabilities}}$$

2.14. Measures of Debt Structure

Most firms, and particularly Higher education institutions often use short-term debt to equalize

cash flows and long-term debt to finance buildings and other fixed assets (Sergei P. Sazonov, 2015) (Abbey, 2017). Measures of debt structure include the debt-to-equity ratio and the debt-service ratio. The debt-to-equity ratio tests the institution's capacity to obtain increased amounts of long-term debt financing. This ratio estimates financial risk exposure.

$$\text{Debt to Equity} = \frac{\text{Plant Debt}}{\text{Net Investment in Plant}}$$

Where net investment in plant is equal to the value of the physical plant recognized on the balance sheet less any related liabilities. The suggested benchmark is 0.33.

For firms with cash flow problems, the debt-service ratio is recommended.

The debt-service ratio measures the relationship of principal and interest payments as well as sinking fund obligations to revenues. The accepted benchmark is 20 percent of operating revenues, but 10 percent is better.

$$\text{Debt Service} = \frac{\text{Debt Service}}{\text{Operating Revenue}}$$

To measure the institution's commitment to continuing payments in proportion to its revenue sources in the intermediate-term, the ratio of Restricted Income/Total Income can be used. Heavy reliance on restricted revenues generally constitutes increased exposure to financial risk.

2.15. Sources and Uses of Financial Resources

Many of the financial ratios that higher education institutions apply measure from what sources financial revenues are earned and for what services expenses are incurred. This allows both internal and external entities to monitor institutional efficiency. The interrelationships that exist among financial resources require a comprehensive examination of the institution's total financial structure. A clear understanding of the trends in and the condition of the financial resources is important to the early detection of any institutional distress. Changes in resources are symptoms of those internal and external factors that cause financial distress or improvement. A higher education institution with sufficient financial resources can withstand adverse trends and has the flexibility to institute changes at opportune moments to reverse the trends.

Resources merely provide the opportunity to be flexible through economic changes and experiment where possible without jeopardizing the institution's future.

Total revenues should be increasing at a rate comparable to the combined effects of inflation and program needs on total expenditures. Higher education institutions should not become overly dependent on federal, state, and local government appropriations; private gifts and grants; tuition; user fees; or any single source of revenues. The financial ratios used to compare revenues to related expenditures are called contribution ratios (operating and non-operating inflows), and include Sources of Revenues/Total Expenditures and net tuition where net tuition equals total

tuition less

unrestricted student aid grants. The trends in each of the contribution ratios should be monitored carefully. High tuition-dependence makes a higher education institution more susceptible to financial distress should enrollments suddenly decline.

Expenditure ratios are a much truer indicator of institutional priorities than any strategic plan, speech, or press release. The percentage of total expenditures being spent on each function or program reveals the extent to which the institution is efficiently managing funds.

Expenditures by Program or Function/Total Expenditures

These percentage ratios are also useful in determining whether a particular program is receiving an increasing or decreasing share of total revenues. Higher education institutions can also track fringe benefits, as well as the instruction proportion or the percentage of total educational expenditures committed to faculty salaries, curriculum development, departmental research, and other instructional costs.

2.16. Net Operating Results

Although higher education institutions do not exist to earn a profit, they cannot operate indefinitely with deficit budgets. A measure of surplus/deficit revenues has the benchmark: positive ratio equals a surplus, and negative ratio equals a deficit.

$$\frac{\text{Net Total Revenues}}{\text{Total Revenues}}$$

Where: Net total revenues equals all current operating revenues (both restricted and unrestricted) minus current expenditures and mandatory transfers.

The ratio Current Fund Restricted Income/Current Total Unrestricted and Restricted Income gives a measure of the riskiness of revenue flows.

A trend toward increased dependence on restricted revenue could indicate a need for more sources of financial resources or increases in unrestricted financial resource sources. The uncertainty of restricted revenue suggests an increase in financial reserves to balance the risk (Dickmeyer, 1980).

Dickmeyer (1980) proposed three ratios which could be suitable for higher education institutions as:

$$\frac{\text{Net Education and General Revenue}}{\text{Total Education and General Revenue}}$$

Tuition and Fees.

Total Expenditures and Mandatory Transfers

$$\frac{\text{Net Auxiliary Enterprise Revenue}}{\text{Total Auxiliary Enterprise Revenue}}$$

2.17. Measure of Financial Reserves

Dickmeyer (1980) further recommended a measure of financial reserves as a measure of institutional distress potential in privately controlled institutions and as an indicator of institutional financial resources of public institutions. This measure was used to indicate the ability of the institutions in the study to survive fluctuations in the economy, to use their own funds, and to change both academic and administrative programs. A decrease in the fund ratio was used to indicate a decline in the flexibility the institutions needed in order to accommodate the changing needs of the community and students. The ratio to illustrate this behavior was presented as follows:

$$A * \left(\frac{\text{Current Fund Balances}}{\text{Current Fund Expenditures}} \right) + B * \left(\frac{\text{Endowment Fund Balances}}{\text{Current Fund Expenditures}} \right)$$

Where A and B are positive, and $A + B = 1$.

A greater weight (A) was given to current fund balances to recognize the restrictions on or the lack of endowment assets. The fund ratio is a weighted combination, with current fund balance representing short-term financial resources and endowment fund balances representing long-term financial resources. Both restricted and unrestricted funds are included. By calculating the fund ratio, an idea of the size of the reserves relative to the size of the yearly expenditures can be determined. It also has some intrinsic value because higher education institutions need financial reserves to protect the operations from external shocks (Viklund, 2014)

The eight cause-and-effect ratios used exclude any ratios involving profit, sales, and inventory. They include assets, liabilities, net worth, receivables, and revenues.

2.18. Effect Ratios

Current ratio. The current ratio not only helps to indicate the institution's ability to meet current obligations, but it is also a measure of the margin of safety provided for meeting those current obligations if current assets were reduced in value.

The current ratio tests quantity, not quality (Miller, 1972). After careful consideration of the components of current assets, the current ratio may indicate liquidity and flexibility. Both are essential for the achievement of many institutional goals.

2.18.1. *Current-liabilities-to-net-worth and total-liabilities-to-net-worth.*

These ratios measure the operating freedom that administrators have by comparing the claim that creditors have on the institution of higher education to that of the "owners." If debt-to-net-worth ratios are excessive, outside entities may be demanding payment of debt or attempting to control financial decision making by administration. High current liabilities-to-net-worth may cause greater financial distress in the current period than in the long-term. Miller, 1972).

As a nonprofit entity, a higher education institution has no shareholder section on its balance sheet, but it does have a fund balances section.

The sum of the total liability section and the fund balances section equals the total assets section. The fund balances consist of resources that are available for the purpose of performing the mission of each fund group. The fund balances include both restricted and unrestricted funds. This study used fund balances as a proxy for net worth.

2.18.2. Receivables-to-working-capital.

Working capital equals current assets minus current liabilities.

It represents the safety margin an institution has for the payment of current obligations if current asset values were reduced or if current funds were used for fixed or miscellaneous assets. Because receivables (accounts receivable, notes receivable, interest receivable) may be a component of working capital, and highly volatile, administrators need to measure the dependence that working capital has on the value of receivables (Miller, 1972).

2.18.3. Long-term-liabilities-to-working-capital.

This ratio measures the extent to which an institution has borrowed new funds to replace working capital, the general purpose of long-term debt financing. If the ratio exceeds 100 percent, the long-term debt financing may be disguising operating losses. The ratio also indicates the possibility of future long-term debt financing and keeps administration apprised of the proportions between short- and long-term debt financing (Viklund, 2014).

The preceding five ratios allow administrators to measure and study the effects of financial forces on the operation of higher education institutions. The following ratios help to determine financial balance and point to underlying causes of financial problems (Viklund, 2014).

2.19. Cause Ratios.

Fixed-assets-to-net-worth. This ratio measures the degree to which an institution's net worth is tied up in no liquid, permanent, depreciable assets. It also measures the amount of funds available for further investments. An unusually high investment in fixed assets could adversely affect working capital and all other ratios related to working capital (Abbey, 2017).

2.19.1. Revenues-to-net-worth.

This ratio measures the extent to which an institution's current funds revenues, both restricted and unrestricted, are supported by fund balance resources. If this ratio is excessive, the institution of higher education may be what Miller (1972) refers to as an "over trader," an institution stretching its fund balances to the maximum. An over trader may be highly leveraged, have experienced a reduction in revenues from tuition and fees, or need to increase endowments and

unrestricted sources of funds. Under trading is indicated by a low ratio. It may not be as serious as overtrading because the leverage position is lower, but it may indicate a decline in enrollment. A lack of students could contribute significantly to the financial condition of a higher education institution.

2.19.2. Miscellaneous-assets-to-net-worth.

Miscellaneous assets include all assets that are not current, fixed, or intangible. Among the assets classified miscellaneous are prepaid expenses and deferred charges, investment in other readily marketable securities, any long-term receivables, and cash value of life insurance. Commitment of an excessive amount of resources to miscellaneous assets restricts working capital and the productivity of fixed assets and may increase an institution's debt position. This ratio is difficult to interpret and may help an institution in its analysis of financial condition only slightly, but serious differences between miscellaneous assets and net worth may have widespread effects (Peterson, 2012).

2.20. Interinstitutional Comparisons

A single ratio needs to be related to something else. The same type of ratio viewed over time (trend analysis) provides substantially greater information than one ratio for one-time period. Cross-sectional analysis, comparing a ratio for one institution with the same ratio to similar institutions or national averages, gains another useful perspective of relative financial condition. Comparing an institution's actual ratios with anticipated or budgeted ratios (sometimes called goal ratios) provides yet another view on performance (Minter et al., 1982).

To some extent, comparisons have been made more reliable by the development of uniform accounting and reporting standards for higher education during the 1990s.

Colleges and universities are becoming more willing to learn from each other. The purpose of institutional comparisons is to highlight differences and to raise essential questions about past and future policies for internal and external entities.

The argument is that, when it is understood why a college scores differently from its peers, an understanding of what is unique about it is often close (Kramer, 1982). Many institutions differ from comparative groups for valid reasons. Comparative information gives averages, not ideals. The results of interinstitutional comparisons, therefore, cannot be viewed as absolute truths. Rather, they become guidelines for more detailed state and local reviews that take into account both the technical problems and the local policies and concerns.

Concept of quality core service delivery

In essence, service delivery involves people interacting with other people (Mwendar, 2007). As a

concept service has received numerous definitions from different scholars. According to Rust (2006) service is defined as any act or performance that one party can offer to another that is essentially intangible, and does not result in the ownership of anything. The production may or may not be tied to a physical product (Kotler, 2009).

Quality is an issue that cannot be avoided in education at present and what institutions do to ascertain quality turns out to be most important and effective of all efforts and initiatives. However, the entry of “private” providers of high education coupled with crying voices of declining government funding to public institutions is a response to therein increasing demand for higher education that has caused decline in the quality services delivered in the public academic institutions (Basheka et al 2009).

Mpaata (2010) argued that the The quality of higher education was mainly affected by the changing University customs, characteristics, increasing competition, Rising costs, and the impending crises. Hence the institutions of higher education need to continuously improve and strengthen themselves or else they cease to be centers of academic excellence (Mpaata, 2010).

Quality is an issue that cannot be avoided in education at present and what institutions do to ascertain quality turns out to be most important and effective of all efforts and initiatives. However the entry of “private” providers of high education coupled with crying voices of declining government funding to public institutions is a response to therein increasing demand for higher education that has caused decline in the quality services delivered in the public academic institutions (Basheka et al 2009).

Competitiveness and quality service delivery

One of the challenges facing public higher institutions is an increasingly competitive, marketing-oriented and highly regulated environment. In this environment, these institutions have to function, survive and compete, not only with one another, but also with the private institutions. Hence public universities need to find new ways to compete if they wish to survive in this dynamic environment. As indicated previously, leadership appears to influence service quality, which is essential in gaining a competitive edge in this ever-evolving environment. Every educational institution needs to understand its internal strength and weakness, and external opportunities and threats (Kalb, 2010).

All universities compete for scarce public and private funding, for top-caliber teaching and research staff, for the brightest and best students, for alliances with strong professional bodies and scientific organizations and, most especially, for the levels of reputation, prestige and status that attract all of these. Although cries for the Australian public universities to become more competitive are growing louder (Slattery, 2009). It is possible that strategy shifts to effect greater

competitiveness will be too late for some (Craven, 2008).

Institutional Funding and quality service delivery

Funding is perhaps the most powerful and pervasive policy steering change instruments available to any government or organization. In fact, the resource dependency perspective of organizations explains that organizations and universities, must actively re-organize their activities and structures in order to ensure a continuous flow of various resources that are critical to their survival and to the change process (Oliver, 2001)

According to (Carlucci and Schiuma, 2010) public organizations still face the challenge of balancing the costs reduction and the continuous improvement of the service quality. Up to early 1990s, public Universities in Kenya were fully funded by government. Since then the government gave in to pressure from the International Monetary Fund (IMF) to reduce expenditure on education thus paving way to cost-sharing and corporatization of public Universities (Oanda, 2008). These universities are thus endeavoring to generate their own finances in order to remain operational in the emerging regional and global education market. This shift in the style of business management seems to have occurred when university managers may not have been ready, trained or equipped with business management skills necessary for managing (Oanda, 2008).

The number of students in Kenya's universities is soaring up by 28% in 2014 compared to 2013. But, contrary to expectations, the government has cut funding by 6% for the upcoming fiscal year, adjusting its higher education spending to US\$588 million compared to the US\$627.2 million allotted in 2014/15. The funding cuts will make it difficult for universities to cater for the growing numbers of students taking courses, and they will necessitate strategies to secure funds from alternative sources. Public universities are faced with both decreased government subsidies and the removal of an important alternate source of funding, hence the need to allocate them more resources to boost research and innovation (ICEF ,2015)

According to the, Economic Survey 2014, enrolments in Kenyans' public universities rose seven times faster than funding, pushing universities more and more into income generating activities to meet the costs of extra students. State capitation of public universities has nearly tripled over the past three years, rising from US\$247 million in 2010 to US\$624 million in 2014. During this period, enrolments have grown four-fold (Ng'ang'a,2014). Funding higher education has emerged as one of the biggest concerns in Kenya, with the surge in student numbers.

Government subsidies are no longer enough and universities are going into commercial activities. Kenyan families sacrifice so much for higher education and on analysis contribute more than the

government in funding this public good (Some, 2014)

2.21. Summary of Literature Review

Conclusions concerning the financial condition were drawn using each of the comparison procedures. The "forms of distress" discussed below were used to guide the conclusions.

Dickmeyer and Hughes (1982) believed that, to be financially healthy, a higher education institution should have the financial flexibility to respond to changes in the political, social, and economic environment in which it operates. Pressures that may affect a higher education institution adversely are inflation, increasing regulatory requirements, declining enrollment, increasing tenure ratios, and changing student academic interests. Higher education institutions must use their capacity to adjust their resources to meet these pressures (Dickmeyer and Hughes, 1982).

The interpretation of a financial ratio rests on an assumption of what is a stable financial condition. Understanding institutional financial condition implies that a standard exists by which relative financial strength can be judged. The "balanced budget" criterion alone is not adequate. The true key to stable financial condition may be in a higher education institution's ability to finance both short- and long-run expenditures (Jenny, 1979). A related way to view stable financial condition is to consider forms of distress affecting the ability of a higher education institution to provide high-quality instruction, research, or public service (Taylor, 1984). Forms of distress include the following:

"Working capital distress": The institution is unable to finance daily operating expenses (liquidity).

"Demand-related revenue distress": This is a result of lowered demand for the institution's services.

"Non-sales-related revenue distress": The institution cannot realize its historical levels of gifts and endowment income.

"Financial flexibility distress": The institution's resources are so restricted that it has no flexibility in their use (Patrick and Collier, 1979).

These forms of distress aid in the determination of the financial condition of higher education institutions.

According to Woelfel (1987), other possible areas of concern that may indicate financial distress may include either or both of the following conditions: (a) financial problems: illiquidity, funds shortage, continuing operating deficits, debt default, and others; and (b) operating problems: unclear vision of mission, inadequate control over operations, competition, lack of product market

demand, and others. Financial ratio analysis will aid in isolating financial problems. No quantitative data and information have to be gathered to isolate operating problems.

2.22. Lessons Drawn from the Literature Reviewed.

From the preceding literature, Working Capital Management (WCM) and its Impact on Firms' Performance has been studied significantly by different researchers (Padachi, K. (2006); F. Finau, (2011); Anand and Gupta (2002); Mohamad and Noriza (2010); Deloof (2003); Luo et al. (2009); Vishmani et al., (2007) Koperunthevi (2010); Fathi and Tavakkoli (2009); V. Ganesan, (2007)). Most of these and other researchers identify significant association between working capital management and firms' performance. It is clear that working capital management policy drives the main agenda for all organizations; whether profit oriented or nonprofit oriented, manufacturing or trading, small, medium or conglomerates.

Circulations of blood are essential in the human body for maintaining life. Similarly working capital is the lifeblood of a business. It is very essential for the maintenance of the smooth running of a business. Even a fully equipped manufacturing firm is sure to collapse without an adequate supply of raw material to process, cash to meet the wage bill, the capacity to wait for the market for its finished product and the ability to grant credit to its customers.

A study of working capital is of major importance for internal and external business analysis due to the interplay of the components in the day to day operation of business. Inadequacy or mismanagement of working capital is the leading cause of business failure.

Working Capital is considered as the lifeblood and the controlling nerve Centre of a business therefore, Inadequate working capital, is a business ailment.

The three major policy approaches (matching, conservative and aggressive) may apply differently on business practice and determine the extent to which the firms' goals may be achieved.

Accounts receivables and payables are the crucial aspects of working management policy because they determine the marketing strategies that an organization can employ. Receivables are large investments in firm's asset, which are, like capital budgeting projects, measured in terms of their net present values (Emery et al., 2004) and according to Enzhu (2008) the outcome of improper risk management of accounts receivable leads to a decrease in company profits. Sinha et. al. (1988) in their study in India revealed that a large proportion of their working capital was locked up in accounts receivables which lead to the corporation losing their profits and unpredictable cash inflows and large volumes of the companies' money going into bad debt. Baveld (2012) studies indicated a statistically significant negative relation between accounts receivables and

gross operating profit during non-crisis period. On the other hand, during crisis period, no significant relation between these two variables was observed.

Financing operating assets involves decisions on tradeoffs between risk and liquidity. The larger the size of liquid assets, the less likelihood of running out of cash, effective management of various components of operating assets, effective credit and collection procedures and inventory control have a bearing on the liquidity of an institution, all institutions require operating capital, only differing in composition of the components and the controls and policies implemented. There is no universally accepted strategy for financing operating capital; however, there are principles that address short term financing policies (Smith, 1980). Operating efficiencies leads to optimal utilization of organizations resources. Written policies relating to working capital management components improve efficiency, proper and up to date recording of the working capital components requires adequate and competent staff who can prepare reports to management for planning and decision making, preparation of all functional and master budgets enables an organization to chart its way forward and also to identify areas that need attention in advance (Deloof, 2003)

The cash receipts and payment patterns also affect the working capital requirement of Institutions. If not properly synchronized, the institutions can experience cash deficits which affects their day to day operations. The rising prices means that higher amount of working capital will be needed (Smith, 1980).

Management of short-term financial management is moderately applied in higher learning institutions, even though each component has some form of control, there are inefficiencies in management of the accounts receivables in form of fees compared to management of inventory, cash or accounts payables. Planning aspect for the working capital components is not adequate except the cash component, receivables and payables are well synchronized and it manifests itself in operating inefficiencies (Kungu & Kimani, 2014).

Short-term financial management in Universities should not be left to intuition or the rule of the thumb. Each working capital component should not only have written policies, but such policies should be strictly followed and reviewed where necessary to incorporate the changing trends. Proper management of short-term financial management should bring about improved operating efficiencies. This may be achieved by adequate records relating to each working component, proper planning of cash flows to improve liquidity and maintaining of optimal levels of each short-term financial management component (Mulera, 2005).

Institutions should ensure that all key departments are computerized and employment of qualified

accounts staff who will generate reports to management for decision making related to operating assets and short term financing, with computerization a full budgetary Control system could be adopted which will include, inventory, accounts payables and receivables and cash budget. Inventory and cash control techniques could also be applied in a computerized environment. Credit control procedures for fees payment, suitable for these training institutions should be adopted (Obulemire, 2006). Deloof (2003) held that an institution with larger revenues and having credit policy which is not stringent results in having longer and larger conversion cycles, the longer and larger conversion cycle leads to lower revenues, the relationship between longer and larger conversion cycles and liquidity is that it has a negative impact on the liquidity of a company if all other factors are held constant (Reheman and Nasir, 2007)

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CHAPTER THREE

THEORETICAL AND CONCEPTUAL FRAMEWORK

3.0. INTRODUCTION

The preceding chapter has highlighted the literature related to working capital management as obtained from various forms of business enterprises. In all forms of business organizations and management practices, it has been explicitly argued that working capital management is of great importance to the survival and growth of the business. A failure of business in any line is a signal of failure in working capital management policy. This chapter is devoted to the exposition of theories of working capital management upon which the Conceptual framework for this research is based.

3.1. THEORETICAL FRAMEWORK

A theory is a formal, testable explanation of some events that includes explanations of how things relate to one another. A theory can be built through a process of reviewing previous findings of similar studies, simple logical deduction, and/or knowledge of applicable theoretical areas at hand (Zikmund, Babin and Griffin, 2011).

They are systematic grouping of interdependent concepts and principles that give a framework to, or tie together, a significant area of knowledge as scattered data are not information unless the observer has knowledge of the theory that will explain relationships (Olum, 2004). According to Trochim (2006) Aguilar (2001), and Tormo (2006), a theoretical framework guides research, determining what variables to measure, and what statistical relationships to look for in the context of the problems under study.

According to Trochim (2006) Aguilar (2001), and Tormo (2006), a theoretical framework guides research, determining what variables to measure, and what statistical relationships to look for in the context of the problems under study.

3.1.1. Operating Cycle theory

Operating cycle theory addresses the side of short-term financial management, which measures the level operating activities of a firm, and that is provision of goods and services, and income collections from debtors. Credit collection policies directly affects accounts receivables either positively or negatively and the frequency of conversion of receivables into cash (Richards & Laughlin, 1980).

In short-term financial management, giving the students relaxed credit policies makes the institutions revenues to decrease in the short term but the liquidity will be increased in long run. When this analysis is applied to current asset accounts components, the theory may not depict the

true picture as it suggests that current liabilities may not be important in operations of the firm. The use of accounts payables to finance the firm's activities cannot be ignored, as it is important to put current liabilities component in the study to improve the analysis and consequently give a true position (Richards and Laughlin, 1980).

3.1.2. Financial Motives Theory

According to financial motives, firms benefiting from an easy access to credit markets are able to use this borrowing capacity and act as financial intermediaries in favor of firms that suffer from limited access to credit (Emery, 1984; Schwartz, 1974). Suppliers may be involved in credit activity as they hold a comparative advantage over traditional lenders in the resolution of information asymmetries. The supplier may have an advantage over traditional lenders in investigating the credit worthiness of his clients, as well as a better ability to monitor and force repayment of the credit. This may give him a cost advantage over financial institutions in offering credit to a buyer for an early exposition of the financing advantage theory of trade credit (Schwartz, 1974). There are at least three sources of cost advantage.

The supplier may visit the buyer's premises more often than financial institutions would. The size and timing of the buyer's orders also give an idea of the condition of the buyer's business. The buyer's inability to take advantage of early payment discounts may serve as a tripwire to alert the supplier of deterioration in the buyer's creditworthiness. While financial institutions may also collect similar information, the supplier may be able to get it faster and at lower cost because it is obtained in the normal course of business (Smith, 1987). The theory only applies if we accept the assumption that financial markets are imperfect and that some buyers have an unsatisfied demand for bank and other institutional finance. Differences in size of firm, market structure or type of industry, the amount of liquid assets, which firms may accumulate, imperfections in the capital markets, and a variety of other institutional phenomena are reasons for the failure of the financial market to operate efficiently.

3.1.3. Operational Motives Theory

The operational motive (Emery, 1987) stresses the role of trade credit in smoothing demand and reducing cash uncertainty in the payments (Ferris, 1981). In the absence of trade credit, firms would have to pay for their purchases on delivery. This makes it possible to reduce uncertainty about the level of cash that needs to be held to settle payments (Ferris, 1981) and provides more flexibility in the conduct of operations, since the capacity to respond to fluctuations is provided elsewhere (Emery, 1984, 1987). This was supported by Long, Malitz and Ravid (1993), who found that firms with variable demand granted a longer trade credit period than firms with stable

demand. The existence of sales growth in a firm is also a factor that positively affects the demand for finance in general, and for trade credit in particular. Consequently, it should be expected that firms with greater increases in sales will use more trade credit in order to finance their new investment in current assets.

3.1.4. Commercial Motives Theory

According to the commercial motive, trade credit improves product marketability. (Nadiri, 1969) by making it easier for firms to sell. Trade credit can be used as a form of price discrimination by firms, according to whether delays in payment are allowed or not (Brennan, Maksimovic and Zechner, 1988; Mian and Smith, 1992). In this respect, Smith (1987) pointed out that suppliers can transmit information about the quality of their products by agreeing credit terms that allow their customers a period of evaluation. Lee and Stowe (1993) argued that trade credit is the best way of guaranteeing products. Long, Malitz and Ravid (1993) found that smaller and younger firms grant more trade credit than firms with a more consolidated reputation in the market. Firms use trade credit to signal the quality of their products. Pike, Cheng and Cravens (2005) demonstrated that, in the US, UK and Australia, trade credit can be used to reduce information asymmetries between buyers and sellers.

Payment on delivery is an extremely inefficient practice for most firms, particularly when deliveries are frequent. Many firms operate Just-in-Time stock policies, sometimes requiring twice daily deliveries. Operating inefficiencies would arise, particularly for larger firms, were the buyer to make separate payment transactions for each delivery rather than deal with the whole month's delivery in a single payment transaction.

3.1.5. Transactions Cost Theory

This theory is about actual costs that account for provision of good and services and it recognizes all the costs involved namely, coordination costs, transaction costs, search costs and contracting costs. Inclusion of all these costs are considered for complete decision making and not only the pricing of university courses but also the actual wellbeing (Williamson,1996).

Ferris, (1981) in transactions cost theory of trade credit argues that trade credit reduces transactions costs by allowing the parties to separate payment and delivery cycles when delivery is uncertain. The customer can lower the transactions demand for cash if payment can be separated from delivery. Bougheas, Mateut and Mizen(2009) incorporate this basic idea in a formal two period model which incorporates the trade-off between inventories and trade credit under conditions of stochastic demand. Using this model they derive empirically testable propositions with respect to accounts payable and accounts receivable and their relationship with

changes in costs of inventories, profitability, risk profile, liquidity position of firms and bank loans. Brick and Fung (1984) argued that, all other things being equal, buyers with low effective tax rates would prefer trade credit and therefore are more likely to have higher levels of accounts payable relative to similar buyers with a higher effective tax rate.

Transaction theory is about the basic theoretical framework that analyses relationship between universities and its students, the theory studies the two sides of the transaction processes, one is about where the transaction starts up to where it ends, it also focuses on reviewing on where the transaction starts and also explains the transaction costs that result to an institution in managing its economic activities (Williamson, 1996).

The whole process of information provision is to adequately meet stakeholder's need for more information in decision making (Mian and Smith, 1992).

The strategies institutions use is to scale down on the transaction costs, this enables the institutions to have strategies whose benefits are believed to be more than the costs, for example in management of inventories, institutions are keen to minimize holding and ordering costs, in accounts payable institutions will use cheaper credit, it means institutions invest where there are bigger marginal returns, this implies less working capital investments, and the lower the transaction costs the better the returns and liquidity (Howorth and Westhead, 2013).

On the other hand, institutions may focus on one area of short-term financial management

3.1.6. Price Discrimination Theory

Brennan, et al (1988) argue that if the product market is non-competitive and there exists an adverse selection problem in credit markets then this makes price discrimination through trade credit potentially profitable. An empirical implication that arises from the price discrimination arguments is that more profitable firms are more likely to grant more trade credit. Petersen and Rajan (1997) found support for the price discrimination theory in a study that showed that firms with higher profit margins have more interest in raising their sales. This is due to the fact that the marginal earnings they obtain are high, allowing them to incur additional costs to generate new sales. Price discrimination occurs when a firm sells two identical units of a good or offers the same homogenous service at different prices either to two different customers or to the same customer (Miravete, 2005). Price discrimination being illegal in many countries, firms may choose to discriminate between buyers using trade credit. Some firms may choose to make early payments to take advantage of discounts while others may have an incentive to pay towards the end of the credit period (Vaidya, 2011). Wilner (2000), advances a theory of trade credit that is similar in spirit to the price discrimination theory; however, it is based on the idea that a customer

can exploit its bargaining advantage with the supplier to obtain concessions when in financial distress.

3.1.7. Systems Theory

Systems theory springs from biology and its content free and applicable to many fields of study. Systems theory can be defined as a working hypothesis, the main function of which is to provide a theoretical model for explaining, predicting, and controlling phenomenon (Bertalanffy, 1962). One common element of all systems is described by Kuhn (1974) as knowing one part of a system enables us to know something about another part. The information content or a piece of information is proportional to the amount of information that can be inferred from the information (Kuhn, 1974). Systems can be either controlled (cybernetic) or uncontrolled. In controlled systems information is sensed, and changes are effected in response to the information. Kuhn (1974) refers to this as the detector, selector, and effect or on functions of the system.

The detector is concerned with the communication of information between systems. The selector is defined by the rules that the system uses to make decisions and the effect or is the means by which transactions are made between systems. Communication and transaction are the only intersystem interactions. Communication is the exchange of information, while transaction involves the exchange of matter-energy. All organizational and social interactions involve communication and/or transaction.

Kuhn's model stresses that the role of decision is to move a system towards equilibrium. Communication and transaction provide the vehicle for a system to achieve equilibrium. Kuhn defines "Culture" as communicated, learned patterns; and 'society' as a collective of people having a common body and process of culture". A subculture, according to Kuhn, is defined only relative to the current focus of attention. When society is viewed as a system, culture is seen as a pattern in the system. Kuhn further opines Social analysis as the study of communicated, learned patterns common to relatively large groups (of people) (Kuhn, 1974). This theory informs the technology and marketing channels because communication is important in all of them.

3.1.8. Institutional Theory

The basic concepts and premises of the institutional theory approach provide useful guidelines for analyzing organization-environment relationships with an emphasis on the social rules, expectations, norms, and values as the sources of pressure on organizations. This theory is built on the concept of legitimacy rather than efficiency or effectiveness as the primary organizational goal (Doug and Scott, 2004). The environment is conceptualized as the organizational field, represented by institutions that may include regulatory structures, governmental agencies, courts,

professionals, professional norms, interest groups, public opinion, laws, rules, and social values.

Institutional theory assumes that an organization conforms to its environment. There are, however, some fundamental aspects of organizational environments and activities not fully addressed by institutional theory that make the approach problematic for fully understanding credit reference bureaus and their environment. The organization here is assumed to be dependent on external resources and its own ability to adapt to or even change its environment (Doug and Scott, 2004).

Researcher such as Meyer and Rowan (1991), DiMaggio and Powell (1983) are some of the institutional theorists who assert that the institutional environment can strongly influence the development of formal structures in an organization, often more profoundly than market pressures. Innovative structures that improve technical efficiency in early-adopting organizations are legitimized in the environment.

Ultimately these innovations reach a level of legitimization where failure to adopt them is seen as "irrational and negligent" (or they become legal mandates). At this point new and existing organizations will adopt the structural form even if the form doesn't improve efficiency. This theory informs the management structure variable.

3.2. CONCEPTUAL FRAME WORK.

A conceptual framework is defined by scholars according to the subject under review but all point to the same processes and procedures, followed in solving a problem. McGrath (2009), Mosby (2009) and Smyth (2004) (Anderson, 2005), defines conceptual framework as a group of concepts that are broadly defined and systematically organized to provide a focus, a rationale, and a tool for the integration and interpretation of information. A conceptual framework provides the analytical context for investigating and interpreting any relationships among the factors relevant to the research problem under investigation. The framework may be based on different theories and on various aspects of the researcher's knowledge, depending on what is deemed relevant to a research problem at a given point in time (Underhill, 1991).

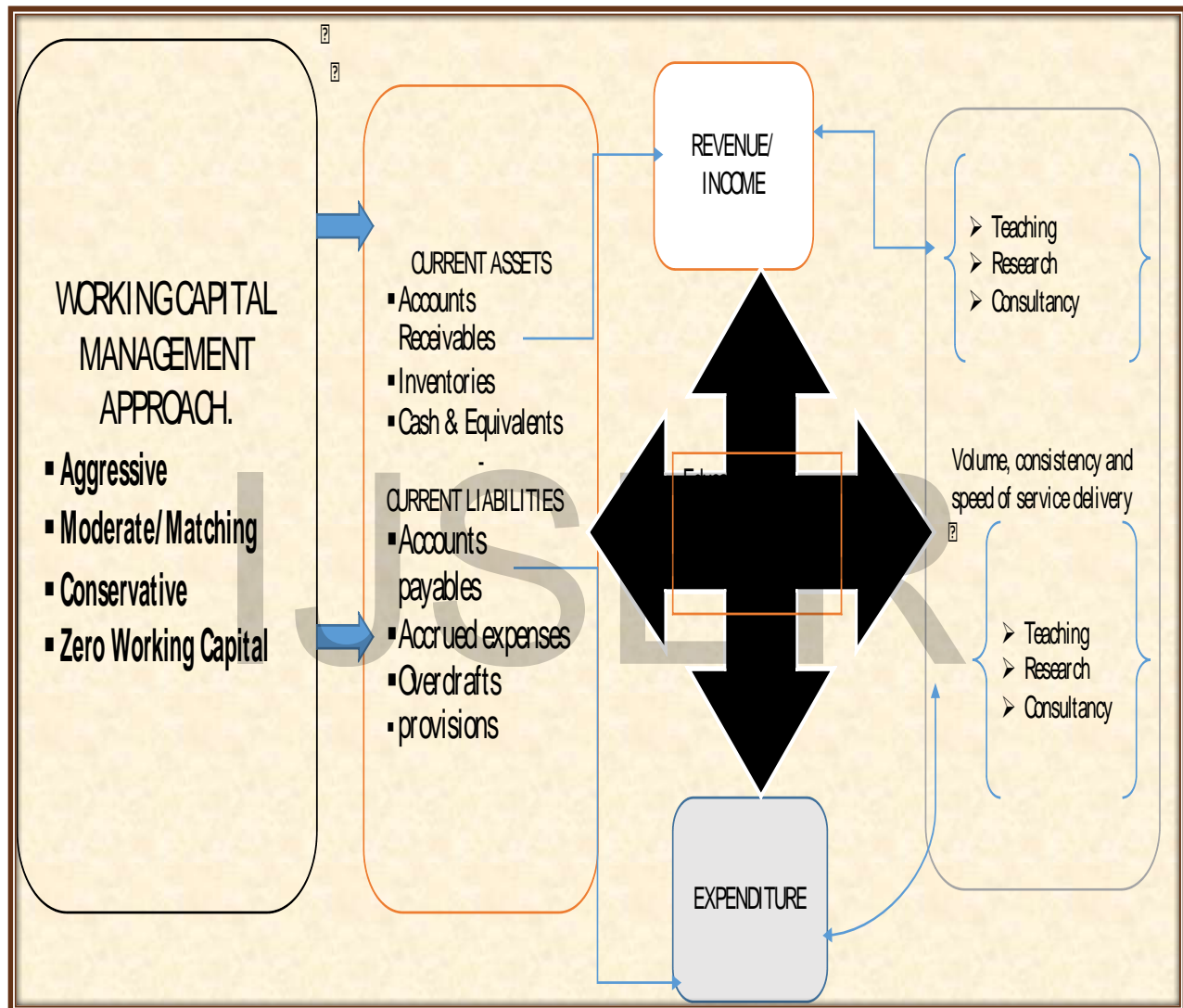
The main objective of this study is to investigate the working capital management challenges faced by higher education institutions with an intent to develop a strategic financial management model that provides a bench mark for improving the provision of core services of research, teaching and consultancy for both private and public universities in Zambia.

This study is guided by two theories: The systems and Institutional theories.

The General System Theory (GST) originally developed by Ludwig Von Bertalanffy, later on adapted by Robert Owens (1981) in education institutions. He sees General System Theory as

holistic system in regard to organizational management. In this theory, a system is a collection of parts unified to accomplish an overall goal. If one part of the system is removed, the nature of the system is changed as well.

A system can be looked at as having inputs, processes and outputs. Systems share feedback among each of these three aspects of the systems. In an organization input would include resources such as raw materials, finances, technologies and human resources.



Source: Own Research – Adapted from Systems Theory.

Figure 3.1 Conceptual frame work

From the conceptual framework model in figure 3.1 above, the independent variable (the predictor) is working capital management policy/approach with its interacting working capital components (current assets and current liabilities) while the dependent variables are the services delivered which include: Teaching, Research and Publications. These services/activities translate into and are the determinants of the volume of both expenditure and operating income of the institution and ultimately forms the basis of mission and focus of the institution. In this respect,

the working capital management strategy (independent variable) refers to an approach that management uses in manipulating the working capital components (current assets and current liabilities), which determines the rate and level of service delivery (teaching, research and consultancy - the dependent variables). This is guided by the systems theory.

The determinant factors, which are the working capital management strategies, are divided into four variables: The Aggressive, Matching, Conservative and Zero working capital strategies.

3.2.1 Aggressive Approach: Under this approach current assets are maintained just to meet the current liabilities without keeping any cushion for the variations in working capital needs. The core working capital is financed by long-term sources of capital, and seasonal variations are met through short-term borrowings. Adoption of this strategy will minimize the investment in net working capital and ultimately it lowers the cost of financing working capital.

Long-term funds = Fixed assets + Part of permanent current assets

Short-term funds = Part of permanent current assets + Total temporary current assets

3.2.2 Conservative Approach: Under this strategy, long-term financing covers more than the total requirement for working capital. The excess cash is invested in short-term marketable securities and when in need, these securities are sold-off in the market to meet the urgent requirements of working capital.

A conservative strategy suggests not to take any risk in working capital management and to carry high levels of current assets in relation to sales. Surplus current assets enable the firm to absorb sudden variations in sales, production plans, and procurement time without disrupting production plans. It requires to maintain a high level of working capital and it should be financed by long-term funds like share capital or long-term debt.

Financing Strategy: Long-term funds = Fixed assets + Total permanent current assets + Part of temporary current assets (Abbey, 2017).

3.2.3 Matching Approach: Under matching approach to financing working capital requirements of a firm, each asset in the balance sheet assets side would be offset with a financing instrument of the same approximate maturity. The basic objective of this method of financing is that the permanent component of current assets, and fixed assets would be met with long-term funds and the short-term or seasonal variations in current assets would be financed with short-term debt.

If the long-term funds are used for short-term needs of the firm, it can identify and take steps to correct the mismatch in financing. Efficient working capital management techniques are those that compress the operating cycle. The length of the operating cycle is equal to the sum of the lengths of the inventory period and the receivables period.

Just-in-time inventory management technique reduces carrying costs by slashing the time that goods are parked as inventories. To shorten the receivables period without necessarily reducing the credit period, corporate can offer trade discounts for prompt payment. This strategy is also called as hedging approach.

Financing Strategy: Long-term funds = Fixed assets + Total permanent current assets

Short-term funds = Total temporary current assets

3.2.4 Zero Working Capital Approach: This is one of the latest trends in working capital management. The idea is to have zero working capital i.e.; at all times the current assets shall equal the current liabilities.

Excess investment in current assets is avoided and firm meets its current liabilities out of the matching current assets. As current ratio is 1 and the quick ratio below 1, there may be apprehensions about the liquidity, but if all current assets are performing and are accounted at their realizable values, these fears are misplaced. The firm saves opportunity cost on excess investments in current assets and as bank cash credit limits are linked to the inventory levels, interest costs are also saved. There would be a self-imposed financial discipline on the firm to manage their activities within their current liabilities and current assets and there may not be a tendency to over borrow or divert funds.

The tendency to postpone current liability payments has to be curbed and working capital always maintained at zero. Zero working capital would call for a fine balancing act in Financial Management, and the success in this endeavor would get reflected in healthier bottom lines.

Total Current Assets = Total Current Liabilities or Total Current Assets – Total Current Liabilities = Zero

The institutional theory approach provides useful guidelines for analyzing organization-environment relationships with an emphasis on the social rules, expectations, norms, and values as the sources of pressure on organizations.

To this effect therefore, financing of operating assets takes into account decisions on tradeoffs between risk and liquidity. The larger the size of liquid assets, the less the likelihood of running out of cash. effective management of various components of operating assets, effective credit and collection procedures and inventory control have a bearing on the liquidity of an institution, all institutions require operating capital, only differing in composition of the components and the controls and policies implemented.

Smith (1980) observes that, although there is no universally accepted strategy for financing operating capital; there are principles that address short term financing policies. hence the model

as presented above. Operating efficiencies lead to optimal utilization of organizations resources. Written policies relating to working capital management components improve efficiency, proper and up to date recording of the working capital components requires adequate and competent staff who can prepare reports to management for planning and decision making, preparation of all functional and master budgets enables an organization to chart its way forward and also to identify areas that need attention in advance (Deloof, 2003). In line with this, Smith(1980) observed that the cash receipts and payment patterns also affect the working capital requirement of Institutions. If not properly synchronized, the institutions can experience cash deficits which affects their day to day operations. The rising prices means that higher amount of working capital will be needed (Smith, 1980).

3.2.5 Current assets

The major items that comprise current assets are cash and cash equivalents, short-term investments, accounts receivable, notes receivable and inventories.

Cash and cash equivalents consist of physical cash, checking accounts and short term investments such as certificates of deposit, government securities and money market mutual funds. Accounts receivable represent are amounts that are owed to a college or university for services provided (e.g. tuition, room and board) and are generally reported net of allowances for doubtful accounts, which are amounts the college or university expects that it is unlikely to collect. Notes receivable are amounts owed by other entities such as grants or loans receivable i.e., money that is owed to the university or college by granting agencies or for loans. Inventories at colleges and universities generally consist of publications and general merchandise.

3.2.6 Current liabilities

consist of liabilities that are due within a year. Examples of current liabilities are accounts payable, deferred revenue and the current portion of long-term liabilities. Accounts payable represent claims of other businesses or institutions for goods and services. Deferred revenue is revenue, which has been received for services that will be supplied at a future date i.e., in the next fiscal year (such as collective tuition revenue before the term starts). The current portion of long-term debt is the amount an institution expects to pay during the current year. Examples of non-current liabilities long-term debt, which consists of bonds, notes and capital leases as well as compensated absences and post-retirement health benefits. Compensated absences are liabilities for vacation and sick leave.

3.2.7 Revenues

Revenue is the inflow of resources to a university for the services it provides. Revenues at public

universities and colleges is divided into “operating revenues” and “non-operating” revenues. Operating revenues come primarily from student tuition and fees. Other sources of operating revenues are grants and contracts, sales, and auxiliaries.

Sales occur when a university provides some sort of a service to the community and charges for offering that service. Auxiliaries are operations that generate revenue that are unrelated to the core mission of a university such as parking, intercollegiate athletics, running a student union, food service or running a bookstore.

3.2.8 Expenses

Expenses for the most part represent an outflow of resources from a university (costs incurred). There are operating and non-operating expenses. Operating expenses include instructional expenses, expenses for public service, administrative services such as academic support and institutional support, plant operations and maintenance, scholarships and fellowships, expenses for auxiliary operations and depreciation. Operating expenses can be listed by functional categories such as those discussed above or they can be listed as natural categories such as wages and benefits or purchases of goods and services. It is often the case that the “natural classification,” which contains personnel costs, are not reported in the main financial statements, but are reported in the notes to the financial statements. Non-operating expenses consist primarily of interest paid on debt.

CHAPTER FOUR

RESEARCH DESIGN AND METHODOLOGY

4.0 Introduction

This research aims at investigating the working capital management challenges faced by institutions of higher learning in their quest to provide teaching, research and consultancy services and to propose ways in which working capital management can be improved. This chapter is focused on the methodology and procedures which were adopted in carrying out the study. The chapter is divided into the following sections:

Research Location,

Research Design,

Target Population,

Sampling Design,

Sample Population,

Instrumentation,

Reliability of Research Instruments,

Validity of Research Instruments,

Data Collection Procedures And

Methods of Data Analysis.

The research methodology applied in order to pursue this aim is presented in this chapter. As suggested by Saunders, Lewis and Thorn hill (2003, p.88), a combination of the inductive and deductive research approach will be used. Therefore, this research is based on mixed methods as they are considered to be highly reliable in obtaining knowledge in an objective environment (Neumann, 2000). This is also in line with the positivist research philosophy which considers the world to exist externally and to be measurable by objective scientific and mathematical methods (Smith, 2007; Reed, 2005; Easterby-Smith, Thorpe and Lowe, 1991; Comte, 1853).

In using the mixed methods approach one ensures triangulation of both quantitative and qualitative methods and data sources in a single study, convergence and corroboration of results from different methods on the same phenomenon (Borg and Gall, 1996; Creswell, 2007; Tashhskkori and Teddline in Maree, 2007).

4.1 Research location

The study is conducted at two public universities; Mulungushi University and the Copperbelt University which were purposively selected on the basis of their long standing history and logistical factors on the part of the researcher. The long standing history as a criterion took into consideration public universities that have been in existence for more than ten (10) years. For easy access and logistical convenience, the location was restricted to the two public universities in the central region of Zambia. Public universities in this study are deemed to be universities under the ownership of the Republic of Zambia.

4.2 Respondents

The two universities are managed by two vice chancellors, two deputy vice chancellors, two finance managers(bursars) and at 33 Deans of schools. Besides, the key personnel, there are 360 student representatives, 6 leaders of non-academic staff unions, 6 academic staff union leaders, 3 deans of student affairs.

Table 4.1 Tabulation of population

Respondents Category	Population
Vice chancellors	2
D/v/chancellors	2
Bursars	2
Accounting officers	12
Registrars	4
Deans of schools	21
Directors of distance education	3
Directors of research and publication	3
Deans of student affairs	2
Students representatives	100
Total respondents	152

4.4 Sampling design

Two public universities, namely: Mulungushi (MU), and Copperbelt University (CBU) were purposively sampled to be used as case studies.

The selected institutions in this study, represent 67% of population of respondents and this percentage was suitable for the study since it is bigger than the 10% recommended by many research experts. The sample of this study also comprised of the management cadres of only two universities, since it was possible to collect data from all the respondents (Ogula, 2005). Choosing institutions with a long standing history, of establishment provides insight into the potential differences in financial management structures within the sector.

Table 4.2 Summary of Sample Matrix

Respondents category	MU	CBU	Tota 1
Vice – chancellors	1	1	2
Deputy vice –chancellors	1	1	2
Registrars	2	2	4
Deans of schools	7	11	18
Bursars /Directors of finance	1	1	2
Accounting officers	3	3	6
Directors of distance education	1	1	2
Directors of research and publications	1	1	2
Deans of student affairs	1	1	2
Student representatives	60	40	100
	78	62	136

Source: Survey Data 2018/2019

4.5 Research methodology

Case study has been chosen as the research methodology because it covers both the phenomenon and the context (Stake, 2005; Yin, 2003, 48). Although the study is presented as a multiple case study, the first focus is the individual institution; This is designed to generate a comprehensive understanding of how each institution has evolved in the financial management practices, thereby bringing out the core issues from each of the cases (Stake, 2005). The adopted case study method is replicative to enable case comparison within and across. This is in line with Yin’s proposition which argues that the case study as a method of choice brings out both the convergences and/or divergences of the different institutions (Yin, 2009). The qualitative perspective of the study derives from the selected approach which covers, multiple sources of data in a natural setting.

Case study has been utilized and discussed by other scholars as a strategy of inquiry to understand the intricacies of management in HE. For example, Clark (2007) examines issues related to the entrepreneurial transformation of five European universities and generalizes the common elements of successful institutional transformation. Slaughter & Leslie (1999) discuss within case and cross case impact of globalization and marketization on the academic and administrative life in several universities in USA, UK, Canada and Australia. Both studies highlight the financial and financing management aspects as they affect the management of HEIs using case studies. Stake (2005, 445), argues that case studies could be used either to understand the specifics of a

particular case (intrinsic) or ‘to provide insight into an issue’ (instrumental). The case study method analyses a complete dimension of occurrences outlining before, during and after a cataclysmic event to ascertain what changed and what remained constant (Yin, 2009). As a method Yin (2003) and Stake (2005) argue that case study is more applicable when the phenomenon is not readily distinguishable from its context. Deriving from this perspective the cases in the current study encompass both the phenomenon of interest and its context as highlighted by Stake (2005) and Yin (2003). The researcher further notes that case studies identify and provide evidence to support the existence of specific variables and that these are existential and provide construct validity.

4.6 Research Design

According to Newing (2011) the term ‘research design’ is used both for the overall process described above (research methodology) and also, more specifically, for the research design structure. The latter is to do with how the data collection is structured. According to Lavrakas (2008), a research design is a general plan or strategy for conducting a research study to examine specific testable research questions of interest. Available research strategies include experiment, survey, case study, action research, grounded theory, ethnography and archival research. The choice of the research strategy is guided by the research question(s) and objective(s), the extent of existing knowledge, the amount of time and resources available as well as the philosophical underpinning (Sounders, Lewis and Thornhill, 2003). Schwab (2005), states that a research design establishes procedures to obtain cases for study and to determine how scores will be obtained from those cases.

The study adopted a descriptive survey design with constructivism (experiential learning) as its epistemology (ground of knowledge). Epistemology is the theory of knowledge embedded in the theoretical and conceptual perspective and is a way of understanding and explaining how “we know what we know” (Crotty, 1998).

Epistemology provides a philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are adequate and legitimate.

Constructivism epistemology holds that there is no objective truth waiting to be discovered. Truth and meaning comes into existence in and out of engagement with the realities of the world. There is no meaning without a mind. Different people may construct meaning differently even in relation to the same phenomena (Crotty, 1998).

According to Creswell (2003), the goal of research carried out in this spirit is to rely as much as possible on the participants’ views or perception of the situation being studied.

A descriptive survey focuses on the research design and is concerned with addressing the particular characteristics of a specific population of subjects, either at a fixed point in time or at varying times for comparative purposes. As such they do not share the emphasis in analytic designs upon control but they do share a concern to secure a representative sample of the relevant population. This is to ensure that any subsequent assessments of the attributes of that population are accurate.

4.7 Data Collection Method.

The data collection method takes a combination of approaches including questionnaire administration, elite interviews and document analysis. The choice of the approach between questionnaire administration and interview was determined after consultation with the respondents' work schedules.

4.8 Research instruments

In this research a set of instruments are employed to collect data. The following instruments are used:

4.8.1 Questionnaires; University Management Questionnaires for: 1] vice chancellors and deputy vice chancellors 2] Directors of research and publications, 3] Deans of schools/faculties, 4] Deans of student affairs, 5] Bursars and Accounting staff 6] Directors of distance education.

The questionnaires were preferred by the researcher to collect data because of the large group of respondents who were targeted from two universities within a short time, with little costs to incur. These tools were also used to gather data because of the research design employed in the study and to ease data analysis.

*4.8.2 Observation schedule-*This particular tool was used to gather data because it avoids bias, overcomes language barriers, covers events in real time and is contextual.

*4.8.3 Document analysis guide-*This instrument was utilized to collect data because documents are stable, unobtrusive, can be exact, broad coverage-in time events and settings. Documents consulted in this study included: Financial statements (for the years 2013 to 2016/2017) and financial regulations. Documents are not only cheap but also easy to access and analyze. The three instruments are employed to gather data in this study for triangulation purposes.

The tools were also suitable for collecting both quantitative and qualitative data as per the research design of the study.

4.9 Data Analysis procedures

Exploratory data analysis technique is used which include the use of diagrams, charts and tables to give meaning to the data collected. From this, the study detects patterns, trends and key

influencers of working capital management practices in order to make it possible to question the data and information produced in a way that answers the research questions. The exploratory data analysis according to Saunders et al (2009) allows for flexibility in introducing previously unplanned analyses to respond to new findings which can give way for the researcher to look for and describe other statistical relationships in the data which the study was not initially designed to test. Spss and Microsoft Excel are the software used for the analysis of the data generated. The result from the exploratory analysis are subjected to evaluation and synthesizing of ideas, summarizing, categorizing and the structuring of meanings from the data. In the process of analyzing the data, the analysis is structured into the following main blocks of issues. Firstly, the working capital management practices of each of the four major working capital practices are established from the responses of the institutions. Secondly, the factors that are believed to influence the choice of the WCM policies employed by these institutions are confirmed/validated or debunked based on the response data from the institutions. Thirdly, the challenges faced by management in relation to service delivery. Finally, the relationship between the challenges and the working capital management practices are established.

4.10 Ethical Considerations

A lot of ethical issues are taken into consideration before, during and after the study. All articles, journals, books among others that were used in this study were properly referenced. Before the questionnaires were administered and the officials interviewed, letters were sent to the registrars of the universities for permission to be granted and also to guarantee for the privacy of the respondents to the questionnaire. Managers (Deputy Vice Chancellors, Deans and Directors) were asked if they had the luxury of time to fill the questionnaires. More importantly, the purpose for the research was explained to respondents in the introductory part of the questionnaire.

4.11 Validity and reliability of the research

Validity of a research can be achieved in two stages. Internal and external validity. Internal validity is accuracy or the quality of the research work, external validity is the degree at which results or findings can be generalized (Yin, 2008).

To ascertain the validity of the research instruments, a pilot test was carried out on discretely selected group. This helped in validating both the content and the research instruments. The study used both face and content validity. Face validity was actually done at face value. As a check on face validity, test/survey items were sent to the pilot group to obtain suggestions for modification. Content validity draws an inference from test scores to a large domain of items similar to those on the test (Polkinghorne, 1988). Content validity is concerned with sample population

representativeness, that is, the knowledge and skills covered by the test items should be representative of the larger domain of knowledge and skills.

Given the fact that questionnaires were administered personally, the data collection method would accurately measure what they were intended to measure and that it was certain that the research findings would be what they professed to be about. Furthermore, the theoretical framework developed was so broad in sense as to validate the instruments internally. The respondent's answers helped the researcher to observe the degree of external validity. The theoretical framework which encompassed certain theories made it possible to validate the survey as done in other similar research with in the domain of the the study. Hence it can be inferred that the survey is validated to a greater extent as it has been developed from several research works.

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CHAPTER FIVE -RESEARCH FINDINGS

5.0 Introduction

This chapter presents the data analysis of the findings on the data collected from respondents. The chapter is organized under sub-sections guided by the research questions. The study deploys various statistical tools for identifying the strategies employed in managing working capital as they relate with consistent and sustainable service provision for public universities in Zambia. For this purpose, various statistical analytical tools like regression analysis, and correlation models are deployed to examine the relationship between working capital practices and; Teaching, Research and Consultancy in public universities.

The main objective of the study was to investigate the working capital management challenges faced by higher education institutions with a view to developing a working capital management conceptual framework model that can lead to improvement in the provision of core services of research, teaching and consultancy in universities in Zambia.

The general business problem addressed in this study is that institutions of higher learning in Zambia fail to provide adequate core services because of inappropriate working capital management policies and an inability to recognize future trends and potential operational risks, resulting from these inadequate working capital management strategies. This is in line with De Fontnovelle et al (2003) who asserted that seizing opportunities quickly reduces the risk of start-up expense and accelerates the return on investment; moving quickly helps campuses and their partners fill voids and market needs.

This study is motivated by the proposition that successful university service provision is among other things, made possible by the integration of appropriate working capital management policies in the strategic operations of the institutions. The discussion on management of working capital is further necessitated by the prevailing economic down turn in Zambia compounded by the fact that very little research has been carried out to discuss the organizational working capital management policy specifically in the administration of higher education in Zambia despite the significant role that working capital management plays in the success of any organization.

5.0.1 Primary objective

The main objective of this study was to investigate the working capital management challenges faced by higher education institutions with an intent to develop a working capital conceptual framework model suitable for the provision of core services of Research, Teaching and Consultancy for public universities in Zambia.

5.0.2 Secondary Objectives

Further to the foregoing main objective, the study sought:

- To investigate the WCM policies, practices and techniques currently employed by public universities in Zambia.
- To investigate the challenges faced by administrators of education and research services in public universities in Zambia.
- To find out if there is any relationship between the working capital management strategies and the education administration challenges (service provision).
- To develop a conceptual framework model for and recommend the optimum working capital management policies that will enhance core service delivery by public universities.

5.1.1 Data Collection Procedure

Data were collected in three phases:

Phase One: The researcher obtained an introductory letter from Africa Research University which was attached to the researcher's letter requesting for permission for data collection from the university management of each case institution. Upon authorization to collect data from the management through the respective offices of the Registrars, the researcher then paid a visit to the two public universities for familiarization and questionnaire distribution purposes.

Phase Two: Observations were carried out by the researcher who went round the campuses and business centre of each university according to the contents of the spot check observation form.

Phase Three: The researcher arranged for interviews with the bursars, deans and directors of schools. These officers were those given questionnaires before. Finally, the researcher interviewed the managers in boarding and accommodation departments in the two universities under study. The researcher took seven months to complete the whole data collection exercise.

5.1.2 Method of Data Analysis

After the data had been collected, the researcher turned to the task of analyzing. The analysis of data required a number of closely related operations such as establishment of categories, the application of these categories to raw data through coding, tabulation and then drawing statistical

inferences as guided by Kothari, (2005). The researcher ensured that the instruments were double-checked for completeness. The information was summarized and statistics derived. The data were subjected to descriptive analysis encompassing a range of both qualitative and quantitative treatments. Statistical Package for Social Scientists (SPSS) was applied in data analysis. Qualitative data were analyzed by establishing the categories and themes, relationships/patterns and conclusions in line with the study objectives. Descriptive analysis was used because it enables the researcher to inspect the variables in their areas of study. Tabulation enabled the researcher to categorize the subjects in this research. Tabulation was a part of the technical procedure wherein the classified data were put in the form of tables. The frequencies enhanced analysis of the continuous variables. Data were presented by use of tables, frequencies, pie-charts and bar graphs where appropriate and finally making inference about the whole population. The data analysis frame work for each objective is presented in table 5-1

Table 5-1 Data Analysis Framework

Research objectives	Data analysis procedure
To investigate the various WCM policies, practices and techniques currently employed by public universities in Zambia.	Frequency counts, data collected were both qualitative and quantitative.
To find out if there is any relationship between the working capital management strategies and the education administration challenges (service provision)	correlational analysis
To investigate the challenges faced by administrators of education and research services in public universities in Zambia.	Frequency counts, data Collected were Both qualitative & quantitative.
To develop a conceptual framework model for and recommend the optimum working capital management policies that will enhance core service delivery by public universities	Correlational analysis, data collected were both quantitative and qualitative.

Source: Own Research

5.1.3 Document analysis

The following documents were collected and analyzed according to research objectives and questions:

Strategic Plan for Each University,
Financial Statements,

Annual Reports,
Enrolment Records,
Auditor Generals' Reports On Parastatals and Universities,
Research Works for Researchers,
Graduation Booklets for Each University,
University Calendars and Teaching Timetables for Each Schools.

From the financial statements, only data related to working capital management were extracted. The net operating cash flows were then compared with the average current liabilities in each of the years under review to determine the ability of the institution to settle its short term obligations from the cash resources. The five-year period also helped in establishing the trends and patterns in the financial management of the institutions.

5.1.4 Data presentation

This segment of the study presents the data findings in the two institutions on a case by case basis. The data is brought together from the document review and the synthesis of the questionnaires.

The structural breakdown of the themes for each case is derived from two key areas:

The thematic questions informed by the review of literature and used to guide the semi structured interviews and the categorization of responses from the research informants. The informants have three basic categories, namely:

- The university executives,
- The middle managers and
- The student body.

The primary factor in the sample choice was their functional responsibility within the institution.

5.2 Case One -The Copperbelt University(CBU).

5.2.0. Background

The Copperbelt University is the second largest public university in Zambia, which was established by an Act of Parliament No. 19 of 1987 and its continued existence is provided for under the Higher Education Act No.4 of 2013. According to this Act the principal activities of the University are to:

Provide university education, promote research and advancement of learning, disseminate knowledge and, hold out to all persons, who meet all the stipulated academic or professional qualifications, the opportunity of acquiring university education.

The University offers diverse programmes in the schools of Business, Built Environment, Engineering, Natural Sciences, Medicine, Mining, Natural Resource Management and Peace/Conflict studies at both undergraduate and postgraduate levels. The mission of the University as enshrined in its working policy documents is to contribute to the development and sustenance of the well-being of the people of Zambia through the provision of flexible, innovative, entrepreneurial and all-inclusive programmes of teaching, learning, research and service (CBU strategic plan 2014-2018).

The University offers a multi-disciplinary approach to teaching and research with a focus on applied dimension in conformity with its shared values which include creativity, innovativeness and entrepreneurship. Through these various schools, the University engages and applies knowledge to resolve local, external, national and global problems.

5.2.1 Education Administration Data

This section of the study presents pertinent features and indicators in education administration and service provision.

Table 5-2 Enrolments for the past five years

Year	Enrolment
2013	9,180
2014	9,323
2015	9,596
2016	11,271
2017/2018	9,593

Source: University Records 2018/19

Table 5-2 shows that the enrolment for the past five years had been growing steadily with a higher student population growth recorded in the 2016 academic year from 9,596 in 2015 to 11,271 representing 18% increase. From 2013 to 2014 enrolments increased by 143 representing a 2% increase, while 2014 to 2015 recorded an enrolment increase of 273 representing a 3%. It is also worth noting that 90% of the total student population at the copperbelt university are at least on 75% government bursary. This forms a greater portion of the school's source of income.

Table 5-3. 2018 Enrolment by School, Gender and Staff Establishments.

School	Lecturers	Student enrolments			Ratio
		Female	Male	Total	
1.School of Business	39	816	1,097	1,913	1:49
2.School of Built Environment	39	198	435	633	1:16
3.School of Engineering	38	174	991	1,165	1:30
4.School of Maths and Natural Science.	52	846	1488	2,334	1:45

5.School of Mines and Mineral Sc.	46	265	599	864	1:19
6.School of Natural Resources	33	85	296	381	1:12
7.School of Medicine	36	447	816	1,236	1:34
8.School of Graduate Studies	54	158	42	200	1:4
9.School of ICT	10	71	183	253	1:25
10.Directorate of Distance Education and Open Learning.	07	94	160	254	1:34
11.Dagharmskdjot Institute for Peace and Conflict Studies.	14	40	104	144	1:10
Totals	368	3,129	6,464	9,593	1:26

Source: Own Research 2018/2019

Table 5-3 above shows the population distribution of teaching staff against the enrolments per school/Institute for the academic year ended 2017/2018. This provides background information about the demand for the university services and human resource capacity for core service delivery. According to the data, the university had a total of 368 lecturers spread across the 11 schools. This is against a total student population of 9,593 full time students translating to an average ratio of one (1) lecturer to twenty-six (26) students (1:26). This student/ staff ratio indicates a general strength of teaching force to students in the university. This ratio shows the number of academic staff for the number of full-time students on campus. Though the indicator provides a ratio of the number of required academic staff to students, managers did not have the mandate to immediately take actions to improve the ratio due to financial constraints and recruitment timing.

Table 5-4 Mode of funding for study programme.

N=30 Students (20 Undergraduate and 10 Post Graduate students)

Sponsor	N	%
Student Loan Scheme/Bursary	18	60
Parents/ Guardians	2	7
Community/University/Organization	4	13
Self	6	20

Source: Own Research 2018/2019

Table 5-4 above shows the distribution of students according to the mode of education sponsorship. The study revealed that the majority of the students enrolled at CBU were on bursary/loan scheme. This is represented by 60% of the sampled student population. This implies that 75% of the educational costs were met on behalf of the student by the government while the student paid the 25%. For the students on 100% bursary, the fees and allowances were fully paid for by the government. Bursary and loan scheme were only applicable to undergraduate students. All the post graduate students were either on self or organizational sponsorship.

5.2.3 Sources of Funding/Income.

According to the university records, the sources of funds for the University consist of:

- Funds appropriated by the Parliament; and
- Funds paid to the public higher education institution by way of fees, subscription, contributions, grants or donations; and otherwise vest in or accrue to the public higher education institution.

The Zambian University Act also provides that the university shall accept monies by way of grant or donations from any source in Zambia and, with the approval of the Minister, from any source outside Zambia.

CBU’s operations are funded from two broad categories of income: government grants and internally generated income. This section of the report shows the annual percentage contribution of each income source to the total income.

Table 5-5 Streams of Income for CBU

Yr.	Government Grants(ZMW)	Tuition fees (ZMW)	Accommodation (ZMW)	Others (ZMW)	Total (ZMW)
2012	107,304,107	93,304,000	4,337,000	5,165,000	210,110,107
2013	60,018,000	159,294,000	12,290,000	6,454,000	238,056,000
2014	83,370,000	140,623,000	5,627,000	4,840,000	234,460,000
2015	63,787,000	128,635,000	6,185,000	11,701,000	210,308,000
2016	72,472,000	201,635,000	5,811,000	11,174,000	291,092,000
2017	59,923,908	137,548,000	5,811,000	8,478,000	211,760,908
Totals	446,875,015	861,039,000	40,061,000	47,812,000	1,395,787,015

Source: Own Research 2018/2019.

Table 5-5 shows the streams of internally generated income for the university in five years as captured from the documents availed. This data was meant to provide the premise for appreciating the revenue capability of the university and understanding of the actual financial situation faced by the university management. Tuition fees were the major source of income accounting for a total of ZMW861,039,000 followed by Government grants with a total of ZMW446,875,015 in six years. The period average income from tuition fees amounted to ZMW143,506,500 and Government grants amounted to ZMW74,479,169.

Table 5-6 Percentage Distribution of the Sources of Funding

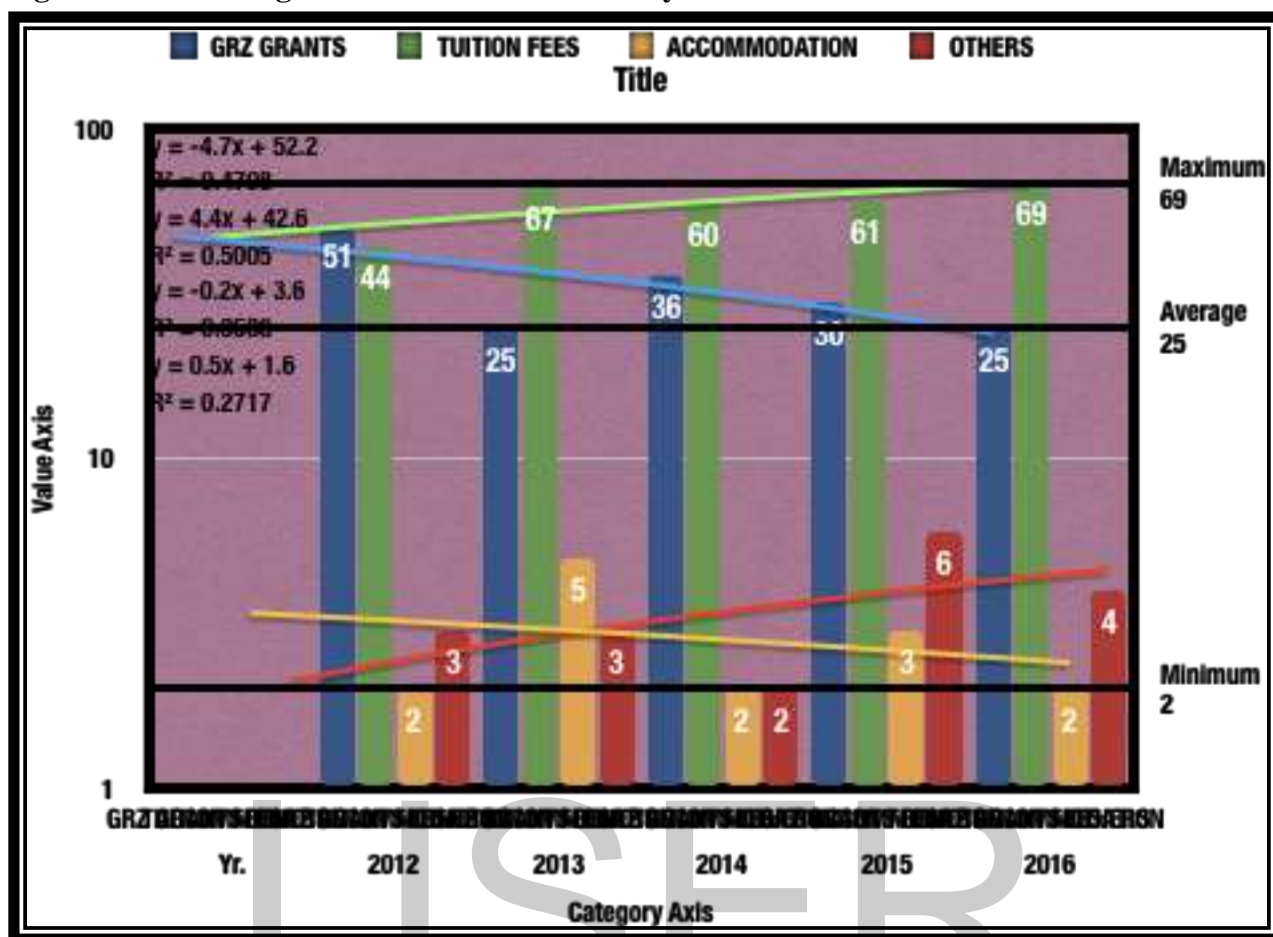
Percentage contribution of income sources by year of operation					
Source/year	2013	2014	2015	2016	Mean
Government Grants	25%	36%	30%	25%	29
Tuition	64%	56%	56%	65%	60
Boarding/Accommodation	5%	2%	3%	4%	4
Other student fees	2%	2%	5%	2%	3

Consultancy	0%	2%	0.30%	2.30%	1
Commercial service fees	3%	2%	1%	5.70%	3

Source: Own Research 2018/2019

Table 5-6 shows that the major source of income for CBU was tuition fees paid by students represented by an average contribution of 60%; followed by grants with an average contribution of 29%. The university had diversity of income sources which included other student fees such as library fees, registration/application fees. This source of income contributed an average of 3% in the five-year period under review. In 2014 the university recorded a 2% income from consultancy. This record about consultancy shows that the university was not doing much in this area. Thus only 1% period average income was recorded from this source. Commercial services on the other hand made a period average income contribution to the university of 3% though the trend was downward. Diversity of funding sources was used as a criterion in financial performance measurement in universities because signals a kind of capability and competitiveness of universities in acquiring diverse sources of financial resources. It is an indicator of deliberate strategy for universities to be self-sufficient and secure in funds sourcing. The indicator of third-party funding measures the percentages of funding to universities from competitive funding sources. Third-party funding may include funds from private companies, research councils and donors.

Figure 5-2 Percentage Contribution of Income by Source



Source: Own Research 2018/2019

As shown in figure 5-2, the Copperbelt university subsists on Six sources of funding/income for its Operations. These are: Tuition fees which accounted for an average of 60% of the total annual income. This is followed by grants, accounting for an average of 29% in four years. The picture shows that 4% was generated from boarding in form of accommodation service fees while other student fees and commercial services accounted for an average of 3% each. Consultancy was the least with an average contribution of 1%.

Table 5- 7 Estimates of revenues from national budgetary provisions

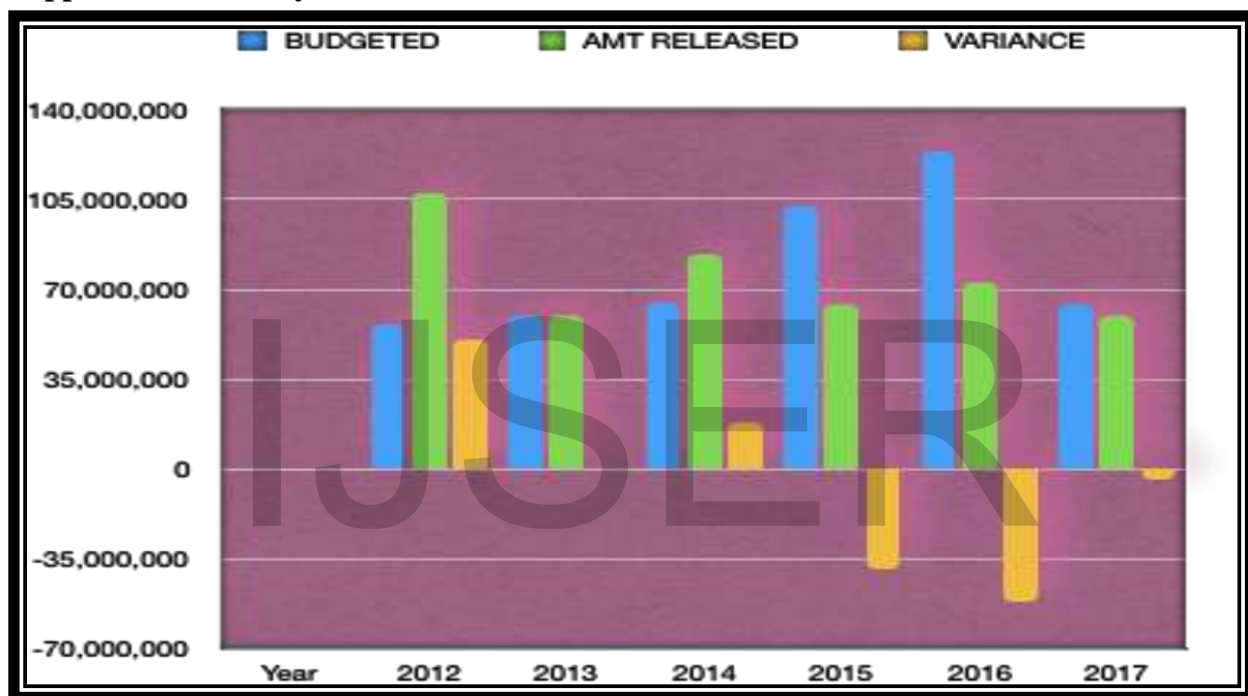
Year	Budget ZMK	Released ZMK	Variance ZMK
2012	56,408,107	107,304,107	50,896,000
2013	60,018,225	60,018,000	(225)
2014	64,819,684	83,370,000	18,550,316
2015	102,820,000	63,787,000	(39,033,000)
2016	123,820,000	72,472,000	(51,348,000)

2017	63,787,483	59,923,908	(3,863,575)
Total	471,673,499	446,875,015	-24798484

Source: Auditor General’s Report 2014/2017.

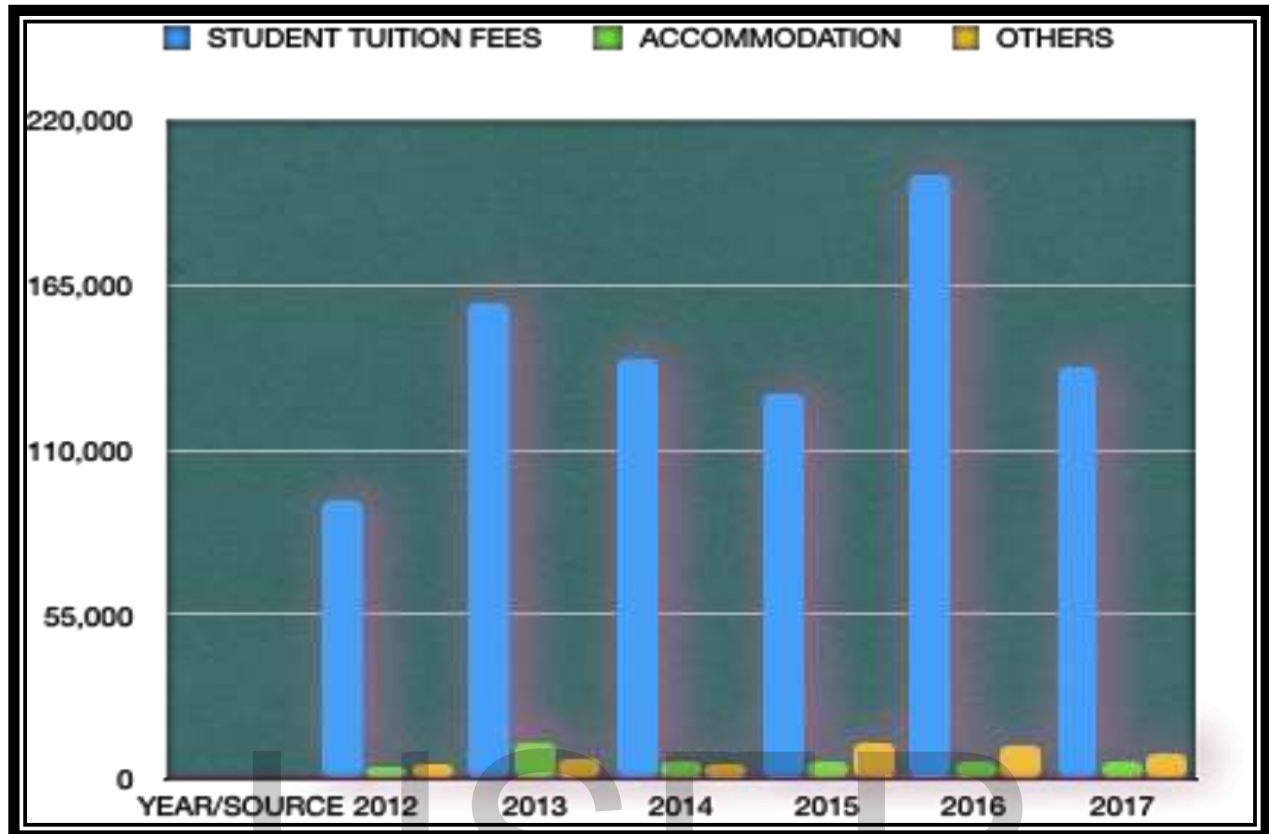
Table 5-7 shows the estimates of revenues from the national budgetary provisions in the six years to 2017. In these Estimates of budgetary provisions of Revenue for the financial years ended 31st, December 2012, 2013 and 2014, the auditor’s report revealed that provisions in amounts totaling K181,246,016 were made to cater for various activities against which amounts totaling K250,692,107 were released resulting in an over funding of K69,446,091.

Figure 5-3 Graphical Presentation of Governments’ Budgetary Allocations to the Copperbelt University



Source: Own Research 2018/2019

Figure 5-4 percentage distribution of internally generated income-CBU



Source: Own Research 2018/2019

Figure 5-4 shows the percentage distribution of internally generated income for six years for the copperbelt university. The graph depicts student fees as the major source of income for the university. The income from accommodation and others appear to be quite uncertain. Since the majority of the students are on government bursary, it means that there is still some indirect dependence on government for this source of income. The university does not have control on when the fees can be collected.

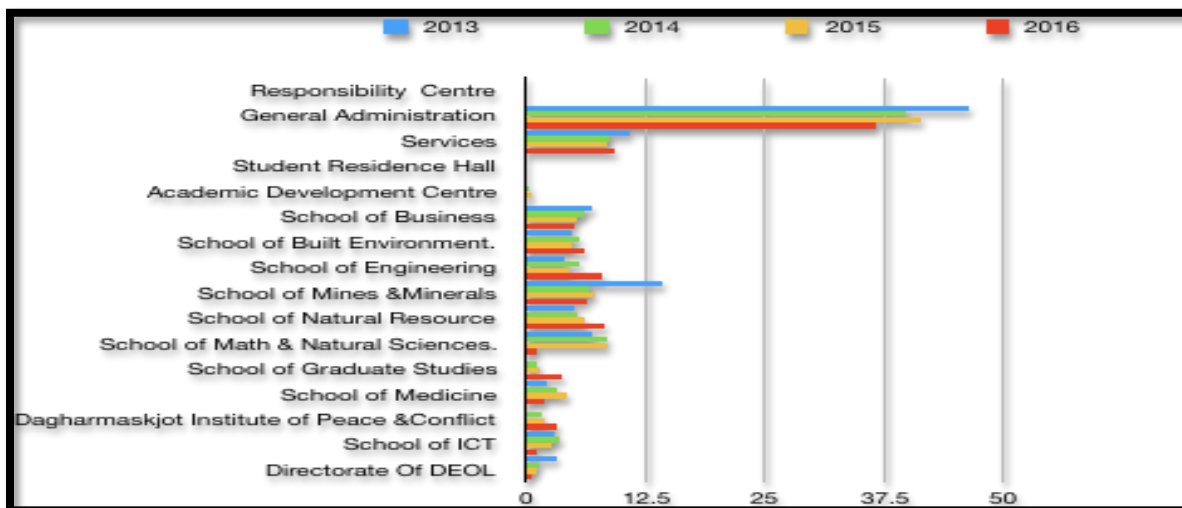
Table:5-8 Distribution of operating expenses.

DISTRIBUTION OF MAJOR OPERATING EXPENDITURE					
Responsibility Centre	2013 (%)	2014 (%)	2015 (%)	2016 (%)	Aver (%)
General Administration	46.5	39.9	41.4	36.7	41.1
Services	10.9	8.73	8.48	9.28	9.4
Student Residence Hall	0.2	0.2	0.22	0.22	0.2
Academic Development Centre	0	0.37	0.5	0.13	0.3
School of Business	6.97	5.99	5.28	4.98	5.8
School of Built Environment.	4.86	5.44	4.87	6.1	5.3
School of Engineering	3.94	5.5	4.59	7.85	5.5
School of Mines & Minerals	14.3	6.58	7.04	6.4	8.6
School of Natural Resource	5.01	5.33	6.14	8.1	6.12
School of Math & Natural Sciences.	6.91	8.43	8.55	1.02	6.2
School of Graduate Studies	0	1.1	1.27	3.79	1.5
School of Medicine	2.08	3.1	4.1	1.84	2.8
Dagharmskjot Institute of Peace & Conflict studies	0	1.48	1.77	3.18	1.6
School of ICT	2.89	3.51	2.59	0.95	2.5
Directorate Of DEOL	3.14	1.4	0.98	0.42	1.5

Source: Computed from Survey Data 2018/2019

Table 5-8 above shows the distribution of operating expenses across the functional areas of the University. For the 4 years' period from 2013 to 2016 data shows that the university was spending more in general administration. This is indicated by a mean expenditure of 41.1%. This high concentration of expenditure on general administration was explained by the centralized system of managing resources. Next to general administration is service expenses and school of mines at 9% and schools of natural resources and Mathematics & natural sciences recorded 6% period average. The schools of built environment and business stand next in ranks at 5%. The rest of the academic units were trailing below 5% as shown on the table.

Figure 5-6 percentage distribution of expenditure to functional areas



Source: Own Research 2018/2019

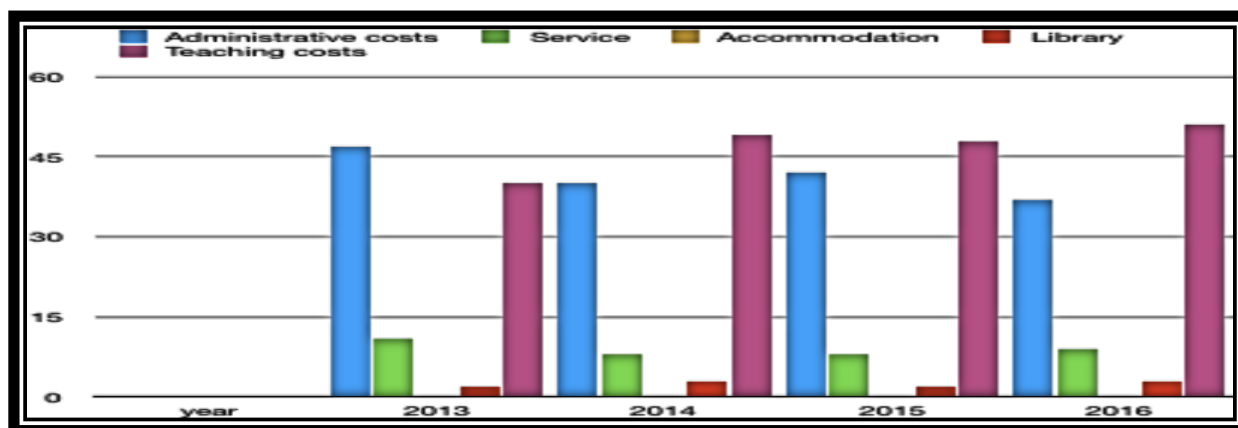
Table 5-9 Expenditure allocation rates

year	Administrative costs	Service costs	Library costs	Teaching costs
2013	47	11	2	40
2014	40	8	3	49
2015	42	8	2	48
2016	37	9	3	51

Source: University financial records for the years 2013 to 2016 availed in the 2018/2019 study.

Table 5-9 shows the percentage allocation of expenses to the main functional areas as drawn from the financial statements in the four years’ period under review. The general trend in the four years shows high percentage allocation of resources to administrative and teaching activities. This is in line with mission of the university.

Figure 5-7 Graphical Presentation of the Ratios of Major Administrative Costs



Source: Own Research 2018/2019

Table 5-10 Student cost statistics and expenditure allocation rates for the period 2013 - 2016.

Year	Population	Total Annual Cost Per Student(ZWM)	Average Fees Per Student(ZWM)	Deficit Per Student(ZWM)
2013	9,180	38,000	17,000	(21,000) 45%
2014	9,323	43,000	18,000	(25,000) 42%
2015	9,596	45,000	18,000	(27,000) 60%
2016	11,271	38,000	20,000	(18,000) 53%
Average	9,843	41,000	18,300	(22,800) 50%

Source: University Financial Statements Available for The Study of 2018/2019

Table 5-10 above shows distribution of computation of annual costs per student in the four years as depicted by the CBU management accounting data. In the four years under review, the university recorded an average enrolment of 9,843; an average annual cost per student of ZWM41,000 but charged on average ZWM18,000 per student translating to an average deficit of ZWM22,800 per student which represents 50% deficit average. This implied that, the university needed an additional 50% funding per student to mitigate the cost. In some instances, some activities were cut off thus depriving the student an average of 50% of the services embedded in the deficit.

5.2.4 Document Analysis

Financial Data.

The Copperbelt University being a public university does publish its audited financial statements. Financial Data availed for the study was for the years 2012 to 2016. At the time of the study, the 2017 and 2018 were still in progress. For the purpose of this study only extracts of financial statements relating to working capital and daily operations of the university were taken.

Operating Expenses as a Percentage of Revenue

The Operating Expense Ratio (OER) is a measure of what it costs to operate a business compared to the income that a business generates. It is an important determinant of the operational efficiency of an organization. A ratio of more than 100% denotes operational inefficiency. The ratios for the University for 2012 to 2016 were as shown in the table 5-11 below:

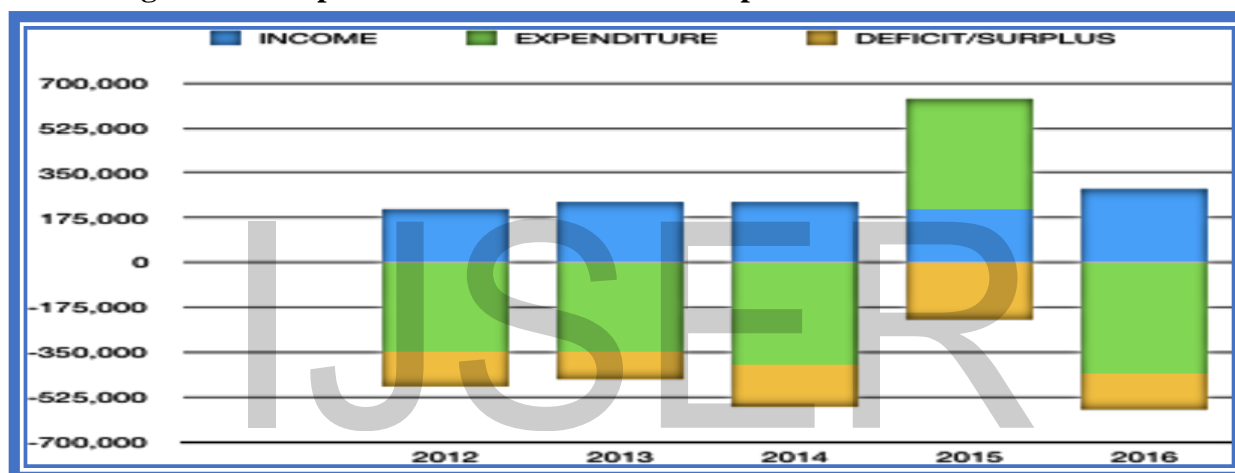
Table: 5-11 Statements of Comprehensive Income

	2016 (000)	2015 (000)	2014 (000)	2013 (000)	2012 (000)
Income	289,788	210,308	234,945	238,353	210,110
Expenditure	(432,636)	431,295	(398,538)	(345,912)	(345,912)
Deficit	(142,848)	(221,657)	(163,593)	(107,559)	(135,802)
Deficit as % of income.	49%	105%	70%	45%	65%

Source: Own Research 2018/19

Table 5-11 shows the Statements of Comprehensive Income for the financial year ended 31st December 2012, 2013, 2014 ,2015 and 2016. The study took 2012 as the base year for the study on CBU because the updated records to cover the five-year period under study were only available up to 2016. The 2017 2018 financial statements were not availed for the study. The statement of comprehensive income and expenditure for the five-year period 2012 to 2016 reveals a sustained deficit over the period. The university was operating under difficult financial conditions. The University made losses amounting to ZWM 135,802 representing 65% in 2012 which slightly improved to 45% (ZWM107,559) in 2013 but increased to 70% (ZWM163,593) in 2014. The deficit was the worst in 2015 when the university recorded 105%(221,657) but was managed in 2016 when it dropped to 49%(ZWM 142,848).

Figure 5-8 Graphical Presentation of the Comprehensive Income Statement -CBU



Source: Own Research 2018/2019

Table 5-10 Ratio of Staff Costs to Income

	2016	2015	2014	2013	2012
Income	289,788	210,308	234,945	238,353	210,587
Total Staff costs	312,631	312,661	285,460	234,443	182,957
Staff Cost as % of Revenue	108%	149%	122%	98%	87%

Source: Own Research 2018/19

The university’s total income in 2012 was ZWM210,587,000 out of which amounts totaling k182,957,000 representing 87% went towards meeting staff costs. In 2013, this percentage increased to 98% with staff costs reaching ZWM234,443,000 while total income was ZWM 238,353,000. In 2014, staff costs surpassed total income by k50,515,000 being k285,460,000 while total income was k234,945,000. This translated into a staff costs to income ratio of 122% in

2014. It was observed that although income reduced in 2014 from ZMW 238,353,000 generated in 2013 to ZMW 234,945,000 in 2014, staff costs incurred increased by 17.9 % from ZMW 234,443,000 in 2013 to k285,460,000 in 2014.

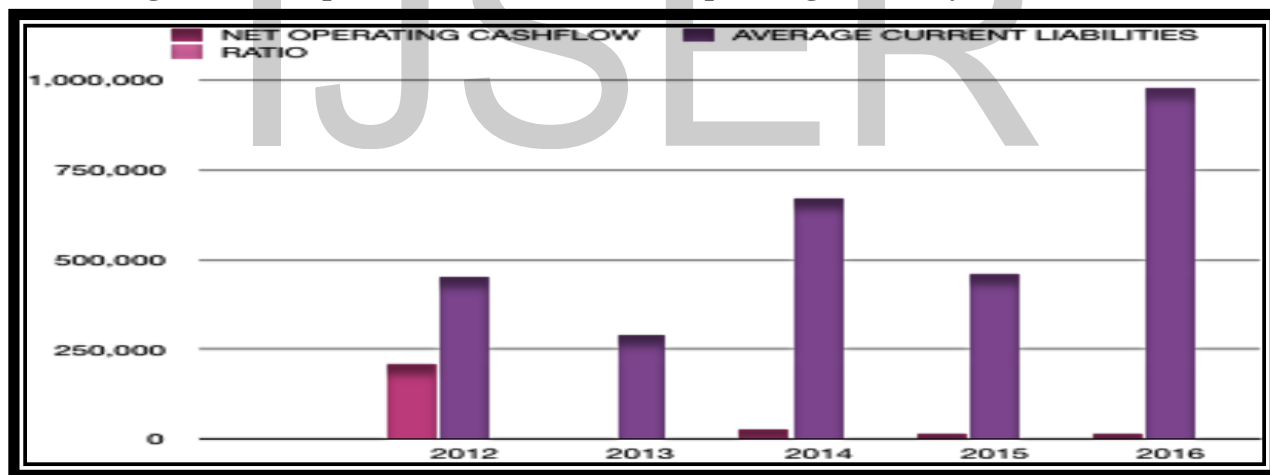
Table 5-11 Ratio of Operation Cash Flows to Average Current Liabilities.

Ratio/year	2012 (ZMW000)	2013 (ZMW000)	2014 (ZMW000)	2015 (ZMW000)	2016 (ZMW000)
Operating cash flow	210,587	1,401	28,047	15,359	13,712
Average Current liabilities	450,563	289,313	671,251	460,145	979,712
Ratio	46.74%	0.5%	4.2%	3.3%	1.4%

Source: Own Research 2018/2019

Table 5-11 shows the ratios computed from the statements of financial position and cash flows. The operating cash flow were matched against the net current liabilities to determine the ability of the institution to meet its daily cash needs and obligations. The current ratios were 0.2:1 in 2013 and 2014 and continued to fall in 2015 and 2016 at 0.1:1 and 0.04:1 respectively.

Figure 5-9 Graphical Presentation of the Operating Efficiency



Source: Own Research 2018/2019

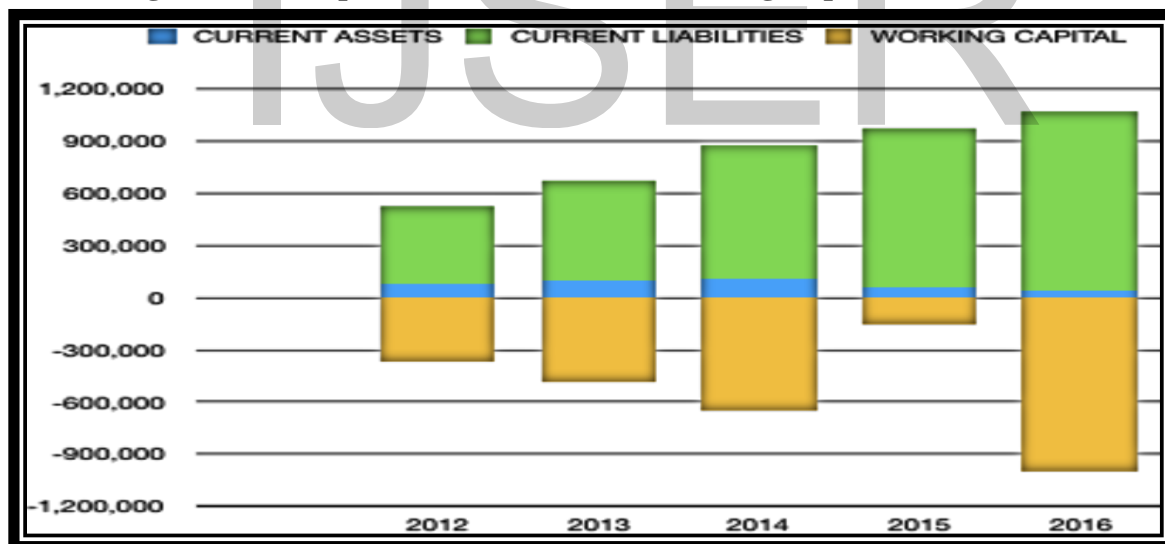
Table 5-12 Liquidity /Working Capital

	2016 (ZMW000)	2015 (ZMW000)	2014 (ZMW 000)	2013 (ZMW 000)	2012 (ZMW000)
Current assets	37,128	56,774	111,947	95,952	81,219
Current liabilities	1,039,134	920,290	763,876	578,625	450,563
Working Capital	(1002006)	(156414)	(651,929)	(482,673)	(369,344)
liquidity	0.04:1	0.1:1	0:2:1	0.2:1	0.2:1

Source: Own Research 2018/2019

Table 5-12 shows the calculations of working capital for the five years' period under review. The trend shows a sustained negative working capital situation. The current liabilities have for the period been in excess over current assets. In 2012, the current assets were exceeded by ZMW369,344 and the amount maintained an increasing trend with 2014 recording the deepest financial distress. 2015 and 2016 the trend shows a decreasing pattern with negative working reducing by ZWM 54,000 from the ZWM156,614 in 2015 to ZWM1002006 in 2016. The current ratio was below the recommended ratio of 1.5 for the five years under review. This implied that the University had no capacity to meet its short term obligations.

Figure 5-11 Graphical Presentation Of Working Capital Position



Source: Own Research 2018/2019

5.2.5 Trend Analysis of Working Capital Components for CBU

Table 5-13 Percentage of Working Capital Held in Current Assets

Year	Inventories	Accounts receivables	Cash & cash equivalents	Others
2013	3%	83%	14%	-
2014	2%	78%	11%	9%
2015	2%	59%	39%	-
2016	6.4%	42%	52.3%	-
2017	6%	49%	45.4%	-

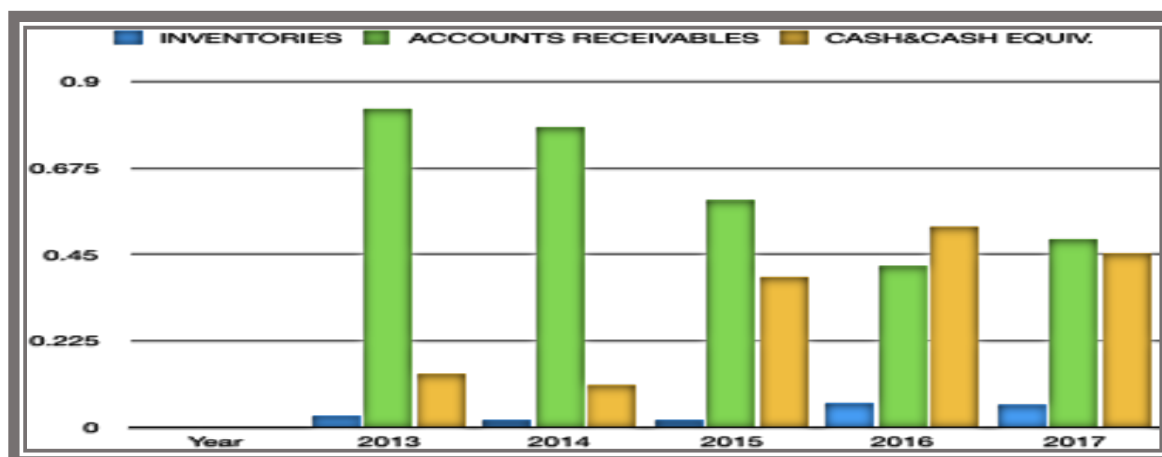
Source: Own Research 2018/19

The trend in current assets distribution as depicted in table 5-13, shows that a greater percentage of current assets were held in accounts receivables ranging between 40% and 83% in the five year period. This was followed by cash and cash equivalents with a range of 10% and 53%. The university held inventory in the range of 2% and 6% in the five- year period under review.

In 2013, 3% of current assets were held in Inventory, 14% in Cash and Cash equivalents and 83% in Accounts Receivables. In the following year, 2014, there was a decrease in the values held in current all the three items of current assets; Inventories reduced by 1% to 2%, cash and cash equivalents by 3% to 11% and accounts receivables by 5% to 78%. 9% of current assets was held in other current assets. This investment in other current assets was made only in 2014. in 2015 Inventory remained static at 2% while Accounts Receivables reduced further by 19% which resulted in an increase in cash and cash equivalent by 28% to 39%. In 2016, Inventory increased by 4.4% to 6.4% while Accounts Receivables recorded another reduction by 17% from 59% in 2015 to 42%. This resulted in further improvement in the cash position by 13.7% from 39% in 2015 to 52.3%. In 2017 inventory remained at 6% while accounts receivables shot up from 42% to 49%. The cash and cash equivalent position reduced by 8.9% to 45.4%.

The figure 5-12 below presents a summary and consolidation of the data in form of a graph.

Figure 5-12 Graphical Presentation of Working Capital held in Current Assets - CBU



Source: Own Research 2018/2019

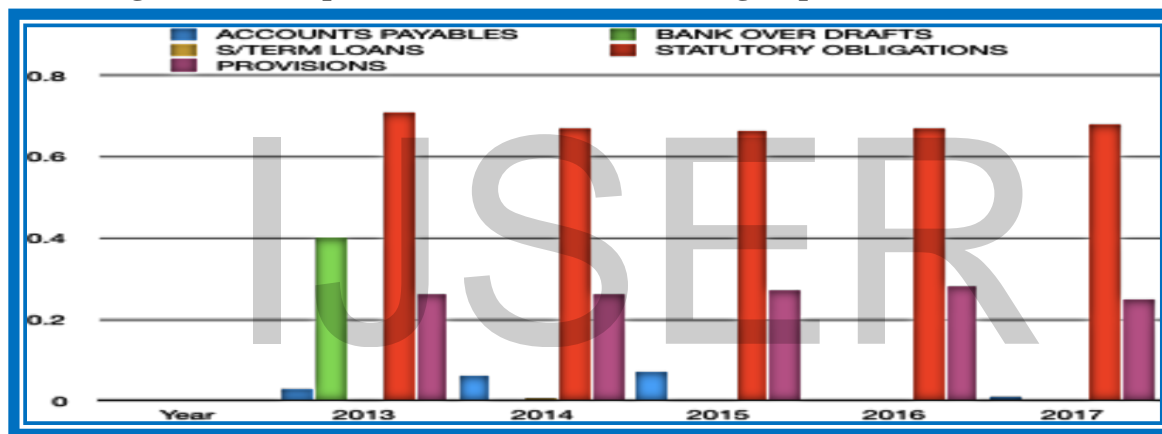
Table 5-14 Percentage of Working Capital Held in Current liabilities 2013 -2017

Year	Accounts payables	Bank overdrafts	Short term loans	Statutory Obligations.	Provisions
2013	3%	0.4	0.2%	71%	26.2%
2014	6%	0	0.6%	67%	26.2%
2015	7%	0	0.2%	66.3%	27%
2016	0.05%	0.3%	0.04%	67%	28%
2017	1%	-	-	68%	25%

Source: Own Research 2018/19

Table 5-14 shows the percentage distribution of the current liabilities and obligations of the university for the five years under review. CBU’s main current liability lies in statutory obligations which range between 66% and 71%. Second to statutory obligations, were provisions followed by accounts payables ranging between 25% and 28% and 1% to 3% respectively.

Figure 5-13 Graphical Presentation of Working Capital Held In Current Liabilities



Source: Own Research 2018/2019

5.2.6 Views of the accounting officers on Working capital management Policy provisions at the Copperbelt University.

This section presents data in form of views obtained from the accounting staff on working capital policies and management. Six questionnaires were distributed to the conveniently selected offices. The questionnaires contained both multiple choice and open ended questions. The first question investigated the Criteria used in allocating the financial resources to the respective functional areas (schools/departments) of the university. All the respondents expressed that the criterion were mainly Performance based and Formulae per student. The responses further revealed that responsibility centers were occasionally engaged into negotiations with financial management officers to arrive at the amounts allocated to them.

The study revealed that the institution did not internally generate sufficient to cover the operations. Thus for finance of Working Capital, the institution contracted external liabilities which included: Bank Overdraft, Short term loans, Medium term loans and Long term loans.

According to the policy, the university's Creditors payment days ranged between 30 and 60 days, while the Debtors/Receivables collection days were between 61 and 120 days.

The copperbelt university full time academic calendar operated on a term system thus the Length of institution's Operating cycle was 61 – 120 days.

Accounts Receivable Management

The policy provision on accounts receivable collection period was 30 days and above while the bad debt percentage of the accounts receivable was found to be over 25%. The percentage of the fees income which constituted credit from students was reported to be at an annual range of 30 % and above.

In the management of Working capital, three techniques were frequently used at the Copperbelt University. These included: Aggressive collection Policies, Aging of Debtors and Reducing stock levels.

Inventory management

The main types of inventory maintained in the operations of the institution included: Stationery, Food staffs, Laboratory consumables, Clinic medical drugs. This inventory was centrally stored and managed. All departments and functional units followed a laid down procedure to access their inventory requisites. The process of getting the materials for use started with the individual officer who generated a requisition through the head of department to the dean for approval via the office of the registrar responsible for authorization and finally to the stores officer for issuance. The process was observed to be long and led to departments and schools failing to meet deadlines for their activities. The study also revealed that sometimes the inventory got obsolete or expired due to inconsistencies in stock taking and inspection. It was found difficult to establish the rate of inventory turnover and re-order levels. However, the re-order quantities were mainly influenced by the need to avoid shortage costs and panic buying.

Accounts Payable Management

For accounts payable policies both, the records and accounts officer's views, indicated that the Percentage of purchases for institution that constituted credit were in the of 30 % and above while the Accounts payable payment policy provided for settlement of accounts payables within 1 to 15 days. However, the institution was not consistent with the policy. This created an unfavorable relationship with the suppliers.

5.2.7 Students perceptions on adequacy of educational resources.

A total number of forty (40) questionnaires (25 Undergraduate students and 15 Post Graduate students) were distributed to students for collection of their views on the adequacy of services provided by the university. The respondents were required to state whether they agreed or disagreed with the given positive statements. The areas of investigation included: the accommodation services, research, teaching, health, internet, examinations and information feedback. The distribution of student participants both undergraduate(UG) and post graduate(PG) is shown in table below:

Table 5-15A. Distribution of Student Participants

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undergraduate	25	61.5	61.5	61.5
	Postgraduate	15	38.5	38.5	100.0
	Total	40	100.0	100.0	

Source: Own Research 2018/2019

Table 5-15a shows the distribution of student participants in the study. Twenty-five (25) undergraduates and fifteen (15) postgraduate students were discretely and purposively selected across the various disciplines of study. A total of forty (40) questionnaires containing objective questions were administered. The participants were expected to state whether they agreed or disagreed with statements relating to adequacy, timeliness in provision of particular service and the levels of satisfaction derived from such.

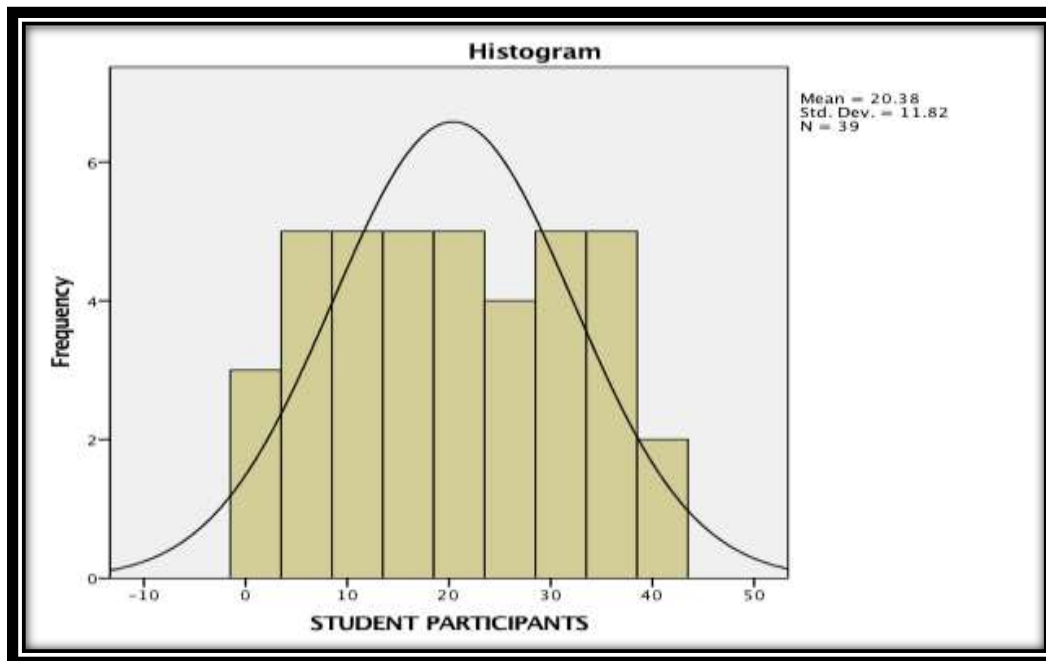
Table 5-15B Distribution of student participant views on adequacy of resources provided by the university.

		Frequency	%	Valid %	Cumulative %
Valid	Agree	14	35.9	35.9	35.9
	Disagree	26	64.1	64.1	100.0
	Total	40	100.0	100.0	

Source: Own Research 2018/2019

Table 5-15b presents a summary of the views expressed by students on the adequacy of services provided by the university. The service adequacy as rated by the student stands at 35.9% represented by the statements agreed to while 64.1 percent represents the deficiencies in the services provided by the university.

Figure 5-14 Graphical presentation of students views on adequacy of resources at CBU.



5.2.8 Staffing Levels

An analysis of the Copperbelt University staff establishment records revealed that out of one thousand three hundred and thirty-four (1,334) positions, eight hundred and forty-seven (847) had been filled as of December 2017 leaving a balance of four hundred and eighty-seven (487) vacant. It was observed that the institution had been operating without some key personnel such as Senior Librarian, Professors and Associate Professors, Senior Lecturers, Lecturers, Senior ICT Security Officer and Network Administrator among others.

Distribution of The Staff Participants by Designations

This part of the study sought to establish the designations of the various respondents of public universities who took part in the study. Those who participated in the study from the two institutions under investigation included the following: D/Vice chancellors, Registrars, Deans of schools, Directors of institutes and Research programmes, Bursars, Finance managers, Deans of student affairs, and student representative in various disciplines.

Distribution of staff participants by Working Experience

The length of service/employment in an organization determines the extent to which one is aware of the issues sought by the study. In the wake of technological advancements and globalization, there are likely to be many changes in institutional and operating environment that the respondents should know about when responding to the issues sought by the study. Thus, this segment of the study sought to establish the length of time that the respondents had worked in the University environment.

Table 5-16. Participants' Administrative Experience

Yrs. of service	Frequency	%
0-5	1	3
5-10	15	50
10-15	11	37
Above 15	3	10
Total	30	100

Source: Own Research 2018/2019

The statistics in table 5-16 indicate that the vast majority of the respondents in at CBU have 5 years and above work experience in Tertiary institutions represented by 97%. This distribution could be attributable to the nature of employment systems in the institutions of higher learning in Zambia. Individuals who have with a longer period of service are likely to have developed their managerial skills and thus this distribution of work force indicates that majority had gained basic managerial skill to qualify them for effective management of the working capital. This an indicator of adequate leadership maturity in the institutions.

5.2.9 Challenges Faced in Relation to Management of Teaching and Learning as perceived by Deans of schools.

Teaching, learning and carrying out research are the core missions of universities. These core missions of the universities enable them to offer various degree (Bachelor, Masters and PhD) programmes. The modes of study at the universities include full-time residential programmes and Open/distance learning (ODEL), and part-time. These different modes of study and different kinds of clientele have come up with numerous sorts of management challenges at the universities.

In this section, data were collected on challenges related to adequacy and designation of teaching staff, adequacy of finances for conducting researches and involvement of deans in financial management. Essentially, the role of a Dean, like any other manager, is to guide the organizations toward goal accomplishment. All organizations exist for certain purposes or goals, and managers are responsible for combining and using organizational resources to ensure that their organizations achieve their purposes. Universities are social organizations and they too aspire toward goal accomplishment. Financial Information within the organization plays a key role in education administration (Kaplan and Cooper, 1998). Information literacy has been defined as ability to access, evaluate and use information from a variety of sources, it is a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate and use effectively the needed information (Doyle, 1994). With respect to financial information literacy it would mean ability to appropriately synthesize institutional cost,

expenditures and revenue information within a framework that meets institutional goals and objectives.

A total number of 12 questionnaires were distributed to the various schools and institutes targeting the deans and directors respectively. Out of the twelve (12), ten (10) were returned completed representing 83% response rate, and two (2), representing 17%, were not completed. The instruments examined administrative activities and resources which interacted with working capital variables to effect the volume of service quality and delivery.

Table 5-17 Challenges Faced in Relation to Management of Teaching and Learning as perceived by Deans of schools

Challenges	N =12	
	Frequency	%
Availability of lecturing staff	7	58
Availability of student research and support	8	67
Availability of support staff	5	33
Increased workload due to less staff	8	67
Limited Funding for research	8	67
Maintenance of equipment	6	50
Management of examination	6	50
Average lecturer student ratio	1:25	25

Source: Survey data 2018-2019

Table 5-17 shows the distribution of perceptions of the Deans at CBU. The responses were given in relation to the adequacy of operational resources (human, financial and material). At the Copperbelt university, three challenges ranked top in relation to service delivery of teaching, research and consultancy. These were: increased workload due to low staffing levels in schools, low funding for research, and low student research support; all represented by 67%.

Lecturer student ratios

The lecturer student ratios were at an average of one lecturer to twenty-five students (1:25).

Table 5-17 also shows that,50% of Deans of schools at CBU perceived administration and management of examinations as a consequent challenge to the top three challenges.

It means that, inadequate funds available for conducting research among the academic members of staff is a challenge not only to the staff, but also to the universities management.

Table 5-18 Staff awareness and involvement in working capital management policies

	N=12	%
Participation in annual budgeting	12	100
Provision of budgetary guidelines	12	100
Awareness about financial policies for the institution	12	100
Financial policies were helpful in making a budget.	12	100

Feedback of budget vs actual performance	12	100
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Source: Own Research 2018/2019

Institution-wide communication is important in developing and maintaining a successful organizational administration. Table 5-18 shows how much the Deans and Directors were informed about and involved in working capital planning and management. The responses indicate that all the middle managers were involved and informed about the working capital policies.

Table 5-19 Adequacy of funding of schools as perceived by Deans

Views	(N=12)	
	N	%
Adequate	1	8
Inadequate	11	92

Source: Own Research 2018/2019

The table 5-19 above presents the Deans' views on the adequacy of funding to their schools. The responses clearly show that the schools were not adequately funded. The participants were further asked to explain how they managed the schools amidst such scarcity of resources. The responses were recorded as they were stated by the individual participants on the questionnaires as listed below:

"We engage in Marketing aimed at increasing enrolments."

"Engaged in small scale consultancy activities though not much is realized from such."

"Buying on credit or Borrowing from suppliers".

"We also go to extremes of using our personal resources".

"We often Cut down on activities though this deprives the students of their right to quality education".

"Share the little resources/facilities among units".

The responses given by academic deans in relation to the working capital management show that the institution was experiencing severe financial distress.

5.2.10 Case Summary

This segment of the survey has presented the material data about case one –The Copperbelt University. The issues presented are those relating to the working capital management and education administration. All data were collected and collated using the research objectives and questions so as to permit for meaningful analysis and informed conclusions. The survey data for the period available is summarized in two broad categories namely: Financial/working capital management data and education administration data.

The working capital management data were obtained through document analysis relating to the five years' period from 2012 to 2016 and partly 2017.

Pertinent issues studied under working capital management included: current assets (Accounts Receivables Management, Cash Management, Inventory management) and current liabilities management (Accounts Payables Management and the Operating Cycle Management).

Under education administration, the survey captured data on the challenges related to the mission of the university that is, Teaching, Research and Consultancy/Service.

Current asset Management; -

It was found that the Copperbelt University had a well-documented policy on accounts receivables which, however, could not be implemented effectively due to government programmes which were seemingly at variance with these local policies. It was also found that Over 70% of CBUs' working capital was held in accounts receivables in form of student tuition fees. Furthermore, it was noted that the vast majority, of the student populace at CBU were on government sponsorship. The accounts receivables collection period was 30 days.

The percentage of working capital held in inventory ranged between 0.1 and 0.9 percent. This Inventory which centrally controlled, consisted of varied types including: learning material, stationary, building and maintenance materials, clinical accessories, and other cleaning materials. The inventory was replenished on demand and thus, there was no re-order level.

Current Liabilities Management; -

With respect to current liabilities, CBU's major obligations were held in statutory obligations. As for accounts payables, the policy provided for a payment period of 30 to 60 days.

Working Capital Position

The working capital held by CBU for the period was in negative. The current liabilities exceeded the current assets.

5.3 Case Two (2)- Mulungushi university(MU).

Mulungushi University has evolved from what used to be called the President Citizenship College (PCC) which was established in 1972 to provide leadership training to officers of Government, parastatal organizations and the labor movement.

Act No. 34 was passed to among others things change the name of the College from President Citizenship College (PCC) to National College for Management and Development Studies (NCMDS) and also change the mandate of the College by the deletion of section 13 of the Principal Act.

In 2005, the National College for Management and Development Studies (Repeal) Act No. 18 of 2005 was passed and mandated the Council of the National College for Management and

Development Studies, in consultation with the Minister responsible for Education and the Secretary to the Treasury, to carry out all actions necessary to transform the College into a Public University.

Mulungushi University, formerly, National College of Management and Development Studies, was finally established by the Zambian Government in a private public partnership with Konkola Copper Mines on 1st, January, 2008. The university now operates on three campuses. The main campus located in Kabwe of the central province of Zambia referred to as The Great North Road Campus, located 26 kilometers north of Kabwe, on the banks of Mulungushi river, The Kabwe town Campus located along Mubanga Road, off Munkoyo Street in the heart of Kabwe town and The Livingstone Campus Located in Livingstone.

The university offers undergraduate and post graduate programmes on full-time and distance education. Mulungushi University is an equal opportunity higher education service provider whose mission is quoted as “To Provide High Quality Academic Programmes, Research and Consultancy Services Through Stakeholder Engagement.”.

This is done through the various schools and institutes which cater for the educational needs of the students. These include;

1. School of Agriculture and Natural Resources
2. School of Business Studies
3. School of Science, Engineering and Technology
4. School of Education
5. School of Medicine and Health Sciences (SoMHS)
6. Open and Distance Learning Unit
7. Directorate of Research & Post-Graduate Studies

5.3.1 Education Administration and management

Like all other public universities, Mulungushi university's management structure follows the composition prescribed in the 2013 higher education act.

The Higher Education Act No. 4 of 2013 provides for the establishment of the University Council which is a body corporate with powers, subject to the provisions of the Act, and is responsible for the governance, control and administration of the University.

a) Senate

Similarly, Section 35 of the same Act states that the Senate is the supreme academic authority of the University and, is responsible for organizing, controlling and directing the academic work of the University, both in teaching and research. The Senate membership comprises the Vice Chancellor as Chairperson; the Deputy Vice chancellor; the Deans of Schools; not more than

fourteen Professors and Associate professors of the Mulungushi University; the Librarian; Directors of the centers, institutes, bureaux or other similar bodies of the university; the Dean of students; not more than fourteen non-professorial academic staff of the university; two students and four other persons appointed by the Vice Chancellor.

5.3.2 Enrolment history

At the introduction of degree programmes in 2009, more than 500 distance education students, who were mainly former diploma students of the National College for Management and Development Studies enrolled into the various degree programmes.

Table 5-20 Number of registered students and their mode of educational sponsorship

Year	Government Sponsored	self-Sponsored	Total
2013	NIL	1054	1054
2014	NIL	1641	1641
2015	NIL	3790	3790
2016	NIL	4661	4661
2017	NIL	5522	5522

Source: Own Research 2018/19

Table 5-20 shows the number of students registered under a particular mode of educational sponsorship for the period 2013 to 2017. As indicated on the table, all the student pursuing various programme at Mulungushi University were non-government sponsored. The average student lecturer ratio was one (1) lecturer to fifty-four (54) students (1:54).

5.3.3 Source of Funding/income

According to the Act, the sources of funds for the University shall consist of such monies as may:

- Be appropriated by the Parliament for its purpose;
- Be paid to the public higher education institution by way of fees, subscription, contributions, grants or donations; and Otherwise vest in, or accrue to the public higher education institution

Table 5-21 Government budgetary funding to the university for the financial years ending 31/12/2013 -15

Year	Total Authorized Provision ZMW	Actual Releases ZMW	Over /(Under) Funding ZMW
2013	19,414,601	20,512,464	1,097,863
2014	20,967,769	20,967,769	-
2015	20,967,769	21,817,085	849,316
Total	61,350,139	63,297,318	1,947,179

Source: Auditor General's Report 2016.

Table 5-21 shows the the budgetary Provisions of revenue against what was actually released to the university for the financial years ended 31st, December 2013 to 2015.

Authorized provisions of Revenue for the financial years ended 31st, December 2013 to 2015, amounting to ZMW61,350,139 were made to cater for various operations of the University against which amounts totaling ZMW63,297,319 were released.

Table 5-22A Over all Income for MU

Source	2017Z MW	2016 ZMW	2015 ZMW	2014 ZMW	2013 ZMW	Total
Government grants	21,520,247	20,738,176	21,817,085	20,967,769	20,512,464	105555804.
Tuition Fees	74,055,655	55,699,258	54,226,059	45,496,957	26,997,319	256,475,248
Lodging fees	19,187,844	15,052,072	14,058,339	12,658,779	12,797,577	73,754,611
Other Income.	26,249,415	24,804,163	9,367,335	11,260,733	12,046,692	83,728,338
Total Income.	141,013,161	116,293,690	99,468,818	90,384,238	72,354,052	933472198

Source: Own Research 2018/2019

Table 5-22A above presents the overall picture of income generated from both internal and external sources. The major source of income external to the university are grants from the Government Republic of Zambia (GRZ) which amounted to 105,555,804 for the five-year period under study.

Table 5-22B Internally generated income -MU

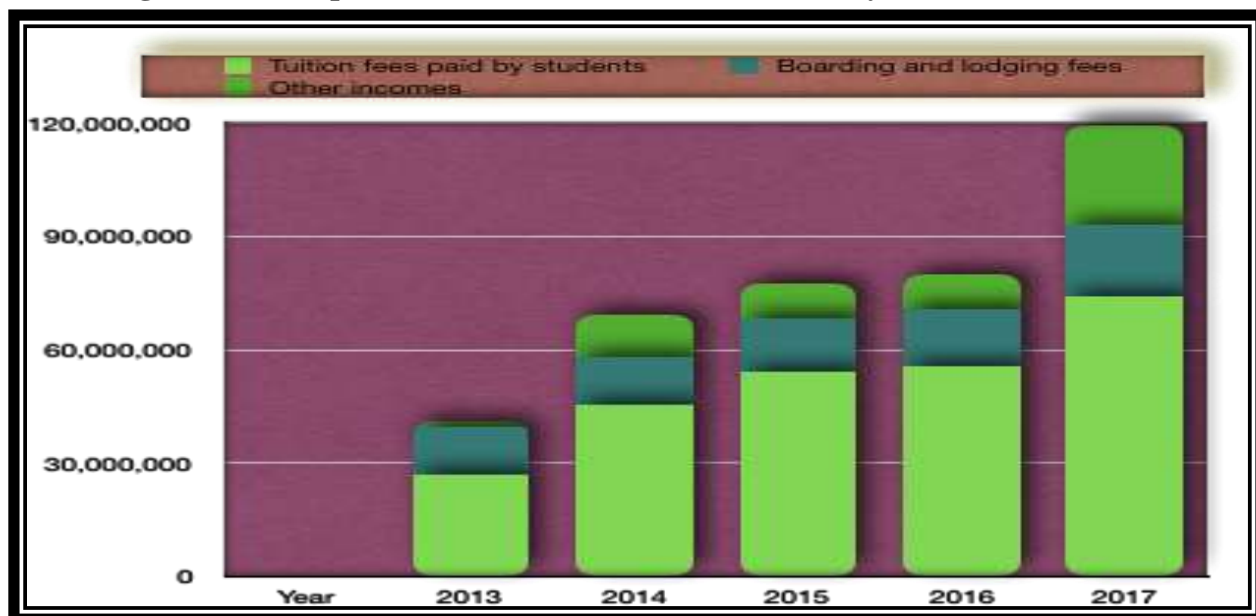
Source	2017	2016	2015	2014	2013	Total
Tuition Fees	74,055,655	55,699,258	54,226,059	45,496,957	26,997,319	256,475,248
lodging fees	19,187,844	15,052,072	14,058,339	12,658,779	12,797,577	73,754,611
Other Income.	26,249,415	24,804,163	9,367,335	11,260,733	12,046,692	83,728,338
Total income	119,492,914	95,555,493	77,651,733	69,416,469	51,841,588	413,958,197

Source: Own Research 2018/2019

Table 5-22B is an abstract from table 5-22A which presents only income generated internally by the university. A total of ZMW413,958,197 was generated in the five-year period under study. This shows that MU had more capacity to fund its operation from internally generated income and thus was less dependent on government funding.

The University internally generated funds were from Tuition, Boarding and Lodging fees and other incomes. For consolidation purposes, the data is graphically presented in figure 5-15 below:

Figure 5-15 Graphical Presentation of Annual Internally Generated Income -MU



Source: Own Research 2018/2019

Table 5-23 Abstraction of ratio of income source to total annual income- MU

Yr.	GRZ Grant	Tuition Fees	Boarding Fees	Other Income	Total Internally generated Income
2013	28	37	18	17	72
2014	23	50	14	13	77
2015	22	55	14	9	78
2016	18	48	13	21	82
2017	15	53	14	19	86

Source: Own Research 2018/2019

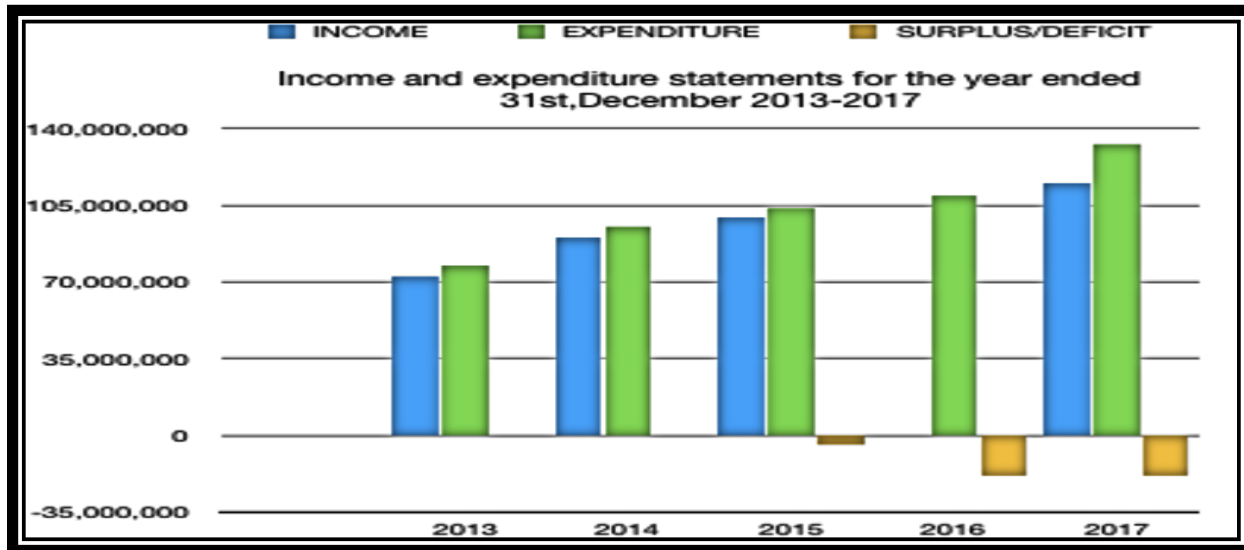
Table 5-24 Income and expenditure statement for year ended 31st, December 2013-17- MU

	2013	2014	2015	2016	2017
Income	72,354,070	90,384,300	99,468,818	91,489,506	114,763,746
Expenditure	77,655,500	95,202,980	103,545,033	109,430,889	132,974,952
Surplus/deficit	(5,301,430)	(4,818,680)	(4,076,215)	(17,941,383)	(18,211,206)

Source: Own Research 2018/2019

As can be seen from the financial statements, the University recorded operating deficits of K5,301,430 in 2013, K4,818,680 in 2014, K4,076,215 in 2015. the deficit increased by over 200% in 2016 from k4,076,215 in 2015 to k17,941,383 in 2016. These deficits according to the Auditors' report (2015), were mostly due to rising staff cost which represented 63 percent of the total operating expenses. The report further disclosed that there was a sharp increase in part time allowances from K61,640 in 2014 to K1,644,638 in 2015 representing a percentage increase of 2,568 percent.

Figure 5-16 Graphical Presentation of Income And Expenditure Statement for years ending 31st, December 2013,2014,2015,2016 and 2017- MU



Source: Own Research 2018/2019

Table 5-24 Computation of average cost per student from admin. costs and student enrolments- MU

Details	2017	2016	2015	2014	2013
Administrative Costs (ZMW)	132,974,952	109,430,889	103,545,033	94,288,668	74,949,977
No of Registered Students	5,522	4,661	3,714	3,848	3,255
Average Cost per Student (ZWM)	24,081	23,478	27,880	24,503	23,026

Source: Own Research 2018/2019

Table 5-24 shows a comparison of the average administrative cost per student computed by dividing the total administration cost by the number of students registered in each academic year. The comparison revealed that the number of registered students was increasing in proportion to the administrative cost per student.

As can be seen from the table 5-24 above the average administrative cost per student increased from ZMW23,026 in 2013 to ZWM27,880 in 2015 representing a percentage increase of 21 percent. In this regard, despite the increase in the number of student from ZWM3,255 in 2013 to ZWM3,714 in 2015 representing a percentage increase of 14 percent the University did not manage to cover administrative costs per student efficiently.

Table 5-25 Statement of Financial Position as at 31/12/2013 -2017- MU

	2017ZWM	2016ZWM	2015 ZWM	2014 ZWM	2013 ZWM
ASSETS					
Non-Current Assets					
Biological assets	586,297	513,866	292,443	126,082	101,491
Property, Plant &Equip.	271,423,379	264,517	255,376,101	209,150,400	195,433,414
	272,009,676	265,031,321	255,668,544	209,276,482	195,534,905
Current Assets					
Inventory	3,308,997.22	1,137,828	886,628	739,996	865,576
Trade & Other Rec.	37,731,840.16	26,287,984	21,133,153	27,724,870	17,884,668
Cash & Cash Equivalent.	49,853,046.43	46,834,263	45,693,258	51,398,904	62,376,396
	90,893,883	74,260,074	67,713,039	79,863,770	81,126,640
Total Assets			323,381,583	289,140,252	276,661,545
EQUITY AND LIABILITIES					
Equity					
Reserves	79,993,545	80,819,955	81,646,365	82,472,774	85,967,918
Acc. surplus/(deficit)	(21,556,657)	(18,037,222)	(12,725,930)	(9,476,124)	(8,153,467)
			68,920,435	72,996,650	77,814,451
Non-Current liabilities					
Trade & Other payables	71,827,723	59,370,977	46,283,209	35,026,410	10,125,000
Deferred income	178,400,309	176,132,473	167,555,810	142,782,228	132,220,195
Provisions	13,182,268	3,618,058	7,729,773	7,834,450	7,932,277
			221,568,792	185,643,088	150,277,472
Current liabilities					
Trade & Other payables	27,667,315	21,616,656	21,094,216	26,990,195	48,569,622
Borrowings	759,035	711,769	1,746	-	-
Provisions	12,629,023	14,290,370	11,796,393	3,603,424	-
			32,892,355	30,593,619	48,569,622
			254,461,147	216,236,707	198,847,094
Total equity and liabilities			323,381,582	289,233,357	276,661,545

Source: University Financial Reports for 2013 to 2017 available for study of 2018/2019

Table 5-26 Working capital Position - MU

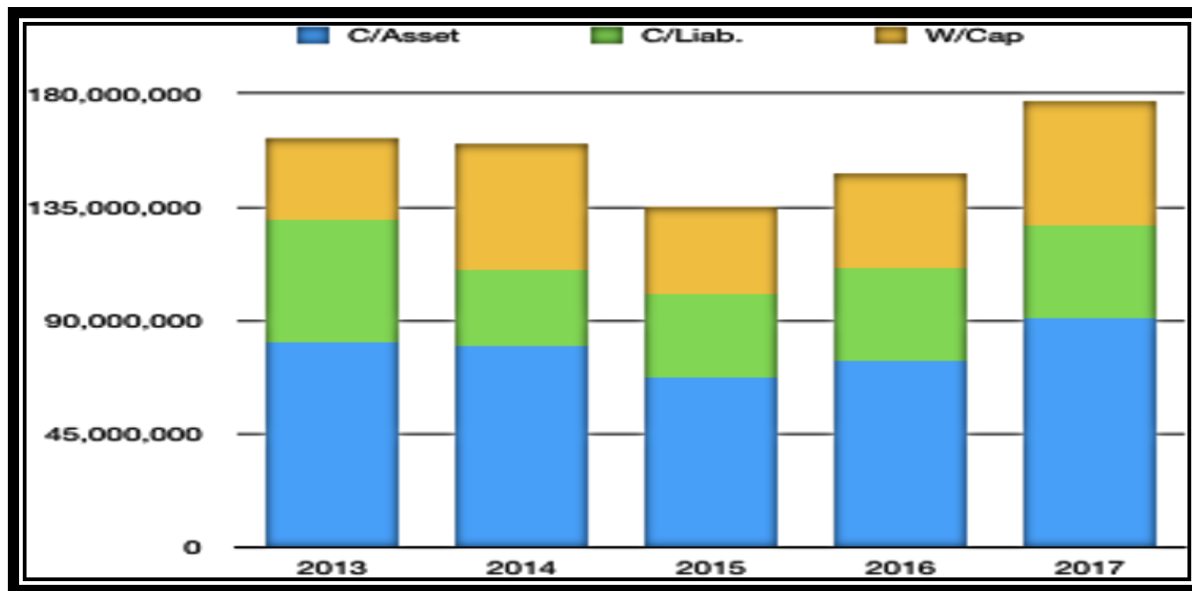
	2017 ZWM	2016 ZWM	2015 ZWM	2014 ZWM	2013 ZWM
Current Asset	90,893,884	74,260,074	67,713,039	79,863,770	81,126,640
Current Liabilities	41,055,372	36,618,794	32,892,355	30,593,619	48,569,622
Working Capital	49,838,512	37,641,280	34,820,684	49,270,151	32,557,018
Current Ratio	2:1	2.1	2:1	3:1	2:1

Source: Own Research 2018/2019

Table 5- 26 is an excerpt of the balance sheet as at 31st, December 2013 to 2017. A comprehensive balance sheet is shown just before the table. Since the study is mainly focused on the working capital management policies, only items directly relating to the working capital were considered in the analysis. The non-current assets and long term liabilities of the balance sheet

were not included in the analysis. As presented on table 2.5, the University operated within accepted liquidity parameters during the period under review.

Figure 5-15 Graphical presentation of Working Capital Position for MU



Source: Own Research 2018/2019

5.3.3 Trend Analysis of Working Capital Components

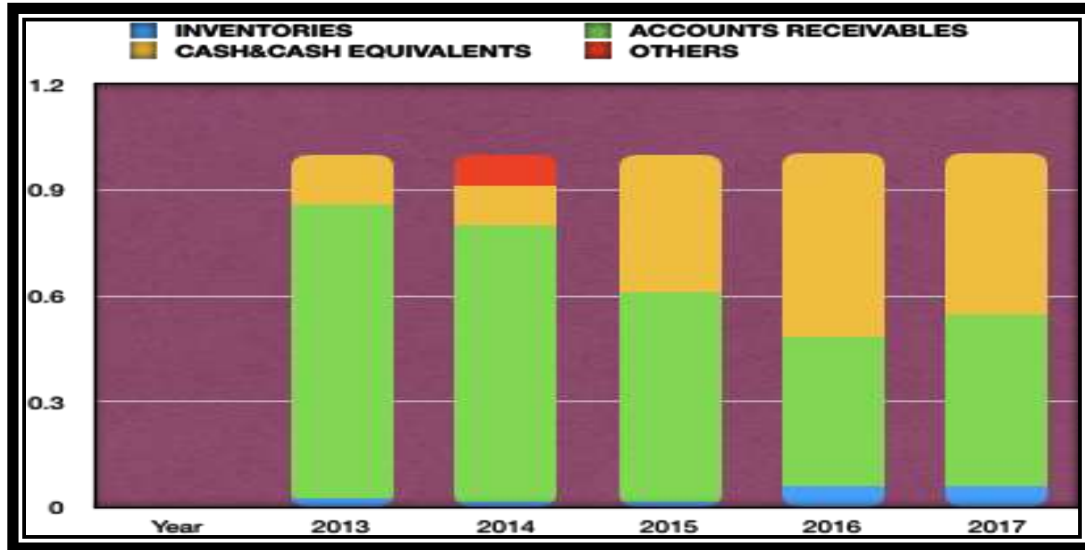
Table 5-27 Percentage of Working Capital Held in Current Assets -MU

Year	Inventories	Accounts receivables	Cash & cash equivalents	Others
2013	3%	83%	14%	-
2014	2%	78%	11%	9%
2015	2%	59%	39%	-
2016	6.4%	42%	52.3%	-
2017	6%	49%	45.4%	-

Source: Own Research 2018/2019

The trend in current assets distribution as depicted in table 5-27, shows that a greater percentage of current assets were held in accounts receivables ranging from 40% to 83%. This was followed by cash and cash equivalents with a range of 10% and 53%. The university held inventory in the range of 2% and 6% in the five- year period under review.

Figure 5-16 Graphical presentation of Working Capital Held in Current Assets.



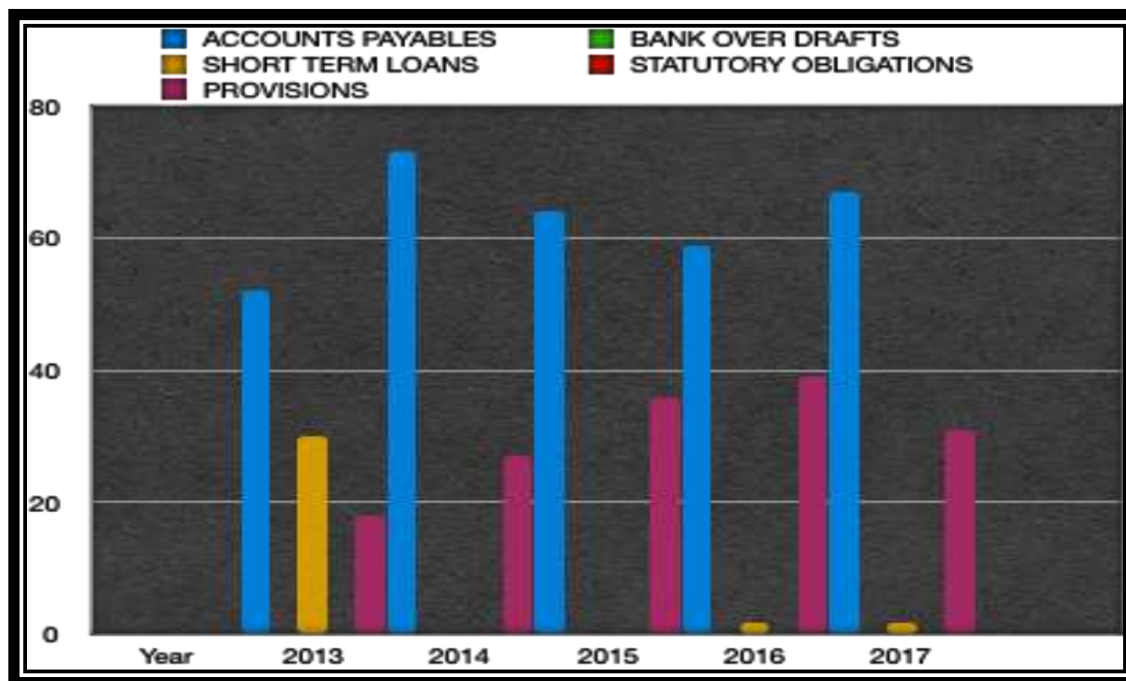
Source: Own Research 2018/2019

Table 5-28 Percentage of Working Capital Held in Current liabilities -MU

Year	Accounts payables	Bank overdrafts	Short term loans	Statutory Obligations.	Provisions
2013	52%	0.	30%	0%	18%
2014	73%	0	0%	0%	27%
2015	64%	0	0.01%	0%	36%
2016	59%	0	2%	0%	39%
2017	67%	-	2	0%	31%

Source: Own Research 2018/2019

Figure 5-17 Graphical presentation of Working Capital held in Current Liabilities-MU



Source: Own Research 2018/2019

As can be seen from both the table 5-28 and graphical presentation in figure 5-17, MU's major obligation were in accounts payables and provision. The institution rarely contracted bank over drafts for the financing of its working capital needs. The highest level of obligations was recorded in 2014 in accounts payables and lowest recorded obligations were short term loans in 2016 and 2017. There were no short term loans contracted in 2014 and 2015. Yet the institution maintained a provision in the range of 18% and 39%.

Table 5-29 STATEMENT OF CASH FLOWS

	2017	2016	2015	2014	2013
Operating Activities					
Cash From/(Used In) Operations	19,794,205	17,536,847	46,928,725	18,536,212	50,149,455
Finance Cost				(913,370)	(109,583)
N/Cash From/Operating Activities	19,794,205	17,536,847	46,928,725	17,622,842	50,039,872
Investing Activities					
Purchase Of Prop, Plant & Equip.	(15,672,647)	(16,724,185)	(52,469,756)	(18,450,743)	(13,207,447)
Cash Paid For Purchase Of Biological Assets	(381,771)	189,158	(260,000)	(59,951)	(68,841)
Disposal of Prop, Plant & Equipment.					1,304
Decrease Due To Harvest	309,340	32,265	93,639	35,360	48,796
Net Cash From/Investing Activities	(15,745,078)	16,945,608	(52,636,117)	(18,475,334)	(13,226,188)
Financing Activities(Interest Paid)	(309,248)	(429,583)			
Repayment Of Borrowings		(1,746)		(10,125,000)	9,750,000
Net Cash From/ Financing Activities	(1,030,343)	1,048,800		(10,125,000)	9,750,000
Increase/(Decrease) In Cash & Cash Equivalents			(5,707,393)	(10,977,492)	46,563,684
Movement In Cash And Cash Equivalents					
At Start Of Year			51,398,904	62,376,396	15,812,712
Increase/(Decrease)			(5,707,393)	(10,977,492)	46,563,684
At End Of Year	49,853,047	46,834,263	45,691,512	51,398,904	62,376,396

Source: Financial Reports availed for the study 2018/2019

Table 5-29 above presents the cash flow statements for mulungushi university for the five-year period 2013 to 2017 ending every 31st, December. A review of the University's cash flow for operational, investing and financing activities revealed that the University had maintained positive and relatively large cash balances after deducting recurrent and capital expenditures. Further scrutiny of the statement revealed some lost revenue opportunity in that the University was not investing the excess cash in short or medium term investments on the Financial and Money Markets thereby foregoing interest that could have accrued.

Table 5-30 Ratio of operating Cash Flows to Average current liabilities

	2013	2014	2015	2016	2017
Net Operating c/f	50,039,876	17,622,842	46,928,725	17,536,847	19,794,205
Ave.C/liabilities	33,921,195	15,296,810	31,742,987	34,755,575	38,837,083
Ratio	152%	113%	148%	50%	50%

Source: Own Research 2018/2019

Table 5-30 presents a comparative analysis of net operating cash flows with the net current liabilities. The operating cash flow ratio is a measure of how well current liabilities are covered by the internally generated cash flows from a company's operations. The ratio was adopted because it helps to gauge a company's liquidity in the short term. Using cash flow as opposed to net income is considered a consistent or more accurate measure since earnings are more easily manipulated.

Figure 5-18 a comparison of net operating cash flow with average current liabilities



Source: Own Research 2018/2019

Table 5-31 Distribution of participants by years of service.

Yrs. of service	Frequency	%
0-5	4	14
5-10	16	53
10-15	7	23
Above 15	3	10
Total	30	100

Source: Own Research 2018/2019

5.3.4 Distribution of staff participants by Working Experience

The length of service/employment in an organization determines the extent to which one is aware of the issues sought by the study. In the wake of technological advancements and globalization,

there are likely to be many changes in institutional and operating environment that the respondents should know about when responding to the issues sought by the study. Thus, this segment of the study sought to establish the length of time that the respondents had worked in the University environment.

Table 5-31 above shows the distribution of staff participants according to the work experience held in the university set up. The responses show that the staff were of varied experience and exposure. The majority of the participant had been in service for not more than ten (10) years represented by 53% of the respondents. This is followed by those in the 10-15 years' bracket represented by 23%. 14% of the respondents had served for less than five years. Only 10% of the participants had been in service for over fifteen (15) years. This staff experience mix shows a balanced establishment of mature leadership.

5.3.5 Views of the accounting officers on Working capital management Policy provisions at Mulungushi University.

In order to seek clarity and understanding of the documentary data, questionnaires were administered on the accounting officers in relation to working capital policies and management. Four questionnaires containing both multiple choice and open ended questions were distributed to the conveniently selected officers. The questions investigated four areas of working capital management in relation to education administration. These included: The length of the Operating Cycle, The Criteria used in allocating the financial resources to the respective functional areas (schools/departments) of the university, Receivables and Payables days and the inventory policies. The responses were recorded and summarized in the table below:

Table 5-32 summary of views of accounting officers.

Question	Response
The university's length of operating cycle	180 days (semester system)
Criteria for allocating resources to schools and functional areas of the university.	Performance based, policy provision and negotiations with functional units
The university's receivables Collection period	30 – 60 days
Average period taken by the institution take to pay its creditors/ suppliers/ part-time lecturers.	30 – 60 days
The extent to which the institution uses external sources of finance to finance its working capital needs.	Rarely uses external sources. Finances WC from mainly internally generated cash
Tools/Techniques used by the institution in working capital management	Extending credit periods, aggressive collection policy, setting credit limits and projected cash budgeting
The bad debt percentage of the accounts receivable.	Ranges from 1% - 5%

Source: Own Research 2018/2019

From the summary table of responses, it was understood that the university's operating on a semester system implied that the length of its operating cycle was the number of days in the semester which was found to be one hundred and eighty days (180 days). Under this semester system, the operating cycle is further understood to be the period it takes the university to convert its current assets to income; pay its short term obligations and provide a complete package of educational service.

The table further reviews that the resources were allocated to the respective functional areas largely on performance basis, while performance was taken to include the number of students enrolled in a particular programme. Thus the formula per student was applied as a complementary standard.

The university maintained a 30 -60 days' accounts receivables collection period which was matched with accounts payables period of 30-60 days.

The study revealed that the institution generated more funds from its operations than what it received from grants. Thus the source of finance for Working Capital, was mainly cash from operations.

Table 5-33 Challenges Faced in Relation to Management of Teaching and Learning as perceived by Deans of schools

Challenges	N=8	%
Availability of lecturing staff	5	63
Availability of student research and support	6	75
Availability of support staff	4	50
Increased workload due to less staff	6	75
Limited Funding for research	6	75
Maintenance of equipment	3	38
Management of examination	4	50
Average lecturer student ratio	1:54	

Source: Own Research 2018/2019

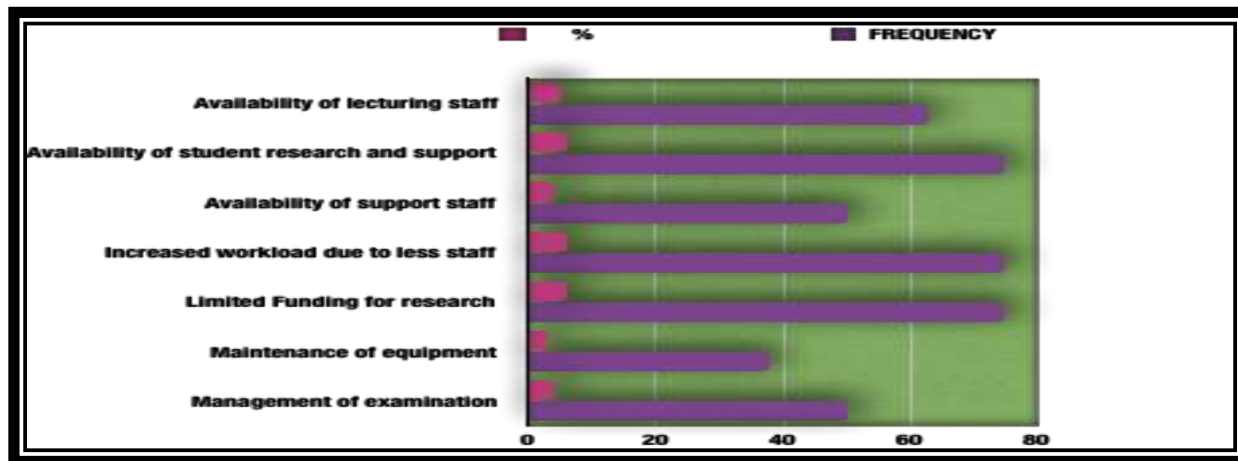
Table 5-28 shows the distribution of perceptions of the Deans at the Mulungushi university. The responses were given in relation to the adequacy of operational resources (human, financial and material). At Mulungushi university, three challenges ranked top in relation to the service delivery of teaching, research and consultancy. These were: increased workload due to low staffing levels in schools, low funding for research, and low student research support; represented by 75%.

Lecturer student ratio

The results from the questionnaire administration indicated a high level of concern about work load. This observation prompted further enquiry towards arithmetical knowledge of lecturer student ratio. Officially, the university had its Lecturer-student ratio at 1:54. As at 2017, MU had a student enrolment of 5,522 with 102 full-time academic staff (MU, 2017). It is from the enrollment figures and staffing levels that this ratio of 1:54 was arrived at.

Table 5-28 also shows that, 50% of Deans of schools sampled, perceived administration and management of examinations as a challenge attributable to the non-availability of staff, both of which were represented by 50%.

Figure 5-16 Graphical presentation of challenges faced in Service provision by Deans at CBU



Source: Own Research 2018/2019

5.3.6 Students’ perception on the Quality of services provided by the university.

Sixty (60) students were selected for the study. Forty of these student participants were undergraduates while twenty were from the postgraduate school sampled across the seven disciplines. Their views on the service delivery were analyzed on a Likert scale and are presented in the table 5-29 below.

Table 5-34 Students’ perception on the Quality of services provided by the university.

N=60		
Views	No.	%
Agree	42	70
Disagree	18	30
Not Sure	0	0

Source: Own Research 2018/2019

Table 5-29 displays the responses of the students about the quality, timeliness and adequacy of service provided by the university. Quality in the study was taken to mean the ability of the programme to meet the expectations of the students in the areas of learning styles, research and availability of lecturers; and timeliness focused on the speed/rate at which the students received feedback on the services such as length of time it took them to receive response on their application for redress of any challenge faced, how long it took the university to release results for both continuous assessments and final examinations; how long it took the students to have a supervisor assigned for research and how easy they found it to interact with their lecturers on various issues. Assessment of the adequacy of services focused on the services such as library services, internet services, catering services and accommodation services. As indicated on the table a vast majority of the respondents expressed satisfaction with the three aspects of the service

provided by Mulungushi University. Forty-two (42) out of sixty (60) participants were agreeable with the statements about the availability of resources and facilities for the learning, examination administration and research. This represents seventy per cent (70%) of the sampled participants. However, 30 per cent expressed dissatisfaction on the aspects of service delivery mostly, timeliness on providing feedback and research services. The participants observed that the online registration posed a challenge due to network failures in some far flung areas of the country. It was also noted on the negative that the participants did not receive feedback in time particularly on examination related matters including results for their continuous assessments in some courses.

5.4.0 Summary of Findings

The study has, so far, presented the data of findings from each of the two cases in terms of the independent(predictors) and dependent variables. Under the independent variables, the study presents the management approach taken by each of the two universities on working capital. The working capital issues were investigated using document analysis by looking at the income statement, balance sheet, operating cash flow statements as sources of secondary data. Primary data relating to the independent variables was obtained through questionnaires and interviews with the officers responsible for working capital management. The key issues pursued from both primary and secondary data were: financial resource planning and allocation procedures, operating cycle time, operating efficiency, liquidity position, sources of income and expenditure/cost analyses for at least five years. In order to ensure the secondary data details were authentic the auditor general's reports were consulted. On the dependent variable continuum, the secondary data issues studied included the enrolment patterns over the five-year period of study, the staffing levels, student lecturer ratios, teaching and research. The primary data for the dependent variables was obtained through interviews and questionnaires administered on both academic staff and non-academic staff. The staff interacted with, in the study were those directly or indirectly involved in education service provision. The views of these staff on challenges faced in education services administration were obtained. In addition to the views obtained from staff, student perceptions on timeliness and adequacy of service were also recorded and studied. The summary of these findings are presented on the guidance of the objectives and conceptual frame work of the study.

5.4.1 The Independent Variables

The independent variables which were assumed to be responsible for the out puts were the working capital management approaches employed by the institution. These also represented the

information flow and management interactions between the providers of funds and the end users of the same in the quest to execute the university mission. The indicators for the type of approach at work in any given organization is inferred from the ratios of current assets and current liabilities.

The major items that comprised current assets were cash and cash equivalents, short-term investments, accounts receivable, notes receivable and inventories. Cash and cash equivalents consist of physical cash, bank current accounts and short-term investments such as certificates of deposit, government securities and money market mutual funds. Accounts receivable represented the amounts that were owed to the university for services provided such as tuition, room and research and were generally reported net of allowances for doubtful accounts, which were amounts the university least expected that it would collect. Notes receivable were amounts owed by other entities such as grants or loans receivable i.e., money that was owed to the university by granting agencies or for loans. Inventories at the universities generally consisted of stationery, medical accessories, food stuffs, biological assets, publications and general merchandise. The following were the tools applied in investigating the working capital management strategies applied in university education administration:

5.4.2 Operating cycle –

Operating cycle in the context of this study, is the period in which a full time residential university course work is covered. It stretches from the registration to the time of writing the final exam for the same course. This excludes other modes of study like distance and evening/part-time classes.

The two universities under study presented different operating cycles. CBU was running on a termly system, that is, three to four months, while MU operated on a semester system, i.e. a period of six (6) months. Both institutions operated on the accrual basis of accounting. The receivables collection period was 30 – 60 days for both universities. Within the period of the operating cycle, a full course subject is offered, for which student tuition fees are expected to be collected in full to cover the operating expenses.

5.4.3 The cash flow from operating activities to current liabilities ratio-

The cash flow from operating activities to current liabilities ratio is a measure of liquidity and is calculated as follows:

Cash flow from operating activities

Average current liabilities

This ratio also indicates the organization's degree of exposure to liquidity risk.

It is suggested that a minimum of 50 percent is desirable, and the more the ratio exceeds that minimum figure, the better will be the operation's liquidity. The study reveals a sustained

negative ratio for CBU for the five-year period under review; on the contrary, MU shows a sustained positive ratio, that is, a position above the minimum for the years under review.

This ratio helps in understanding the ability of the institution to be self-financeable. Self-financeable growth rate for the purpose of this study, is defined as the rate at which an institution can sustain its growth through the revenues it generates without seeking government grants.

5.4.4 Operating cash cycle

In this study, operating cash cycle refers to the length of time an institution's cash is tied up in accounts receivables before that money is collected from customers. Other things remaining constant, the shorter the cycle, the faster a company can redeploy its cash and grow from internal sources. The extra money generated from each amount of revenue over and above that invested in working capital and operating expenses can be re-invested in additional working capital and operating expenses to generate more revenue in the next cycle.

Thus, there must be a trade-off between liquidity risk and opportunity loss. Liquidity risk refers to the non-availability of cash when a liability falls due. This accounts for the institution's reputation and in the extreme case, determines how much credit may be accessed. Opportunity loss is the risk of losing potential revenue due to non-availability of inventory or cash to support credit sales. The firm will be losing out on potential business. The findings showed that both universities had a 30-60-day operating cash cycle policy. According to the policy provisions, Students fees were expected to be paid in full within the operating cycle. However, the practice on the ground for both cases was different. The large percentage of school fees were found uncollected at the end of each year, hence the levels of bad debts reported. Further investigation revealed that a greater percentage of the accounts receivables for CBU constituted outstanding fees from those students who were on bursary. These were not consistent with the policy of the institutions as their payments were dependent on the availability of funds from their sponsors. MU, on the other hand a cash collection policy of 50% on registration and the other 50% before the end of the semester. The levels of uncollected school fees at the end of each year were found to be quite minimal as compared to those with CBU.

5.4.5 Inventory management

The percentage of working capital held in inventory ranged between 0.1% and 0.9% of the total current assets for CBU and 2% and 6% of the total current assets for MU. The two cases presented different approaches to the management of inventory. Inventory was centrally managed at CBU, meaning that there was independent section that was responsible for the procurement, storage and distribution of the various types of inventory for the entire university. On the

contrary, inventory management at MU was the responsibility of the functional unit to which the type of inventory was applicable. Each unit had a record that was linked to the management accountant for control purposes. With this arrangement the units were able to set levels of stock that represented the re-order points. The minimum and maximum re-order quantities for the inventory at MU were set at 10% and 60% respectively. While it was expected by general standard to have inventory of publications made by the institution for sale, there was no trace of such for both institutions.

5.5 The dependent variables

The dependent variables, which were the expected out puts as portrayed on the conceptual frame work on figure 3-1 are teaching, research and services. The study on the out puts was guided by objective number three (3) captured as 1.4.2.3 which states;

‘To investigate the challenges faced by administrators of education and research services in public universities in Zambia.’

Under this segment of the study, primary data were obtained by questionnaire administration on, and elite interviews with the officers involved in education administration, who, in this case, included: Deputy Vice Chancellors, Registrars, Deans and Directors of Schools and Institutes, Coordinators of Research Programmes and Deans of Student Affairs. The study investigated the challenges faced by these education administrators with regards to teaching, research and services in relation with the working capital management policies. Views of students on the timeliness, adequacy and quality of services offered were obtained through administration of Likert questionnaires. Secondary data for the study of dependent variable were obtained from the annual reports, graduation reports, and staff returns. The focus issues raised from the secondary data comprised; the enrolment patterns, including categories of students enrolled i.e. foreign and local students, work load policies, lecturer student ratios, staff costs and teaching costs.

Anecdota reveals an overwhelming support from the participants who made efforts mid their busy schedules to offer scholarly insights and rigor to the study. Demographic data shows that the personnel for both universities were at some level of gender and age balance and were adequately qualified for the positions they held.

The participants in the study in both cases pointed out that the university financial planning approach was inclusive. The deans at CBU expressed dissatisfaction with the working capital management system which placed all resources in one central account. The officers felt that the centralized system of managing resources was too bureaucratic and a source of delay in service delivery.

Objective four of the study looks at how the use of a particular strategy of managing the working capital affects the service delivery. Thus, it is used as a guide and basis for the interpretation and drawing of subsequent inferences in the next chapter.

CHAPTER SIX

ANALYSIS, INTERPRETATION, CONCLUSIONS AND IMPLICATIONS OF THE RESEARCH FINDINGS

6.0 Introduction.

This chapter provides an analysis and interpretation of the findings presented in chapter five. The chapter further presents the conclusions and implications of the study regarding the influence of independent variables (WCM approaches; aggressive, conservative, matching and zero) on the dependent variable (service delivery: i.e. Teaching, Research and Consultancy/service). The research questions of this study were focused on the extent to which working capital management strategies affect sustainable and consistent service delivery in public universities in Zambia.

The chapter is broken into three thematic studies in line with the guiding objective and research question; namely:

- i) Analysis and Interpretation of Findings
- ii) Conclusions Drawn from the Findings and
- iii) Implication of the Findings to the Study.

The findings are further summarized to include only those details that are pertinent to the study on working capital management and university education administration. An attempt has been made to present and interpret the findings in 2D graphs in an easy-to-understand format. The trend given for each of the financial ratios is presented on the graphs and illustrated by the equation of the trend line and tested by coefficient of determination (r) and the correlation coefficient (r^2).

The correlation coefficient also known as the product moment correlation coefficient (r) is a measure of the degree of linear association between two variables. The standard range applied in this study was:

$r = +1$ means that the variables are perfectly positively correlated;

$r = -1$ means that the variables are perfectly negatively correlated;

$r = 0$ means that variables are un correlated.

The coefficient of determination r^2 was used to indicate the proportion of changes in value of the variable under investigation(y) that could be explained by the changes over time (x). It was

obtained by calculating the square of the correlation coefficient.

6.1 Bench Mark Summary for the Interpretation of the Ratios.

6.1.1 Current Ratio and Other Liquidity Position Ratios

The current ratio measures the capacity of the business to cover its short term obligations. It shows the margin of safety provided for paying current debts. Rate at which the business 'current liabilities are settled is determined by how liquidity of the current assets. The quick or acid test ratio which is an even more restrictive measure of liquidity is used to determine this aspect of working capital. The higher the current and quick ratios, the more liquid the institution of higher education. The current and available funds ratios also present a general picture of the adequacy of the working-capital position. There is a need for working capital (CA- CL) in both short- and long-term operations. Liquidity and flexibility are key to the achievement of the university's goals.

6.1.2 Contribution Ratios

In the face of reduced Government funding and shifting burden of support for higher education institutions, the trend of less input to revenue from public sources to more input from private sources (gifts, private grants, and endowments) and internally generated funds is a self-fulfilling prophecy which is inevitably becoming an institutional policy issue.

With this imminent change in congressional priorities, the ratios of gifts-and-private grants and internally generated-income-to-educational-and-general-expenditures should be increasing. The measure will help to check if development goals are keeping stride with inflation and the availability of private sources of support. The implication is that private sources and internally generated income will be sufficient to meet the everyday operational needs of the institution.

The ratio of tuition fees-to-educational-and-general-expenditures

According to the bench mark for this study, a favorable ratio of tuition-and-fees-to-educational-and-general-expenditures should be as low as possible. Preferably, a decreasing trend would be favorable as long as the decrease comes from an increase in outside sources of revenues rather than a decrease in enrollments.

The ratios of total-operating cash flow (in flow) revenue-to-total-operating cash flow (out flow)-expenditures

The ratios of total-operating cash inflow /revenue-to-total-operating cash outflow /expenditures and-other should be 100 percent or above.

These ratios should maintain a constant or an increasing trend. Support or Auxiliary enterprise revenue as a percentage of total auxiliary enterprise expenditures should be at least 100 percent. The auxiliary enterprises should be self-supporting.

6.1.3. Allocation Ratios

Due to reductions in sources of support income, there may arise consequent Reductions in allocation ratios. Thus, allocation ratios should be constant or increasing.

Net Operating Ratios

A positive or an increasing trend in the Net operating ratios generally indicate that the current year's operation was in balance. Conversely, a negative or a decreasing trend in the ratio over time indicates that educational and general expenditures, or auxiliary enterprise expenditures in the case of auxiliary revenue, are growing faster than the available revenue sources. A positive ratio in this category indicates a surplus, whereas a negative ratio indicates a deficit.

6.1.4 Financial Reserves

Total cash and cash equivalent balances divided by total operating expenses plus endowment fund balances divided by total operating expenses, each weighted to show how short-term oriented the ratio is, provides an idea as to the size of the reserves in comparison to the size of the yearly expenditures. A figure of 50 percent would indicate that the institution of higher education could survive for one half a year on the reserves if no changes in expenditure levels were experienced. Dickmeyer (1980) suggested that an institution should set aside enough cash reserves to cover a 2-year decline of 20 percent in enrollment.

6.1.5 Cause-and-Effect Ratios

Any reduction in working capital or fund balances necessarily changes any ratio involving those two major elements.

The effect ratios measuring liquidity are current ratio, receivables-to-working capital, and total-revenue-to-working-capital. The current ratio not only measures liquidity, but it also presents a general representation of the adequacy of the working capital position. A ratio that is too low indicates a reduction in the ability to conduct everyday operations. Receivables-to-working-capital measures the quality of net working capital. A ratio that is too high indicates that the university's liquidity is poor. Total-revenue-to-working-capital is used primarily during periods of increased enrollment. The higher the ratio, the greater the strain on working capital.

A large amount of current liabilities indicates a more immediate financial risk and a reduction in the university's operating freedom. Heavy indebtedness is often a characteristic of attempting to increase the university's infrastructure too rapidly.

The causal ratio investment-in-plant-to-total-fund-balances measures over investment in fixed assets. If the ratio is too high, it may indicate too little working capital or over-utilization of debt. Total-revenue-to-total-fund-balances measures unrestrained growth, and net-revenue-to-total-revenue measures profitability. Even

though a university is not a for-profit entity, it cannot afford to operate in the red. A positive bottom line is essential. If the preceding two ratios are high, the university's working capital may have reached its limit. A low ratio may indicate a decline in enrollment.

The cause ratio miscellaneous-assets-to-total-fund-balances measures the increase in other assets. This ratio should not be too high.

Causal ratios focus on why financial statements are changing and not on just the change itself. Effect ratios, on the other hand, are used to determine the extent of the university's exceptions. They show that a change has occurred, its direction when a trend is considered, and its magnitude, but not the reason for the change. Not all directions of change are unfavorable. Some changes are favorable and desirable.

6.1.6 Educational Core Services Ratio

The purpose of this ratio is to analyze whether educational support services are using a growing or dwindling share of institutional resources. Support services are defined as the functional categories of expense that are ancillary, but directly related, to the mission of the institution.

$$\frac{\text{Educational Core Services Expenses}}{\text{Educational and General Income}}$$

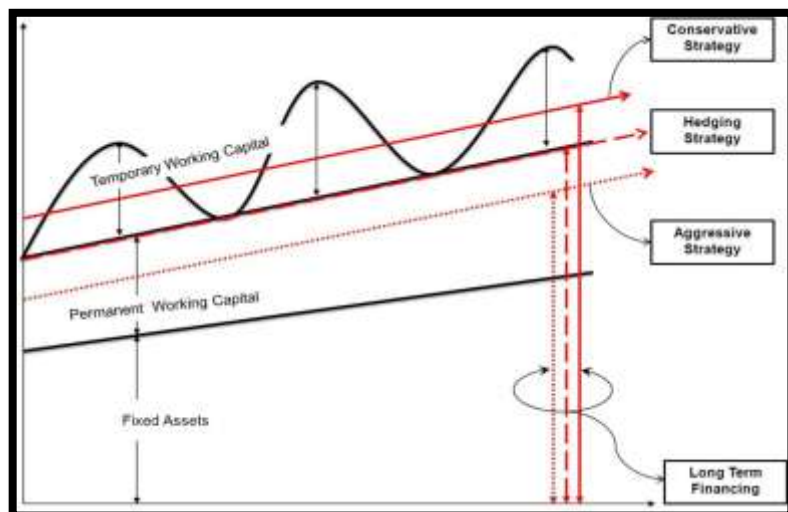
6.2. Analysis and interpretation of findings

The analysis of the findings was done with the view to answering the research questions. The first research question sought to understand the working capital approach identified with the public universities. The factors considered in identifying the WC approach at play in a particular situation were the sources of finance and objectives for maintaining current assets.

An organization can take any of the four or a combination of the possible approaches to working capital management. For the purpose of consistence and quick reference, the four approaches to WCM which constituted the independent variables of the study included the: Conservative, Hedging or Matching, Aggressive and the Zero working capital approach.

Three main strategies are plotted on a number line with one side as 'risk' and the other side as 'profitability'/performance. Conservative strategy is on the side of lower profitability and lower risk. On the contrary, an aggressive strategy is on the side of higher profitability and higher risk. While the hedging/matching strategy is somewhere between the two. Executing the hedging/matching strategy in its true sense is a matter of the management's attitude towards risk and other factors.

ILLUSTRATION 6-1 Graphical Summary of WCM Strategies



Source: <https://efinancemanagement.com/working-capital-financing/WCM-strategies>

The influence of working capital management approach and the way it affects service delivery in public universities was studied using the trend analysis. The figures that depicted the trend analysis for WC backed by the interview results provide the background information for these analyses. The trends in the liquidity positions of the university for the period under review were used to determine the type of approach used. The standard guide in determining the type of approach is the percentage of finance used.

Table 6-1 summary of key working capital indicator ratios

YEAR	2013		2014		2015		2016		2017	
INSTITUTION	CBU	MU	CBU	MU	CBU	MU	CBU	MU	CBU	MU
ENROLMENTS	9,180	1054	9,323	1641	9,596	3,790	11,271	4,661	9,396	5,522
Net Op.cash flow	1,401,000	17,622,839	28,047,000	17,622,842	15,359,000	46,928,725	13,712,000	17,536,847		19,794,205
Av. Current liab	289,313,000	11,307,065	671,251,000	15,296,810	460,145,000	31,742,987	979,712,000	34,755,575		38,837,083
NOCF/Ave.C/liab.	0.5%	156%	4.2%	115%	3.3%	148%	1.4%	51%		51%
C/assets	95,639,000	79,956,875	111,947,000	79,956,875	56,774,000	67,713,039	37,128,000	74,260,074		90,893,884
C/liabilities	578,625,000	30,593,619	763,877,000	30,593,619	920,290,000	32,892,355	1,039,134,000	36,618,794		41,055,372
C/liquidity ratio	-0.2:1	3:1	-0.2:1	3:1	-0.1:1	2.1:1	-0.04:1	2:1		2:1

Source: Own Research 2018/2019

Table 5-12 depicts a consolidated tabular presentation of the working capital indicators for the two case institutions placed in juxtaposition for the five years' period under review. The rest of the analysis of the trends and statistical comparisons were based on these details. The statistical tests performed on these data included the measures of central tendency and correlations. Among the correlations done, were the 2-tailed tests between current assets vs/v enrolments; current liabilities vs/v enrollments. The tests were done on a case by case basis. The tests were done on

the assumption that the education administration activity levels (service provision) were a function of the working capital management strategies.

Illustration 6-2 2-Tailed Test For Correlations (Enrollments Vs/V
Current Assets)- CBU

			Enrollments	Current Assets
Spearman's rho	ENROLLMENTS	Correlation Coefficient	1.000	-.900*
		Sig. (2-tailed)	.	.037
		N	5	5
	CURRENT ASSETS	Correlation Coefficient	-.900*	1.000
		Sig. (2-tailed)	.037	.
		N	5	5

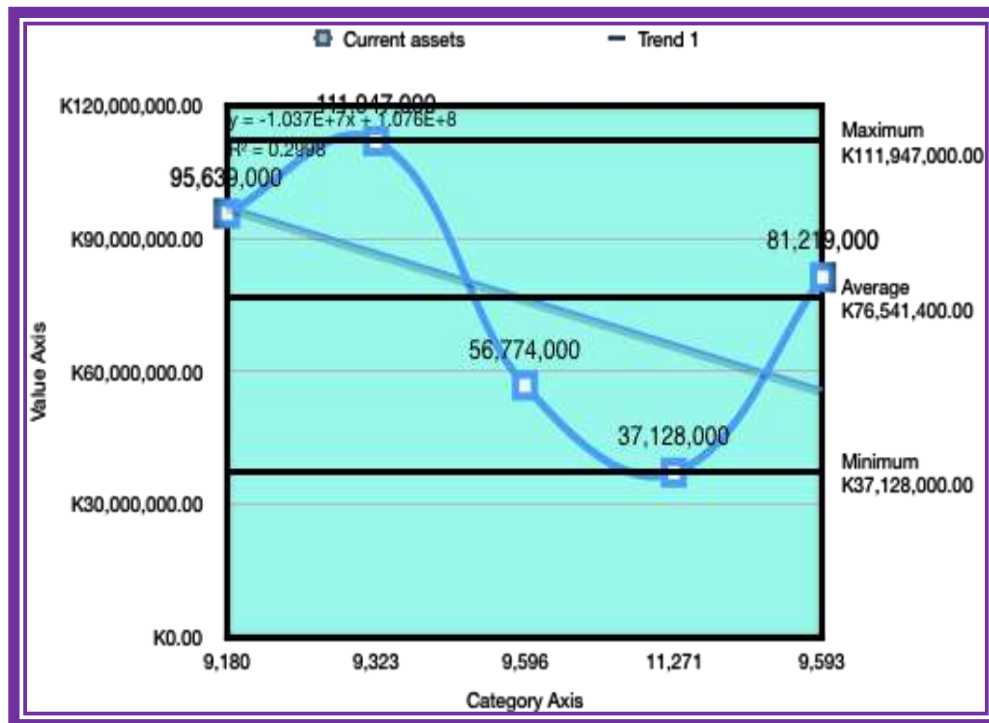
*. Correlation is significant at the 0.05 level (2-tailed).

Source: Own Research 2018/2019

The results of the 2-tailed test show that correlation is significant at 0.05 level. This implies a significant influence of working capital management on enrollment and vice versa. It further indicates that the growth in the enrolment has a positive effect on the current assets. On the other hand, this increases the risk of opportunities as much of the working capital is tied up in current assets.

With this trend and correlation in current assets and enrollments, it is clear that the copperbelt university's liquidity position was highly risky.

Figure 6-1A Correlational analysis for current assets and enrollments for CBU 2013 – 2017/18



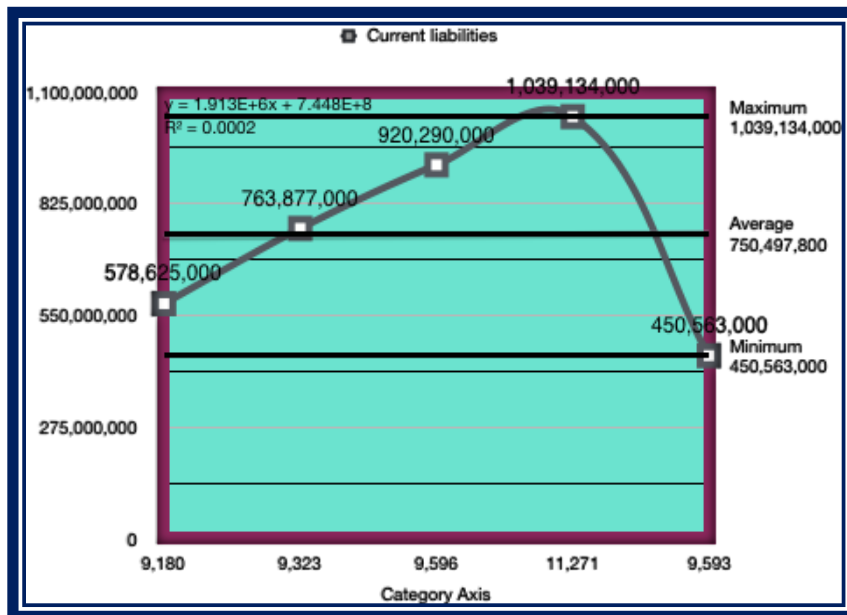
Source: Own Research 2018/2019

According to trend line graph model above, illustrated by the Model of:

$$y = -1.037E + 1.076E + 8,$$

The adjusted R squared is. 2998. This shows that enrollment to some extent influences the variability of current assets. Thus, various enrollment levels can be used to predict the working Capital requirements for institutions of higher learning in Zambia.

Figure 6-1B Correlational Analysis of Current Liabilities and Enrollment CBU-2013- 2017/18



Source: Own Research 2018/2019

According to trend line graph model above, illustrated by the linear equation of

$$Y = -1.913E + 6x + 7.448E + 8,$$

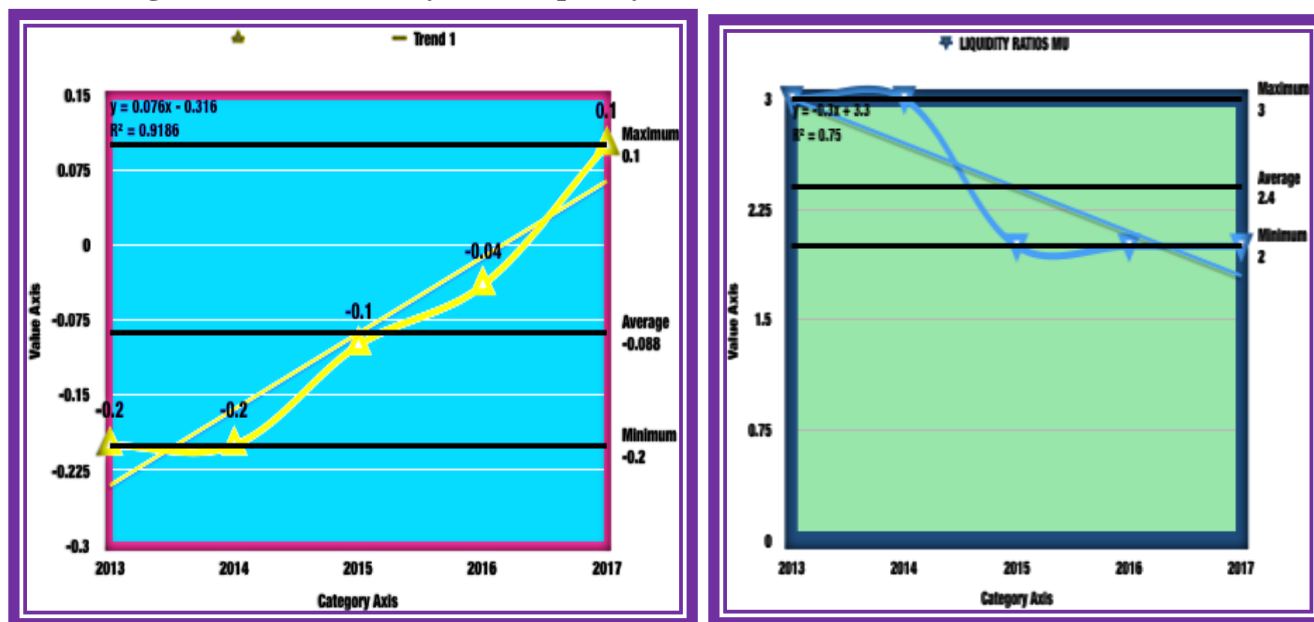
The adjusted R squared is 0.0002. This shows that there is a weak influence of enrollment on the variability of current liabilities. Thus, enrollment patterns weakly predict the financial sustainability of institutions of higher learnings in Zambia. Thus, various enrollment levels cannot be relied upon to predict the financing needs of the working Capital for institutions of higher learning in Zambia.

6.2.1 Interview Results

The study participants revealed to the researcher that there was some weakness in line with enrollment and current asset management in the structure. They indicated that the system did not have sufficient control mechanism to ensure there was proper alignment of resources with the needs. Most of the respondents felt that it would be of great help to the system if enrolments were linked to key financial indicators as performance guide, as a basis for forecasting and planning. This was confirmed by the Auditor General’s report which highlighted a number of irregularities in the enrollments categories for students under bursaries. The report highlighted some impropriety with regards to the admission and subsequent invoicing for the students. With reference to the financial regulation of 2013 which required that any student owing the university in tuition and other fees shall be prevented from accessing the university services, it was observed, to the contrary, that some results were issued to students who were actually owing the

university. The report also disclosed disparities in numbers of registered students against those invoiced which indicated some loss of potential revenues.

Figure 6-2 Trend Analysis of Liquidity Position-2013 - 2017



Source: Own Research 2018/2019

Illustration 6-2 Analysis of liquidity position.

Institution	Model	Minimum	Maximum	Average	R	R ²
CBU	$Y = 0.076x - 0.316$	-0.2	0.1	-0.088	0.9584	0.9186
MU	$Y = -0.3x + 3.3$	2	3	2.4	0.8660	0.75

Arising from the summary of the statistics above, the discussion proceeds with the interpretation as follows:

6.2.2. Interpretation

The benchmark ratio of 2:1 or 2:0 is adopted for the purpose of analysis in this study. That is, for every K2.00 of current assets, there should not be more than K1.00 of current liabilities for the institution of higher education to indicate financial strength. This 2:1 current ratio allows bills to be paid on time, discounts to be taken, and minimum interest on short-term debt.

The liquidity for CBU as depicted on the model of the trend line for the period 2013 to 2017 of $y = 0.076x - 0.316$ presents a sustained negative position for the copperbelt university. Further scrutiny of the figure above, the trend indicated a decrease in the current and quick ratios from 2013 to 2016. however, the position seems to have received some redress in 2017 as it shows growth towards the positive, though the growth was quite negligible. This is far too below the acceptable standard. It means the institution has been financially constrained.

The correlation coefficient of 0.9584 or +1 for CBU and 0.8660 or +1 for MU show that there is a

strong positive correlation between liquidity pattern and the time period of the operations. The coefficient of determination for CBU affirms that 92% of the variations in the liquidity can be explained by the variation in time periods of the operations. whereas for MU,75% of the variation in the liquidity can be associated with the variations in the time periods of the operations.

It is evident from figure 6-1 that Mulungushi University experienced favorable trend of net working capital and liquidity throughout the period under study. There is positive indication of net working capital showing a higher level of liquidity in the first two years 2013 and 2014 denoting excessive cash holdings and a loss of investment income opportunity. This trend which reflected excessive cash and cash equivalent holdings continued up to the 2014. It was normalized in 2015 when the excess cash was invested in other ventures.

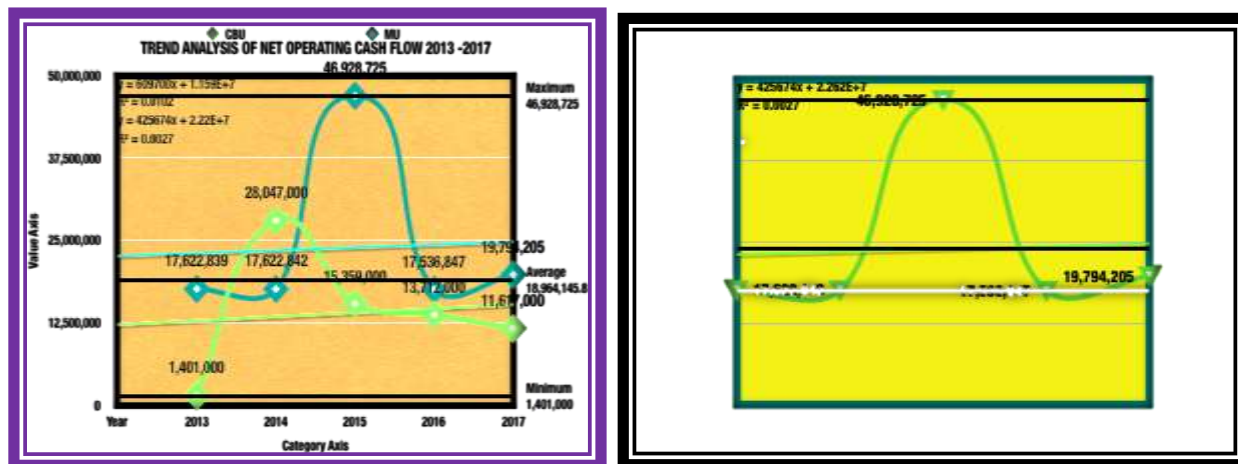
This action yielded positive effects on the university's cash and cash equivalent position up to the 2017. The situation improved the university's working capital management efficiency, which positively serves to better the levels of service provision within that period.

6.2.3 Conclusion

In terms of the working capital management strategy, it is evident from the foregoing analysis and interpretation that there was a general lack of proportionate support of the components of working capital for the volume of university's business operation at CBU. From this premise it is deduced that, there is conflict between the institutional practices and policies of low overdraft with policies of high credits. The researcher further inferred that there was lack of clearly defined policies as to the volume of current assets required for managing CBU's short term obligations, so as to have some surplus for improving educational service provision. CBU's approach was more of the aggressive strategy/ approach as indicated by the fact that there was more short term financing than long term financing of working capital.

For Mulungushi University, the WCM approach was inferred to be a combination of matching/hedging and the conservative approaches. This is indicated by the levels of holdings in working capital in current assets particularly, cash and cash equivalents.

Figure 6-3 Trend Analysis of Net Operating Cash Flows 2013 - 2017



Source: Own Research 2018/2019

One of the most important indicators of organizational performance is the institution’s cash position, given that the institution requires cash to operate. Since SFAS No. 117 requires a statement of cash flows, the analysis in the study took cash flow information to delve into the issue of the strength and quality of the income stream. Net income, which normally shows the change in net assets, is calculated on the accruals basis which includes noncash items such as depreciation. To examine the strength of the net income that contributes to net cash inflows, it was deemed useful in this study to examine the trends in the net cash flow from operations and relate them to the total revenues.

Van Horne (2011) stated that “cash management entails managing the monies of the firm in order to exploit cash availability and interest income on any unused funds”.

Illustration 6-3 model for operating cash flow

Institution	Model	Minimum	Maximum	Average	R	R ²
CBU	$Y=609,700x+1.159E+7$	1,401,000	28,047,000	18,964,145	0.10099	0.0102
MU	$Y = 425,674 + 2.262E+7$	17,536,847	46,928,725	23,901,091	0.05196	0.0027

Source: Own Research 2018/2019

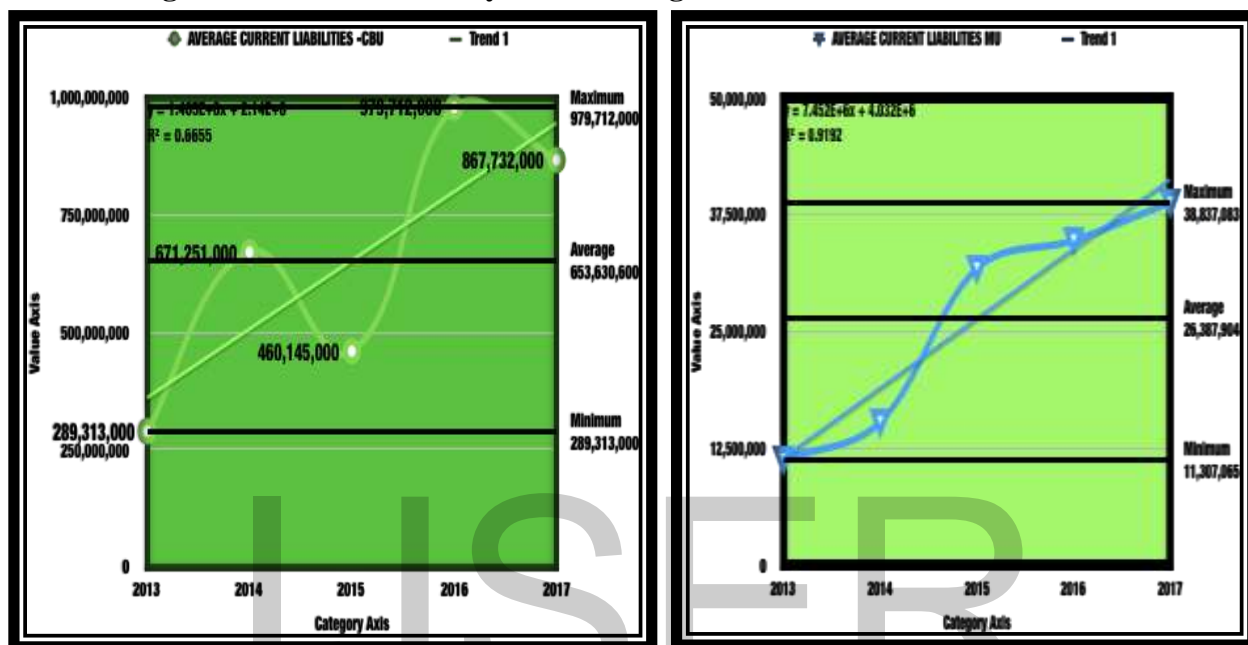
The trend in the net operating cash flow for both CBU and MU on the model summary, present the adjusted R squared as 0.0102.and 0.0027 respectively. This denotes a very low or weak positive correlation between the net operating cash flow and the time period of the operation.

This shows that the variability in net operating cash flow cannot be attributed to the time periods for MU. The coefficient of determination depicts that only 10% of the variations in the net operating cash flows for can be attributed to the time periods. This leaves 90% to be explained by other factors. Thus, various income generating activities can be used to predict the cash flow of the institution. graph shows an erratic supply of the university’s liquid funds. CBU’s cash

holdings for the period under study from the absolute figures, were noticeably, below expectation. If these indicators were measured against the benchmarks of percentiles (25th, 50th and 75th percentiles) the university would fall within the 25th, percentile.

The researcher deduced that there was no definite cash management policy and that the cash flow pattern for CBU was un predictable.

Figure 6-4 The trend analysis for average current liabilities 2013 -2017



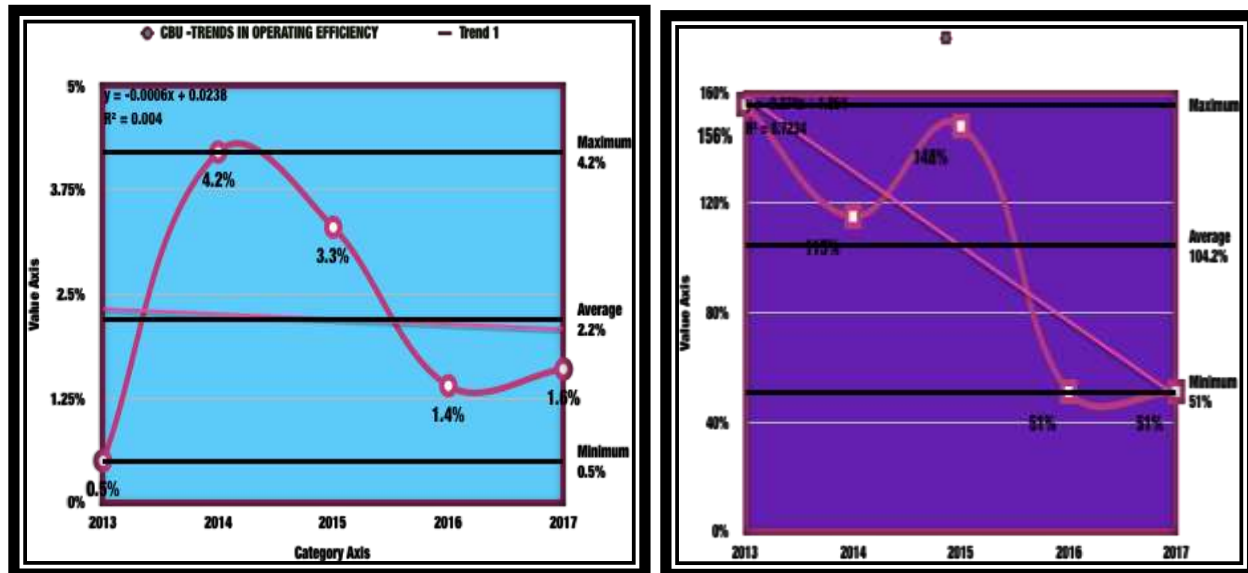
Source: Own Research 2018/2019

Illustration 6-4 Analysis For Average Current Liabilities 2013 -2017

Institution	Model	Minimum	Maximum	Average	R	R ²
CBU	$Y=1.465x+8x+2.14E+8$	289,313,000	979,712,000	653,630,600	0.81578	0.6655
MU	$Y = 0.076x - 0.316$	11,307,065	38,837,083	26,387,904	0.95874	0.9192

As shown by the model summary, the coefficient of determination R squared is 0.6655 for CBU and 0.9192 for MU which translate to 66.55% and 91.92% respectively. This shows that average current liabilities to a greater extent are influenced by the time period of the operation. The correlation coefficient for both CBU and MU show that there is a strong positive association between current liabilities and the time period of operations. Thus, various attributes of time period of operations can be used to predict average current liabilities of Institutions of higher learning in Zambia. This implies that the capacity of an institution to contain its current liabilities is to a great extent dependent on the length of the operating cycle. The longer the operating cycle, the more bearable the current liability is to the institution. The shorter the operating cycle the more difficult it is for the institution to manage the financial burden.

Figure 6-5 Trend of Operating efficiency – operating cash flow relation to average current liabilities



Source: Own Research 2018/2019

The operating cash flow ratio is a measure of how well current liabilities are covered by the internally generated cash flows from a company's operations. The operating efficiency ratio was adopted because of its adequacy in gauging a company's liquidity in the short term. Using cash flow as opposed to net income is considered a consistent or more accurate measure since earnings are more easily manipulated.

Illustration 6-6 Operating Cash Flow Relation To Average Current Liabilities

INSTITUTION	Model	Minimum	Maximum	Average	R	R ²
CBU	$Y = -0.0006x + 0.0238$	0.5%	4.2%	2.2%	0.0634	0.004
MU	$Y = -0.274x + 2.138$	51%	158%	104.2%	0.8505	0.7234

Source: Own Research 2018/2019

The standard acceptable ratio of net operating cash flow to average current liabilities is at least 50%.

From the absolute figures, the trend for CBU is indicative of a weak financial operating efficiency. An average of 2.2% is far too low a cash holding to cover the short term liability. This, further implies that CBU did not generate sufficient cash from its operations to cover the current liabilities. The R squared of 0.004 which translates to 0.04% shows that the operating efficiency or the ability of the institution to cover its short term obligation cannot be explained by the operating period. There are are factors that can be used to explain the variability of the ratio other than the time period. More so, the down ward trend suggest that CBU’s operations are heavily constrained financially.

On the other hand, the model for MU depicts a healthy operating capacity. The minimum ratio is above that of the standard. The closer the value is to 1, the better the fit, or relationship, between the two factors. Since the coefficient of determination is 0.7234, which is very close to 1 it was inferred that the time period of operation for MU perfectly explains the variability in the net operating cash flow ratio to average current liabilities. This implies that with in the given operating period it is easy to predict the operating efficiency of the university.

Figure 6-6 Trend Analysis of the WC held in Current Assets for the period 2013- 2017

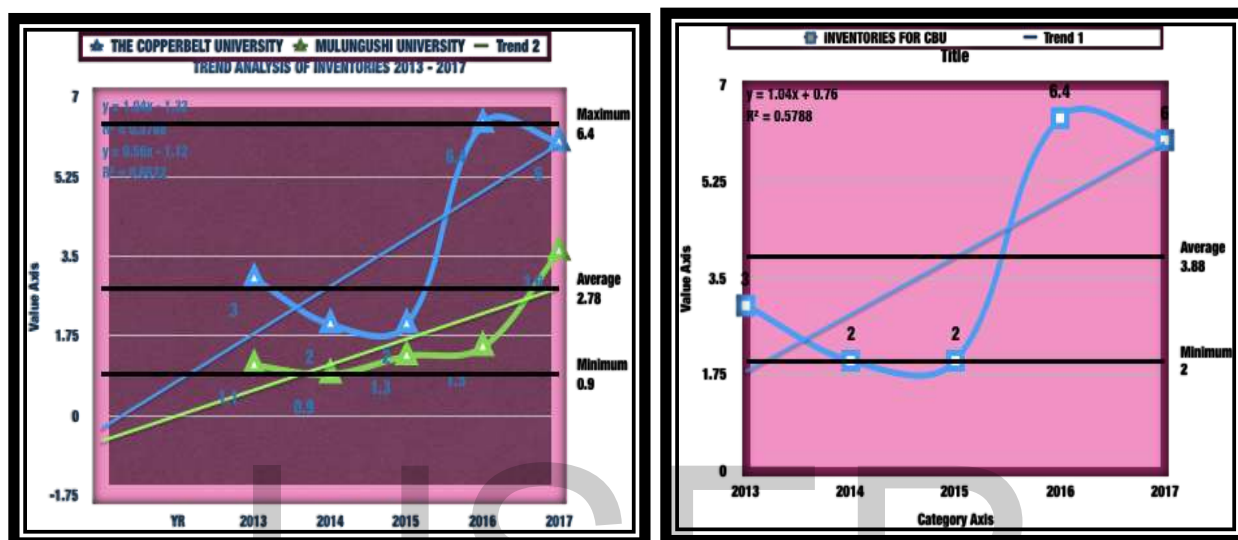


Figure 6-6 depicts two trend lines of inventory for the period of the study. Trend 1 is the trend for the copperbelt university and trend 2 is for Mulungushi university.

The calculation of average, minimum, maximum and the correlation coefficient and of determination are summarized in the table below:

Illustration 6-6 Model for Analysis of the WC held in Current Assets for the period 2013- 2017

Institution	Model	Minimum	Maximum	Average	R	R ²
CBU	$Y=1.04x+0.76$	2	6.4	3.8	0.76088	0.5788
MU	$Y = 0.56x + -1.12$	0.9	3.6	1.68	0.80758	0.6522

Figure 6-3 above illustrates trend analysis result for working capital held in inventories for CBU and MU depicted as trend 2 and trend 1 respectively.

Trend 2 (CBU) result indicates R squared of 0.5788 implying that 57.8% total variation in inventory management in the university is attributed to the changes in time period of the operation. Trend 1(MU) depicts R of 0.80758 and R square of 0.6522 implying that 65.22% of the variation in inventory levels is as a result of the changes in the explanatory variables. Lower R square in trend 2 than in trend 1 is attributed to the fact that other control variables are highly associated with the inventory levels than the operating time.

The “inventory days” ratio indicates whether inventory is being carried for an excessive length of

time. A high figure (more than the industry average) may suggest general problems with unsaleable or obsolete or damaged inventory.

Thus the levels of inventory maintained in both institutions were fairly good and financially healthy by policy. However, in practice, the case was observed to yield negative results. From the interviews and questionnaire administration, the majority of the deans in both study cases expressed dissatisfaction with the central system of managing inventory as it did not tally well with the operating cycles. There were reported failures in meeting targets as a result of bureaucratic and prolonged delays in executing requisitions for the materials and learning accessories. At the time of the study, the CBU health facility was under closure by the health professional’s council of Zambia on account of carrying expired inventory of drugs. This in itself speaks volumes on the need to review the inventory management system particularly at CBU.

Figure 6-7: Trend analysis of WC held in accounts receivables 2013- 2017

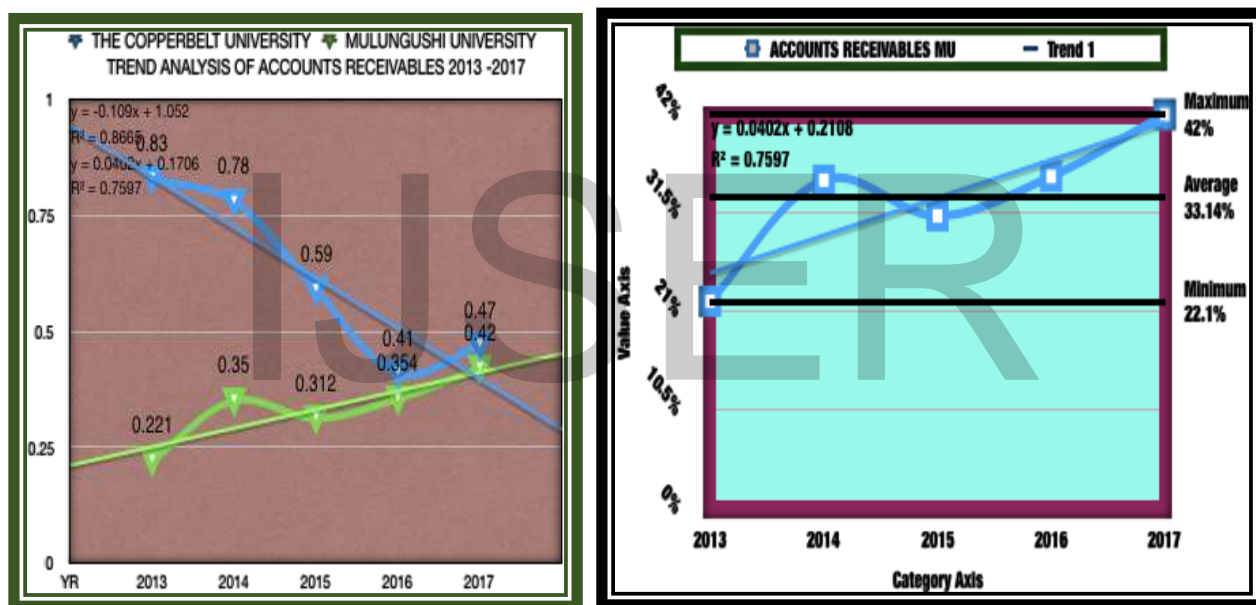


ILLUSTRATION 6-7 Trend analysis of WC held in accounts receivables 2013- 2017

Institution	Model	Minimum	Maximum	Average	R	R ²
CBU	$Y = -0.109x + 1.052$	41%	83%	61.6%	0.93085	0.8665
MU	$Y = 0.0402x + 0.2108$	22.1%	42%	33.14%	0.87161	0.7597

Source: Own Research 2018/2019

The models for both CBU and MU depict positive correlations and association of variables. This shows how much dependent on time variations accounts receivable levels are. The R squared for CBU of 0.8665 means that 86.65% or 87% of the accounts receivables in the trend can be attributed to the factors of the operating period, leaving 13% to be explained by other factors. This is a good fit of predictability. The correlation coefficient of 0.9308 is close to one which

signifies a strong positive correlation of the variables. MU presents a similar scenario. Though the values are slightly lower than those of CBU, they fall in the same bracket and depict the same degree of correlation and association. In stricter sense of comparative analysis, CBU holds more working capital in receivables than MU. This difference is what accounts partly for their variations in liquidity positions and hence their working capital management approaches.

The average percentage of working capital held in accounts receivables also entails how much time it takes the institution to liquidate its accounts receivables. The customer collection period indicates whether customers are being allowed excessive credit. A high figure (more than the industry average) may suggest general problems with accounts receivable collection or the financial position of major customers. From the model summary above, an average of 61.6% and a maximum of 83% for CBU is indicative of the problems of prolonged receivables collection period and customers financial position. This confirmed by the mode of educational sponsorship of the students enrolled at CBU. As established from the survey and document analysis, over 60% of the clientele for CBU are on government bursary schemes. Unlike other sectors whose major sources of income is capital intensive projects, the business practice for the educational sector is heavily dependent on subscription like revenues, thus the management of receivables is crucial and it calls for definiteness in receivables over certain periods of time. With this case in point the challenge to the institution is how it is able to tap into this revenue base regularly. Left with a degree of autonomy, under an entrepreneurial leadership, the organization should face fewer business risks with the exception of economic shocks which are contingent on all economic sectors.

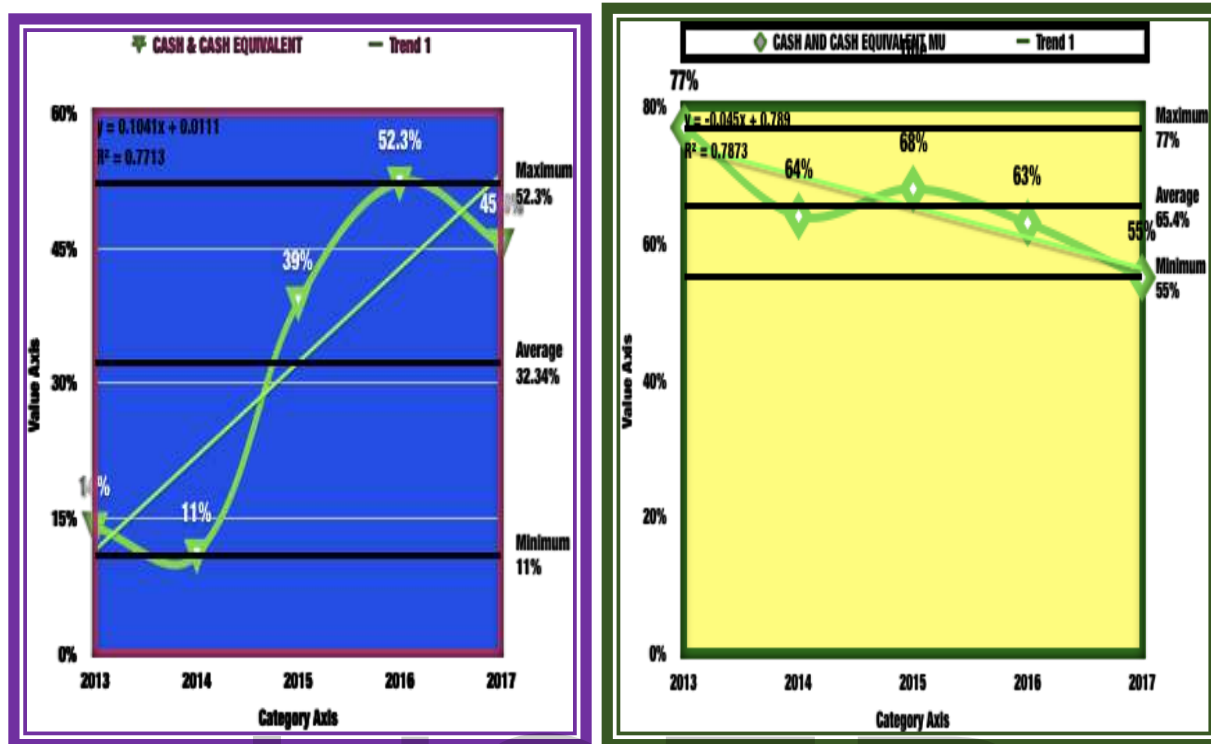
6.2.3 Collection Policy – interview results

An efficient collection strategy, would ease the likelihood of bad debts and reduce the cash collection period, and subsequently reduce the salient costs of maintaining high levels of accounts receivable. Collection policy's usefulness is determined by the standard amount of time required to collect overdue fees and an account receivable which normally replicate collection period of financial ratios (Ross et al., 2008).

This interview was conducted to understand the kind of strategy the universities in study applied in handling the matter of collecting unpaid school fees and other receivables. The majority of participants at CBU indicated that there was no clear and consistent collection policy. This was in harmony with the findings of the auditor general's report on the accounts receivables management. On the other hand, their counterparts at MU expressed satisfaction about the collection policy, neither was there a query found against this policy in the audits of parastatals.

This indicated that MU was up to date where debt collection was concerned.

Figure 6-8 Trend Analysis of Cash and Cash Equivalent – CBU & MU



Source: Own Research 2018/2019

Illustration 6-8 Trend Analysis of Cash and Cash Equivalent

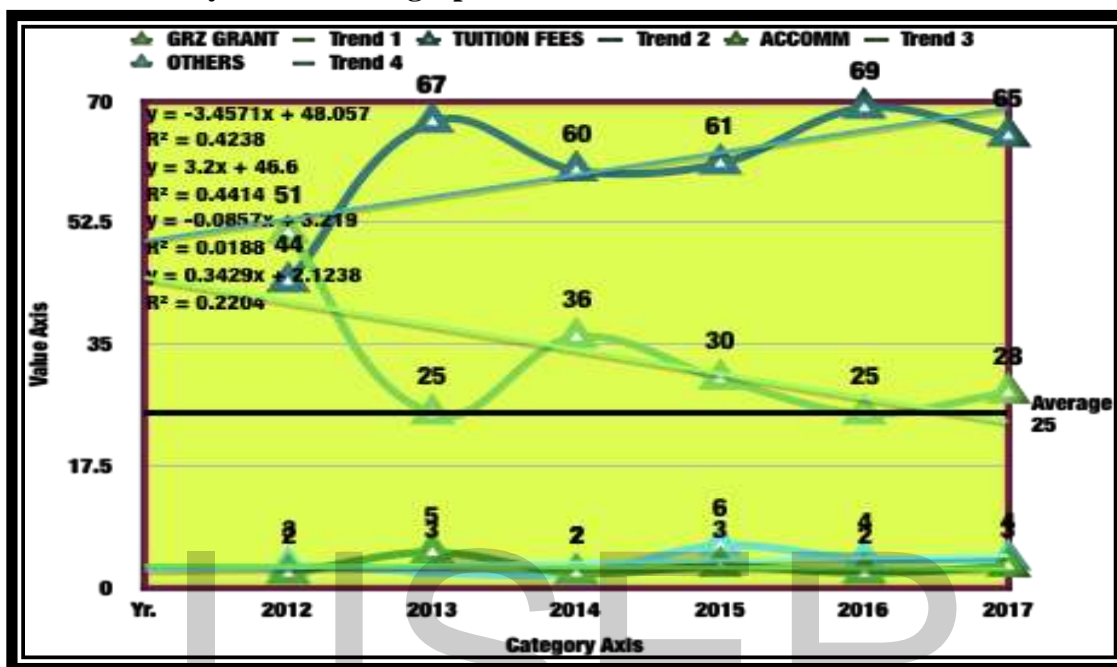
Institution	Model	Minimum	Maximum	Average	R	R ²
CBU	$Y = -0.1041x + 0.0111$	11%	52.3%	32.34%	0.93085	0.7713
MU	$Y = -0.045x + 0.789$	55%	77%	65.4%	0.7873	0.7597

Cash management is the art of having the right amount of cash in the right place at the right time. The trend analysis models for both MU and CBU depict strong positive correlation between the time period and the cash holdings. The coefficient of determination (r^2) also shows a reasonable degree of association between the time period and the cash holdings for both CBU and MU. The differences in absolute figures for the minimum and maximum explains more on the motives for holding cash. The responses obtained from the accounting staff clarified this position. CBU’s reasons for holding the amount of cash at any given time was speculative; whereas, MU’s motive for holding cash was transactional. From the foregoing analysis, it was inferred that, an organization’s policy on whether the treasury operation should be centralized or decentralized depends on the motives for holding cash. Thus, changes in any of the time periods will change the resources tied up in operations.

If an organization chooses to go by the policy of holding low cash level, as in the case of CBU, it would be in its own interest to carry out many transactions that would lead to soaring trading

costs but small opportunity costs. This is because there would be little unused cash funds. On the other hand, if an organization, like the case of MU, takes on the policy of holding high levels of cash, its opportunity costs will be superior due to the comparatively large amount of un invested cash but the trading costs will dwindle since only little transactions will be contracted.

Figure 6-9 Summary of trend line graph for income streams for CBU



The graph above presents four trend lines for the four major streams of income; GRZ grants, tuition fees, accommodation and others depicted as trend 1,2,3 and 4 respectively. The models were derived for each stream and including the minimum, maximum and averages and the coefficient of determination (R squared). The correlation coefficient was determined by calculating the square root of the coefficient of determination to establish the degree of correlation.

Illustration 6-9A Model of Analysis of of the trends in the four main sources of income for CBU 2012 -2017

Income item	Model	Min	Max	Ave.	R	R ²	comment
Government Grants	$y = -3.4571x + 48.057$	25%	51%	33%	0.651	0.4238	Weak correlation and low degree of association
Tuition fees	$y = 3.2x + 48.8$	44%	69%	61%	0.664	0.4414	Moderately correlated but very low degree of association
Accommodation	$y = -0.0857x + 3.21$	2%	5%	3%	0.137	0.0188	Uncorrelated and unassociated variables

Others	$y = 0.3429x + 2.123$	2%	6%	4 %	0.469	0.2204	Uncorrelated and unassociated variables
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Source: Own Research 2018/2019

Figure 6-9A shows trend lines for the four major sources of income for the copperbelt university for the six (6) year –period from 2012 to 2017. Trend 1 shows the trend in the funding provided by government to CBU. The graph depicts a decreasing trend in the supply of funds to the university for the period 2012 to 2017. The maximum funding was recorded at 51% while the minimum was found to be 25%. The R squared of 0.4238 which translates to 42.4% shows that there were only 42.4% of the variations of this income source that can be attributed to the time period, leaving 67.6% as attributable to other factors. The correlation coefficient of 0.65099 is close to +1 thus, depicting a strong positive correlation between the independent variable and the grant. It was concluded, to this effect, that government funding to the universities was responding to the global trends and that, this is likely to continue as it is assumed to be one of the strategies to adapt to the changing economic conditions. Thus the need for universities to come up with ways of increasing on the percentages of internally generated revenues in order for them to survive. This is a positive affirmation of the rationale for this study.

Trend line 2 shows the distribution of tuition fees contribution to the total income for the period of the study.

Absolute figures present tuition fees with the highest average contribution to total income. Meaning that there is high dependability on tuition for operations. The R squared, however shows a low association between the time period and the tuition fees collected. There are only 44.14% of the variability attributable to the time period leaving 55.9% explicable by other factors.

The responses from questionnaires and elite interviews disclosed the factors responsible for the weak correlation and coefficient of determination which included the financial condition of the vast majority of the clientele for the university. Thus it was inferred that the policy for tuition fees was more responsible for the unpredictable trend in fees collection than the time period. This also accounted for the high levels of accounts receivables carried at the end of each operating cycle.

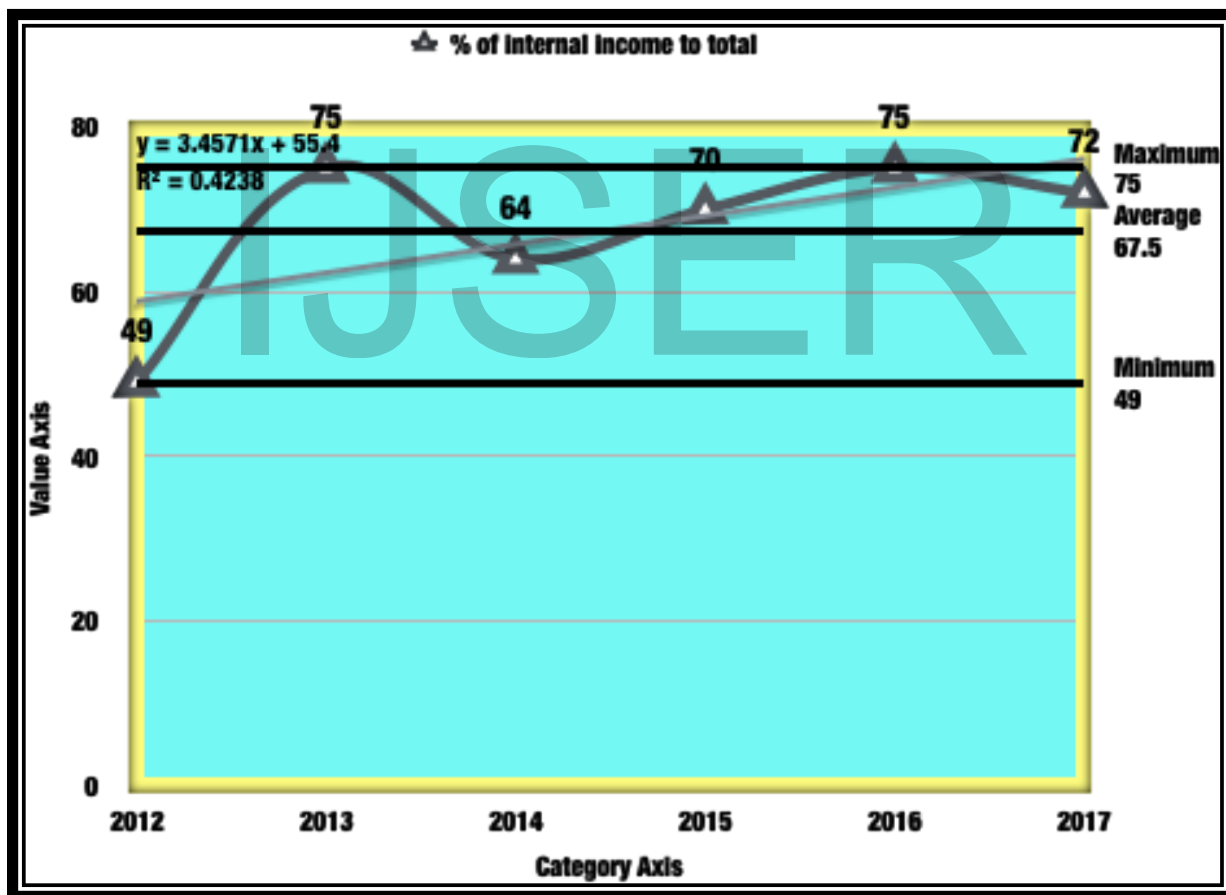
Trend 3 presents contribution the of fees generated from boarding in form of lodging or rentals. This was the lowest as indicated by both the absolute figures and the correlational indicators. Under profit oriented business practice, income generated from boarding should be ranking second to tuition fees. This is shows that there was little economic value derived from this resource as revealed in the auditor general’s report on parastatal bodies (2017). Public universities exist to provide social services/goods. To do so, they are expected to use commercial means if

they are to be consistent and relevant in the wake of the growing numbers of institutions of higher learning in Zambia.

Trend 4 represents income generated from other sources other than the three prominent ones. The pattern shows an erratic flow of income from these sources. The lower averages, minimum and maximum presents the un exploited opportunities as indicated by the responses garnered from the interviews with the stake holders. More so, with the decreasing trend in the GRZ grants to the university, it is expected that there would be positive change in the ratios of internally generated income.

The trend graph which depicts the percentage of the total internally generated income to total income for each of the years under study is presented separately from the rest of the trend lines for easy interpretation. Figure 6-8B-1 presents this trend line graph below.

Figure 6-10 Trend Analysis of Total Internally Generated Income Percentage on Total Income –CBU.

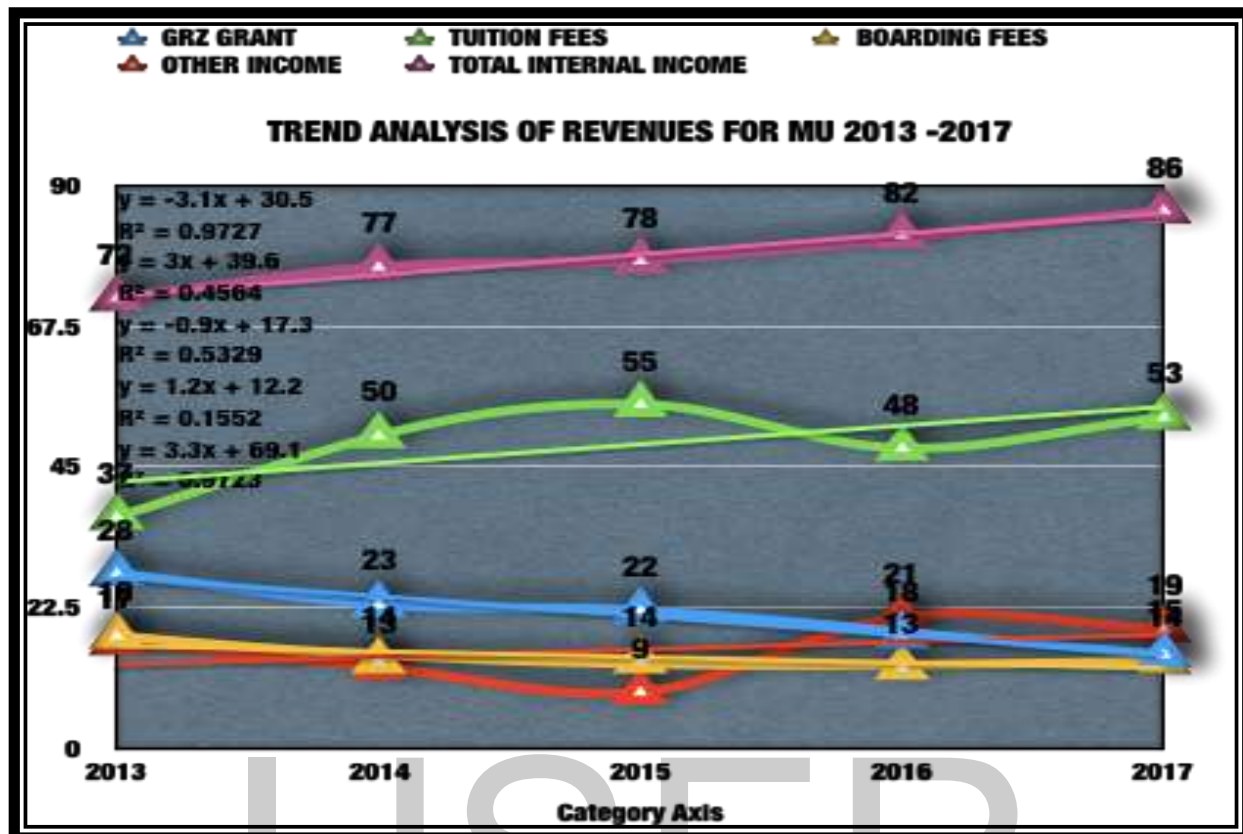


Source: Own Research 2018/2019

Illustration 6-10 Trend Analysis of Total Internally Generated Income Percentage on Total Income

Model	Minimum	Maximum	Average	R	R ²
$y = 3.4571x + 55.4$	49%	75%	67.5%	0.6509	0.4238

Figure 6-11 Graphical Analysis of Ratio of Income stream to Total Income for MU



Source: Computed from Survey Data 2018/2019

Illustration 6-11 Summary of models for interpretation of the trend line graphs

Income stream	Model	Min	Max	Ave.	R	R ²	comment
GRZ.Grants	$y = -3.1x + 30.5$	15%	28%	21%	0.986	0.973	Strong positive correlation and high degree of association
Tuition fees	$y = 3x + 39.6$	37%	55%	49%	0.675	0.456	Moderate correlation and weak association
Accommodation	$y = -0.9x + 17.3$	13%	18%	15%	0.730	0.533	Weak correlational and no association
Others	$y = 1.2x + 12.2$	9%	21%	16%	0.393	0.155	Un correlated and unassociated.

Source: Own Research 2018/2019

Figure 6-11 shows trend lines for the four major sources of income for the Mulungushi University for the five (5) year –period from 2013 to 2017. Trend 1 shows the trend in the funding provided by government to MU. The graph depicts a decreasing trend in the supply of funds to the university for the period 2013 to 2017. The maximum funding was recorded at 28% of the total income while the minimum was found to be 15%. The R squared of 0.973 which translates to 97% shows that there were 97% of the variations of this income source that can be attributed to the time period, leaving only 3% as attributable to other factors. The correlation coefficient of

0.986 is very close to +1 thus, depicting a strong positive correlation between the independent variable and the grant. It was concluded, to this effect, that government funding to the universities was consistent with the operating time periods. Though consistent, the model depicts a decreasing trend in the percentage of grants; implying that the global trends of shrinking funding of higher institutions were equally setting in at MU. This is likely to continue as it is assumed to be one of the strategies that most governments have taken in order to adapt to the changing economic conditions. Hence, the need for universities to come up with ways of increasing on the percentages of internally generated revenues in order for them to survive. This is a positive affirmation of the rationale for this study.

Trend line 2 shows the distribution of tuition fee contribution to the total income for the period of the study.

Absolute figures present tuition with the highest average contribution to total income with a graph that depicts an increasing trend. It is deduced on this ground that there is high predictability and dependability of tuition fees for operations. The R squared, however, shows a low association between the time period and the tuition fees collected. There were only 46% of the variability attributable to the time period leaving 54% explicable by other factors.

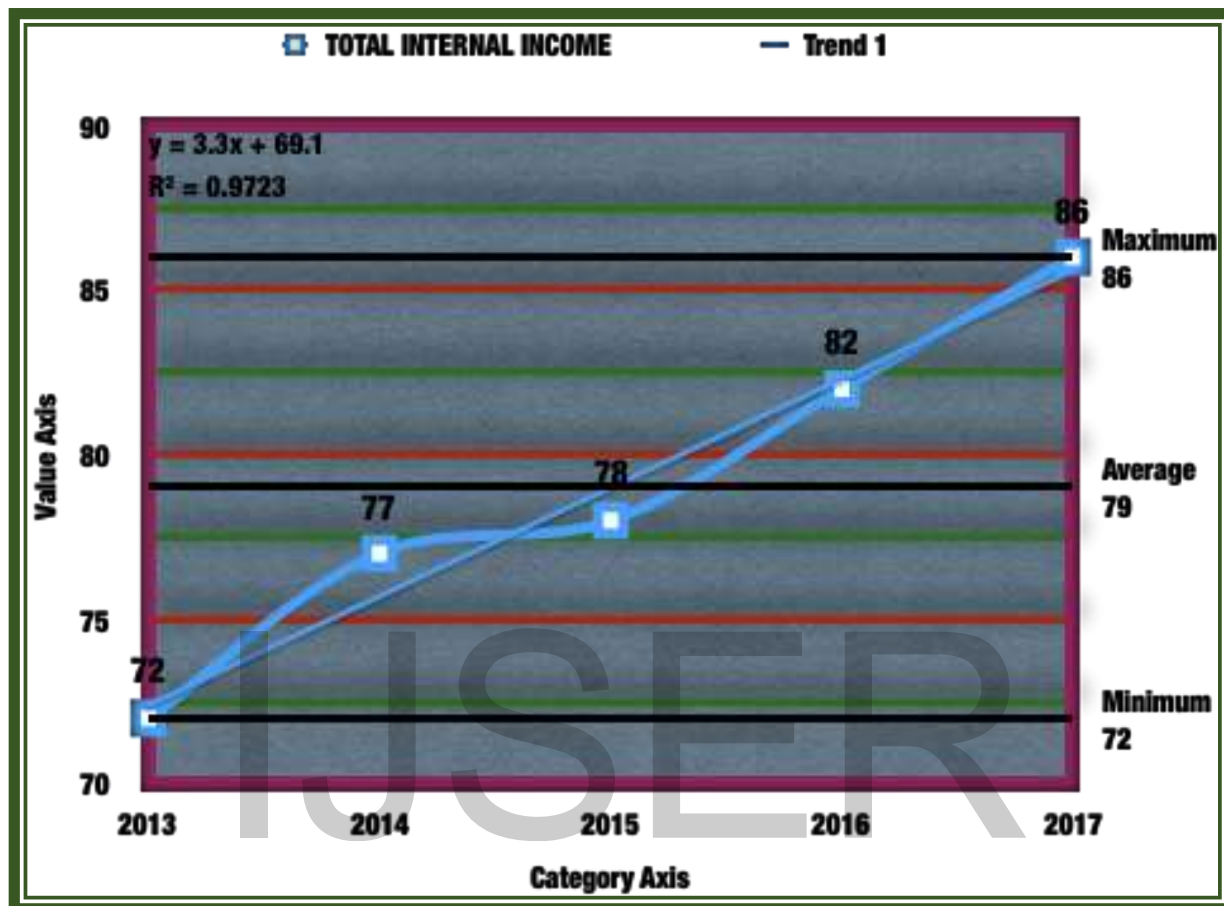
Trend 3 presents contribution the of fees generated from boarding in form of lodging or rentals. This was the lowest as indicated by both the absolute figures and the correlational indicators. On the positive note, the R squared shows 50% degree of association and a strong positive correlation coefficient.

Under profit oriented business practice, income generated from boarding would be rank second to tuition fees. In the case of MU, it shows that there was some economic value derived from this resource. Public universities exist to provide social services/goods. To do so, public universities, like their private counter parts, are expected to employ commercial means if they are to be consistent and relevant in the wake of the growing numbers of institutions of higher learning in Zambia. MU seems to be more commercial in the approach to business practice.

Trend 4 represents income generated from other sources other than the three prominent ones. The pattern shows an erratic flow of income from these sources. The correlation coefficient of 0.393 signifies a very weak relationship between the dependent and independent variables. The R squared presents 16% of the variation as associated to the time period, leaving 84% as explained by factors other than the time period. with the decreasing trend in the GRZ grants to the university, it is expected that there would be positive change in the ratios of internally generated income.

The trend graph which depicts the percentage of the total internally generated income to total income for each of the years under study is presented separately from the rest of the trend lines for easy interpretation figure 6-8B-2 presents this trend line graph below.

Figure 6-12 Trend analysis of total internally generated income to total income.



Source: Own Research 2018/2019

Illustration 6-12 Model for the trend of total internally generated income

Model	Minimum	Maximum	Average	R	R ²
$Y = 3.3x + 69.1$	72	86	79	0.98600	0.9723

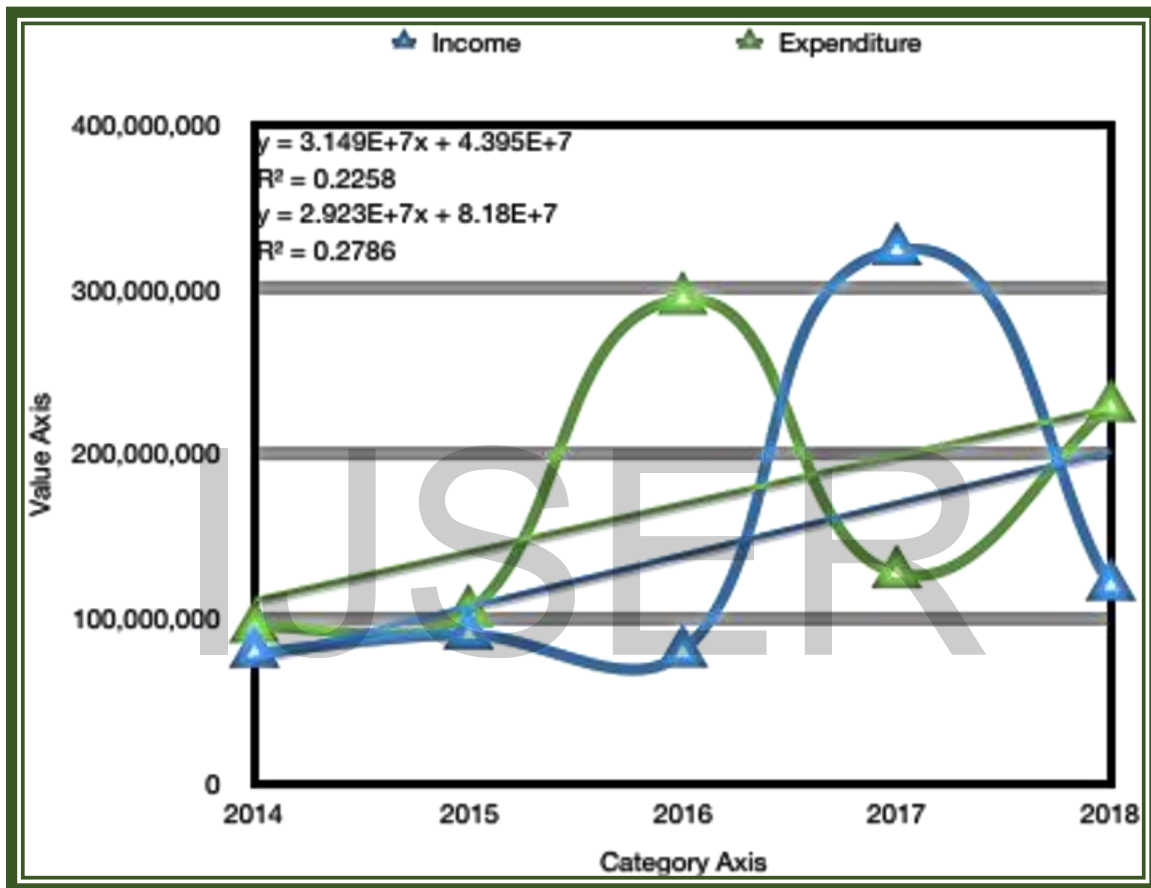
The graph depicts a positive increasing trend in the internally generated income. The distribution of the income on the trend line in the five years' period of the study shows a healthy outlook. The correlation coefficient shows a strong positive correlation of the dependent and independent variables. This denotes high predictability of the dependent variable on the time period. the coefficient of determination (R^2) of 97.2% shows a high degree of association. Only 2.8% of the variations can be attributed to other factors other than the time periods. This, is attributed to the system of the faculty/unit based income adopted by the university which facilitates full attribution of internally generated revenue to a specific unit. Faculties/academic units operate as collection centers for all internally generated revenue in the University except for accommodation. Resource

allocation follows the same pattern. An agreed percentage of the resources is allocated to the centre according to the volume of activity specific to the units within the University. This practice eliminates tension between the centre and the faculties in cases where the number of students paying is less than the number of admitted or registered students in a particular faculty.

The format used in presenting financial statement is evidence of this indicator.

Educational Core Services Ratios

Figure 6-13 Trend Analysis of Educational core service Income and Expenditure - MU



Source: Own Research 2018/2019

Figure 6-13 shows two trend lines for educational core service income and expenditure for MU for the period under study. The correlation coefficients for both income and expenditure show a weak association between the independent and dependent variables. This implies that, the variability of income and expenditure cannot be attributed to the time period. There are more factors associated with variabilities in these variables than there could be in the time period aspect.

Figure 6-14 Trend Analysis of Ratio of Educational core service Income to Expenditure - MU

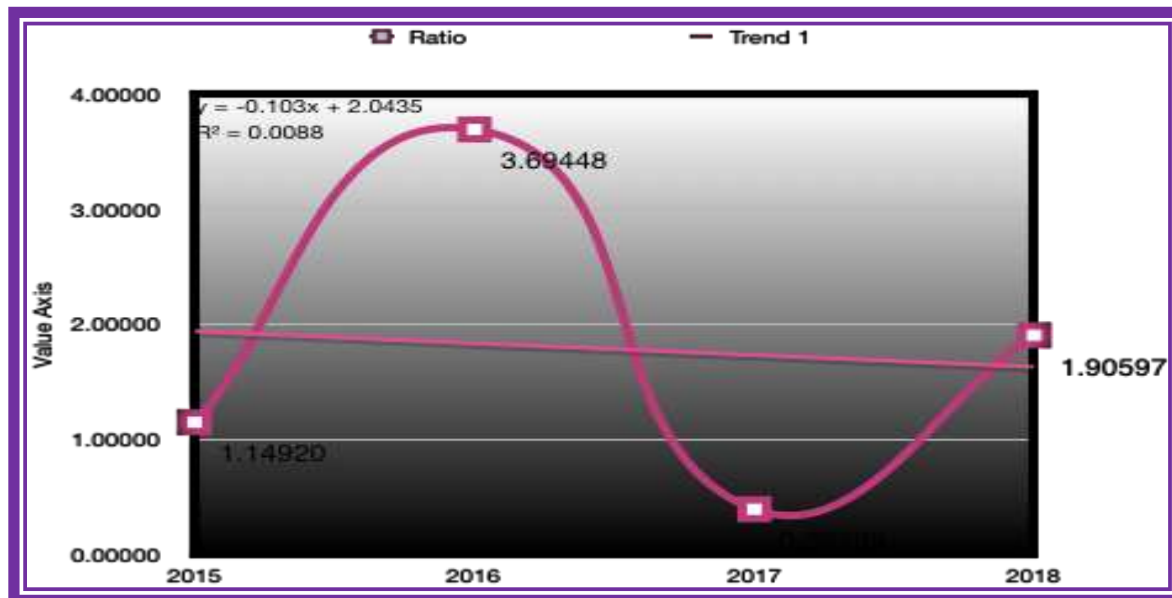


Figure 6-14 is a graphical presentation of the trend analysis of the ratio of educational core service income to educational expenditure. As per the bench mark guide provided at the introduction of this segment, the ideal for the ratio should present an upward or increasing trend. On the contrary, the trend line presented in figure 6-14, shows a fluctuating pattern in both income and expenditure for educational service. In this case, the ratio of the educational core service income to expenditure for MU presents a healthy outlook. It shows that educational support services are using a growing share of institutional resources although, the year 2017 recorded a drastic fall in the trend line.

Table 6-2 Trend Analysis of educational core service Income and Expenditure - CBU

Yr.	Total Educational Income	Educational Core Service Expenses	Ratios
2012	102,806	135,578	1.32
2013	178,038	146,280	0.82
2014	151,090	203,695	1.35
2015	146,521	216,816	1.48
2016	218,620	233,535	1.07
2017	151,837	243,444	1.60

Source: Own Research 2018/2019

Figure 6-15 Trend Analysis of educational core service Income and Expenditure - CBU

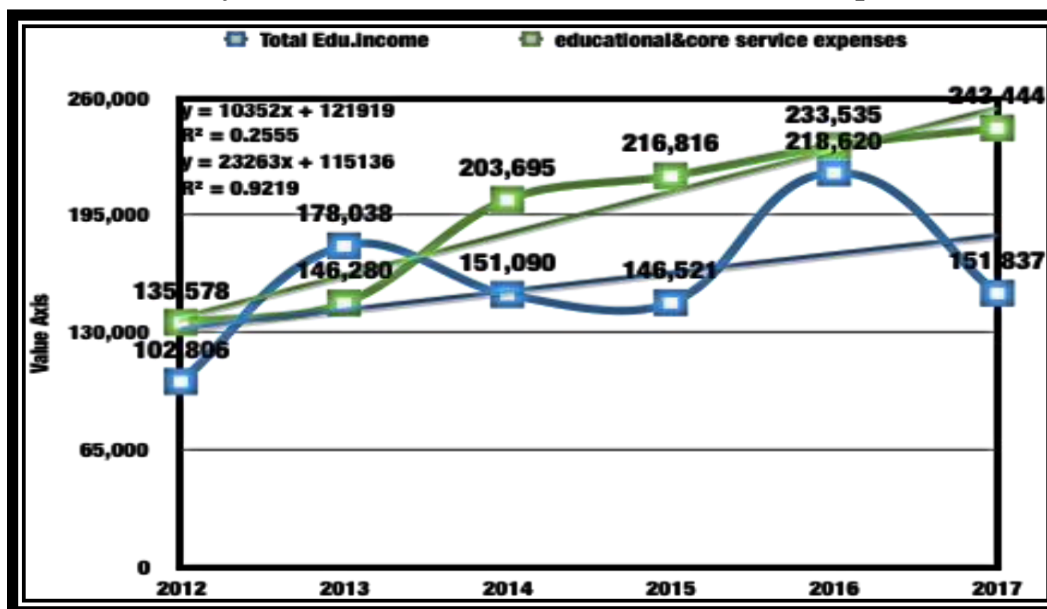
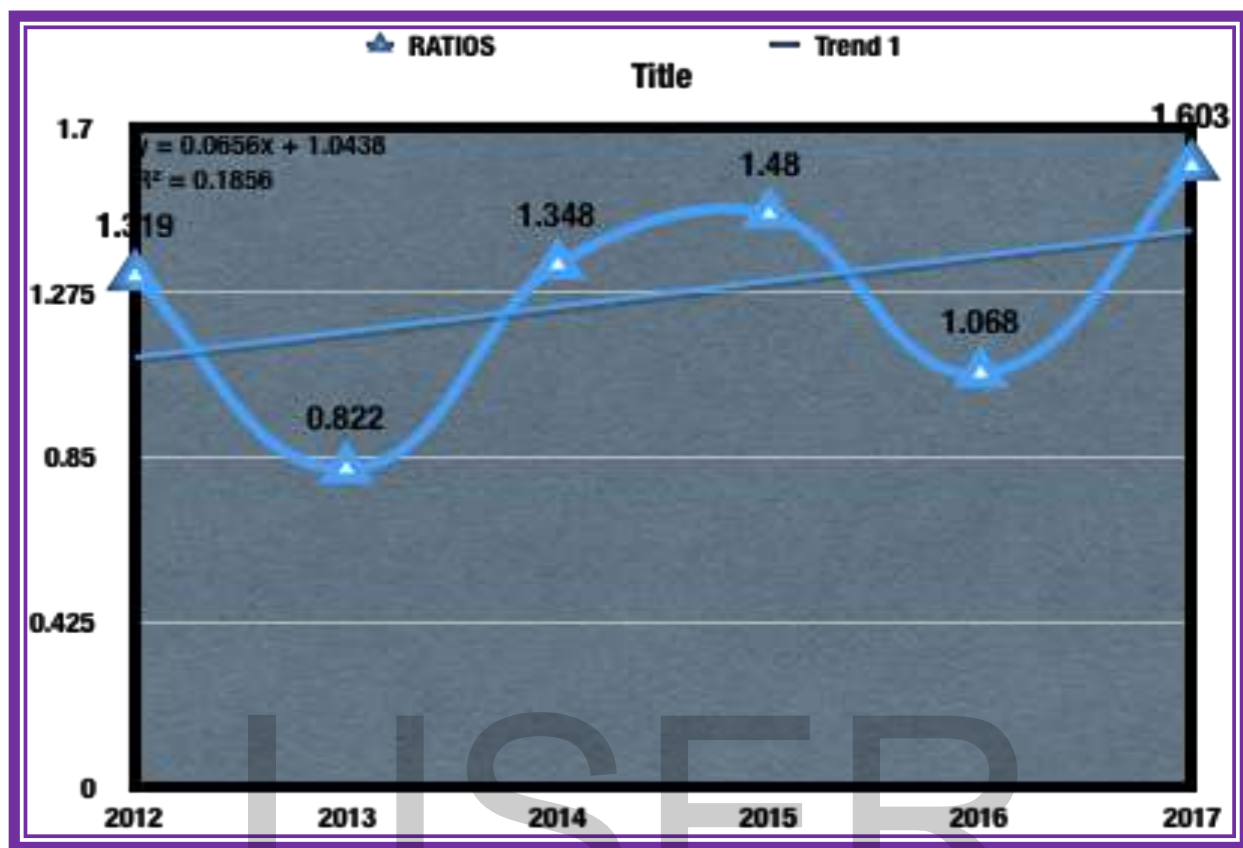


Figure 6-15 presents the trend analysis for educational service for the CBU for six years. The trend lines show high fluctuations in educational core service income translating into a negative financial performance. Educational core service expenditure, however, exhibited a continuous increasing trend with 2017 measuring the highest figure. In the six-year period under this segment of the study, the educational core service income remained unpredictable. This was deduced from the weak coefficient of determination (R squared) which shows that there was no strong association between the variability in income and the time period. The 0.2555 or 25% implies that only 25% of the variabilities in the income could be explained on the time period leaving 75% attributable to other factors other than the time period. As for the service expenditure trend line, there is a strong association between the time period and the expenditure. This is explained by the R squared of 0.9219 implying that 92% of the variability in the expenditure can be attributed to the time periods. The whole scenario is suggestive of the fact that the university provided more service on credit to its customers but did not delay to pay for the services received.

Figure 6-16 Trend Analysis of Ratio of Educational core service Income to Expenditure -CBU



The purpose of this ratio was to analyze whether educational support services were using a growing or dwindling share of the university resources. Support services are defined as the functional categories of expense that are ancillary, but directly related, to the mission of the institution. From the trend line depicted in figure 6-16, it is clear that the ratio was on the increasing side. This shows that the institution was using the growing share of the resources.

6.3 Conclusions drawn from the analysis.

From the preceding analysis and interpretation of the data, it is clear that there is a correlation between working capital management approach of an institution with the service delivery. This is inferred from the interactions of the working capital components and education administration activities. The two major working capital factors that were observed to have strong correlations with educational core service delivery were; The operating cycle as indicated in the operating efficiency ratios, and the accounts receivables management.

6.3.1 Operating cycle

The two cases presented two different operating cycles which provided a basis for the comparative analysis of the study. In line with Kramer (1982) who postulated that a cross

sectional analysis, comparing a ratio for one institution with the same ratio of a similar institution or national averages provides some useful perspective of relative financial condition of the institution. The two case institutions, CBU and MU operated on two different operating cycles. CBU operated the term system whose length of operating cycle ranged between 120 and 160 days (3-4 months). While MU's operating cycle which followed a semester system ranged between 180 and 260 days – an average of 6 months. As indicated in the analysis, the semester system provided a reasonable time frame for the effective management of accounts receivables and payable policies. The length of the operating cycle also affected the liquidity positions of the institution and consequently the rate of core service delivery. In the term system which had short operating cycle cash position were not so sound leading to the institution having insufficient cash resources to meet the operational needs. Hence CBU was observed to have a sustained negative liquidity position for the period of the study partly due to the length of its operating cycle. MU, on the other hand, which had a longer operating cycle maintained a sound liquidity position with some instances of holding excessive cash, throughout the period of study. It was concluded from this position that the operating cycle played a very significant role in matching the maturity periods of the accounts receivables and accounts payables which determined the cash holding position and subsequent rate of core service delivery.

As an organizations effectiveness of core service delivery was measured in terms of speed of delivery of feedback, consistency in its operations and availability of resources (financial, material and human resources), the cash holdings position and the motivation for holding cash was critical to this study. It is clear from the interview results that the university with a higher cash resources yielded more positive results of satisfaction of the consumer needs than the one which had lower cash resources. CBU's operations were more unpredictable than MU's.

6.3.2 Accounts receivables management.

Accounts receivables represent amounts owed to the university for services provided in form of tuition, accommodation and boarding services. A comparison of the percentage of working capital held in accounts receivables by the two institution depicts higher levels for CBU than for MU. The difference is attributed to two major factors as disclosed in the analysis of both primary and secondary data. The first and more crucial is the financial condition of the students who in this case are responsible for the greater percentage of the accounts receivables. Study revealed that a greater majority of the students at CBU were on government bursary or loan scheme. Whereas, for MU, all the students were on either self or private sponsorship. This implied that CBU's customers were not financially independent. Payment of fees was dependent on availability of

funds from the Government. Thus the receivables collection policy could not be any aggressive than was determined by the student's sponsoring entity. On the other hand, MU served a student clientele who were all self-sponsored and thus could effectively execute an aggressive collection policy which translated to lower accounts receivables balances, sound liquidity position and high levels of satisfaction with educational core service delivery.

From the analysis it was understood that core educational service provision in public universities was to a greater degree affected by the working capital strategies adopted by the institution. To be more specific, the choice of the operating cycle and the nature of the programmes being undertaken have direct implications on the rate, consistency and quality of service delivery. It was further discovered that Education administrators in public universities are faced with the challenge of striking a balance between the high costs of providing education and the need to satisfy the demand for educational services in the midst of erratic funding from the government and the changes that are taking place in the industry. Furthermore, the study observed that, the challenges were caused by factors which are both internal and external to the institution's environment.

On a stricter comparative analysis, the general conclusion drawn from the study was that a greater percentage of the challenges affecting service delivery in public universities were attributed to accounts receivable management policies. This was because much of the working capital and internally generated income for public universities was held in accounts receivables in form of uncollected tuition fees.

Drawing lessons from the study, the final segment of this chapter puts together the various aspects of education administration with their accompanying stake holders and recommends two conceptual model frame works for improving both the working capital management practices and educational service provision of institutions of learning in Zambia. The models propose responses to the changes in the social, economic, political and technological aspects of the external environment of the institution. These changes have been observed to have financial implications on the education administration processes and other related choices that managers make. The models here propose a response to these environmental forces basing on the theories of marketing, finance, operations, human relations, technology and innovation, leadership, motivation, organization, culture, design and systems.

Summary of conclusions on research questions

NO.	Research Question	Summary Conclusion
1	what are the working capital management policies, practices and techniques being used by the universities under review?	The two case institutions had different working capital management approaches. The working capital management approach adopted by the university was largely influenced by the mode of sponsorship for the students. The accounts receivables management was pivotal to the success of the service delivery.
2	What are the challenges faced by administrators of education and research services in public universities in Zambia?	Increased workload due to low staffing levels in schools, low funding for research, and low student research support; represented by 75% of the responses. There was a strong correlation between the working capital management techniques and the success of education service delivery in terms of speed of delivery, consistency and quality.
3	What are the implications of the working capital policies on the core service delivery in public universities	The working capital management policies had strong positive correlation with the level ,rate and consistency of service delivery
4	What are the possible optimal working capital models and conceptual frame works for institutions of higher learning operating in a turbulent economic environment?	The optimal working capital strategy is a function of enrollment levels, financial capability of the student, capacity to generate income internally, the length of the operating cycle and workload policy.

6.4 Recommendations and Contributions of the Study.

This section is used as the springboard to answering the fourth research objective pursued in this study, quoted as:

To develop a conceptual framework model for and recommend the optimum working capital management policies that will enhance core service delivery by public universities in Zambia.

The recommendations provided here are in two parts; The Immediate actions and the long term measures. Part one presents the short term possible measures and mainly centered on improving

the value of net working capital position. Part two presents the long term measures in form of conceptual frame work models.

The recommendations of the model frame works outlined in this section directly emerge from the conclusions drawn about the working capital management discourse in the context of the Zambian higher education system.

6.4.1 Part One- Immediate Actions

- 1) There exists a positive correlation between cycle and liquidity position, meaning the longer the operating cycle the more room there is for students to settle their accounts and thus the better the liquidity position for the institution. Therefore, in order to maintain sound liquidity and be able to deliver quality core services, consistently and timely, public universities in Zambia should match the operating cycles with the receivables and payables periods. The semester system presents a more favorable operating cycle for full time programmes as it provides sufficient time for both the institution and the students to marshal resources and meet their obligations.
- 2) Government funding to universities show a downward trend. The amount and frequency of grants has been decreasing as a result of increase in the number of public universities. This has spanned competition for students and staff among universities. In the two cases, the opening of new universities and upgrading of colleges into universities which have been placed under their supervision has increased the work load on management which implies reduced concentration on the internal affairs of the universities. To this effect, it is recommended here that management of universities should put in place effective measures that would ensure that the Internally Generated Funds that have the potential to contribute significantly to the revenue such as sale of farm products, sale of admission forms, residential and academic facilities rental income are improved upon and efficiently managed to ensure long-term sustainability.
- 3) The established positive correlation between the enrollments and the total revenue generated implies that the higher the enrollment the more revenue and vice versa. This means that increase in student's enrolment automatically leads to more revenue generation for a higher education institution. In this regard, the university should continue to make the conscious effort to increase enrolment by introducing more marketable programmes and revising/repackaging the existing programmes so as to increase the capacity for income generation.

6.4.2 Part two – long term solutions

Two conceptual models are proposed. Model one (1) is aimed at improving the financial condition of the student as a solution to the problem of low and slow payment responses from the pupils/students. Model two (2) aims at increasing income from research and scholarship by aligning schools with the relevant industries.

The first Model, construed on a Biblical philosophy focuses on securing and improving the financial condition of the student and provides an ideal for developing the culture of savings and investments. This model attempts to address the liquidity problems attributed to accounts receivables policies.

The second model describes a typology that aligns university programmes to the relevant industry. This is done with a view to increasing the capacity of private funding of university education through research services and scholarships and to better prepare graduates for the world of work. In both models government is required to play the role of creating an enabling regulatory frame work.

6.4.2.1 Model 1. The Josephian economic empowerment for Student financial security.

As student loan reform continues to dominate national discourse, this model lays down monetary and fiscal strategy to engage every student in both saving and investing for their future.

This Model proposes a concept that offers solutions to the many liquidity problems faced by the student populace in Zambia today. The concept is founded on the Biblical philosophy of economics as propagated in the Forty First (Genesis 41) Chapter of the book of Genesis. It is the interpretation of pharaoh's dream revealed by God to Joseph that provides the theoretical underpinning of the concept.

The message in brief, was that there were seven years of plenty in the land of Egypt that preceded the seven years of Famine and scarcity of food. In the first seven years in which there was plenty of food, every individual was tasked to contribute a certain percentage of their harvest to the creation of a national reserve which took care of them in the seven years of scarcity that followed.

“Accordingly, let Pharaoh Find a man of discernment and wisdom, and set him over the land of Egypt. And let Pharaoh take steps to appoint overseers over the land and organize the land of Egypt in the seven years of plenty. Let all the food of these good years that are coming be gathered, and let the grain be collected under Pharaoh's authority as food to be stored in the cities. Let that food be a reserve for the land for the seven years of famine which will come upon the land of Egypt, so that the land may not perish in the famine.”(Genesis 41:33-36)

In the original story, the storage was prominently literal, which, in modern economies would

represent inventory hoarding. The more empirically relevant interpretations of the storage technology in the modern model are investments in real and financial assets.

Strategic objective 1: To develop a culture of investment and savings through the School curriculum

The approach will be inclusive and should begin with education to the participants. The education philosophy proposed here is education for business, the approach which is aimed at creation of a culture of innovation, savings and investment. Thus in addition to financial literacy campaigns, it is recommended here that financial literacy (business/commercial subjects) be introduced at primary school and should be among the compulsory secondary and Tertiary subjects. No career pathway at secondary school level, should leave out the aspect of financial literacy. If anything, financial literacy must be one of the cross cutting issues in the curriculum. At Tertiary level, basic financial and investment management course should be offered in all colleges and universities in the same way that communication and writing skills are offered. Communication and writing skills are offered to help students cope with the acceptable standards of academic and scholarly writing so they can be fitted in the world of academics. Thus financial literacy and investment management will help them to appreciate the need for having a good lending and borrowing culture in society so that they come out as graduates ready to make meaningful economic contribution by creating small scale enterprises. It is true to say education is the key to success. But it must make more sense to say that education is the door and the right key to this door is the entrepreneurial mind set or business education. The entrepreneurial mind set is not a product of incidental promotions, campaigns and workshops. It is a product of culture. It must be cultivated, nurtured and maintained over time. There is an opportunity to better equip students to shape the course of their early financial lives. There is need for an education paradigm shift if we are to realize the vision 2030 must be education for business.

Strategic objective 2: Creation of a special fund for each student.

Premised on the culture of entrepreneurial education, the concept brings to the fore a proposal to create a special fund account for each student. This account will be built by deducting a percentage of the school fees payable to the school by each individual pupil/student. In the fund collection process, the school will play the role of an agent to the fund manager, in the same manner that, examination fees, for example, are collected by the institutions on behalf of the examination body.

Next, like in Joseph's advice to pharaoh, the role of Government shall be first to either appoint or create an entity (financial institution) as a fund manager. Second, government shall create an

enabling regulatory frame work for investment of these student funds in real and financial assets. Government can if possible lobby for shares in some of the attractive industries like communication (mobile service providers), power / electricity suppliers and mining industries.

The role of the fund manager shall include but not limited to:

- Develop a management information system for keeping records of all student shareholders together with their savings,
- Managing and updating the data base for the student investor profiles.
- Create an investment portfolio on behalf of the students
- Manage the investment on behalf of the students.

Figure 6 - 15 Hypothetical Model of Fund Management

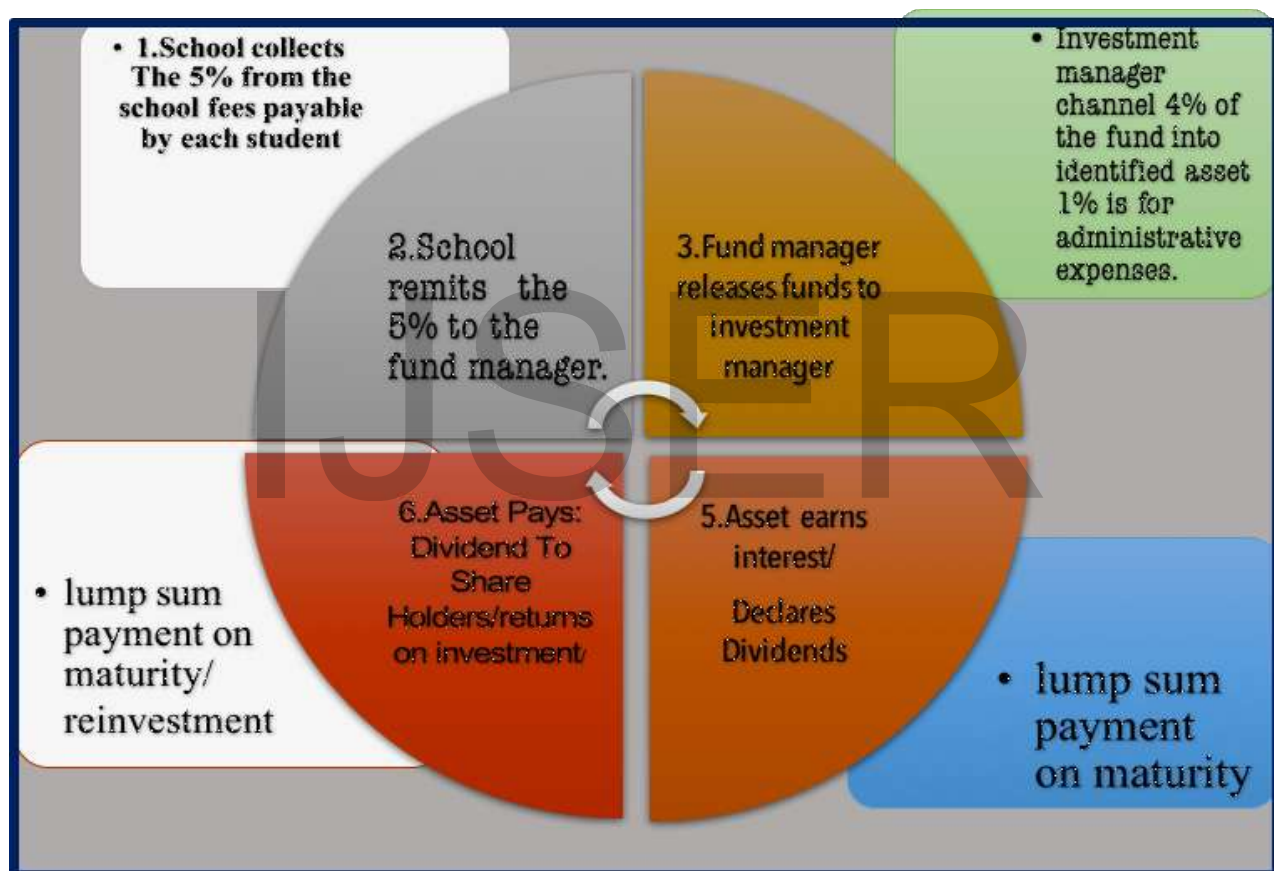


Figure 6-15 presents the hypothetical six stage circular flow of the fund from the point of collection to the point of return on the investment. Every stage will require competent management and firm internal control mechanism, hence the need for a sound information technology system. This programme is envisaged to contribute in a way to the most desired economic independence for posterity. The Zambian youth will grow to be in charge of their own economy and wealth.

Stage 1 - This is the starting/entry point at which the student is entered into the system upon making the first payment. The school as an agent to the fund manager collects and issues a receipt which is the certificate of title to the fund.

Stage 2 – At this stage, the school makes a summary statement giving full details about each individual student including the amount received and submits to the fund manager.

Stage 3- This is the stage where important decisions are required. A fund pool of contributions is created and a percentage is set aside to cater for the operational needs of the fund manager. In the hypothetical flow chart, 0.5% is proposed to be for administrative expenses while 1.5% is invested into various portfolios. Here again, government intervention will be required to create an environment which favors the growth of this investment, considering the fact that there are several economic and social benefits that will be realized from this investment for posterity. As the fund grows and the investments spread wider, the management system for the fund will have to decentralize.

Stage 4, involves the management of the investment in a way that it yields a return at the right time. The crucial aspect of this stage is matching of yield of the investment against the academic progression ladder of the student. The points to be matched against the maturity/yield point are the terminal examination stages. It is understood from experience that at every final examination stage there are two possibilities in the life of a student: the student either proceeds to the next level or drops out of the school. For both possibilities the investment will provide a shock absorber for the student. For one who graduates or falls out the investment will provide something to start a new life with.

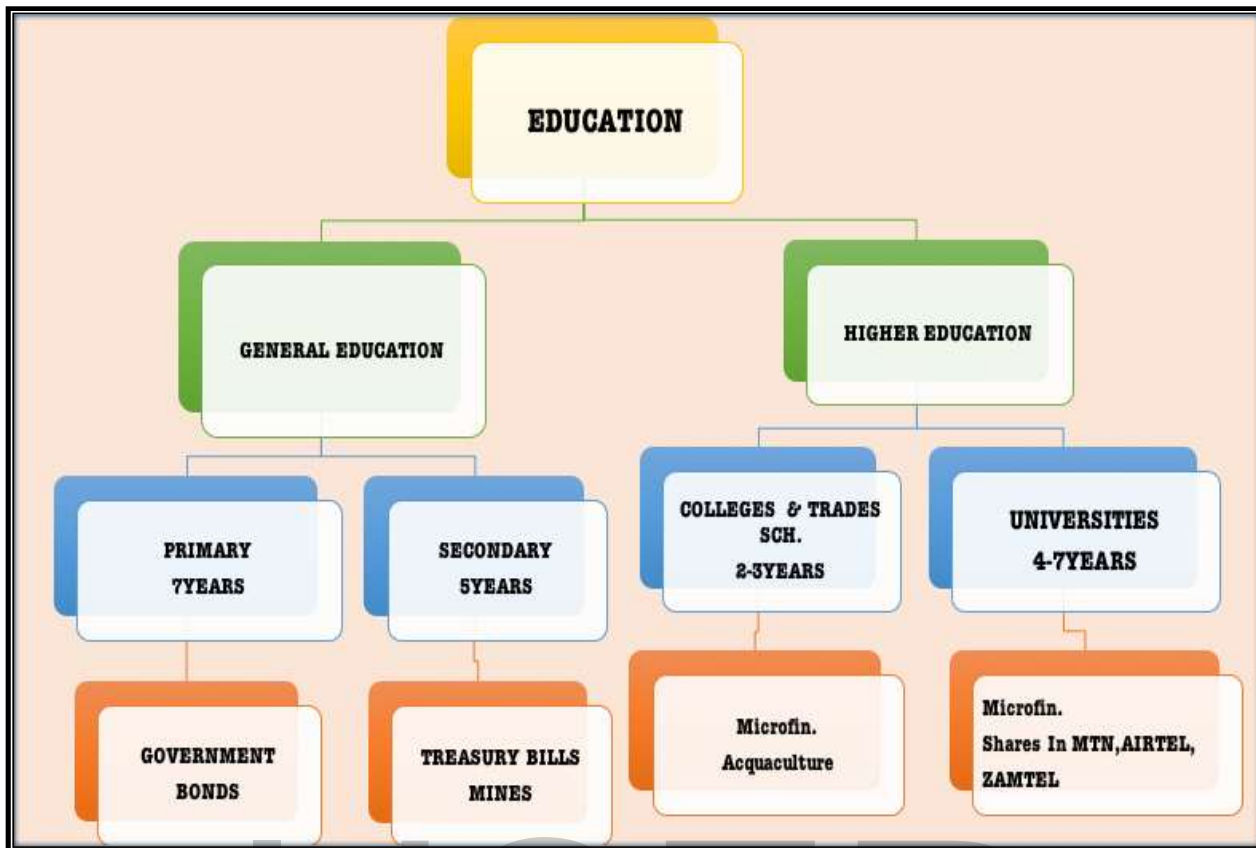


Illustration 6-13 Model for Investment Portfolio Management

Illustration 6-14 Alignment of Academic Progression with Maturity of Investments

Level	Course Duration	Investment Portfolio	Maturity
Primary	7yrs	Govt. Bonds, FI, Mines	5yrs
Junior Secondary.	2yrs.	Treasury Bills	1yr
Senior Secondary.	3yrs.	Treasury Bills, MTN	1yr
Colleges and trade institutes	3yrs	Airtel, Mines	1yr,3yrs
University	4yrs	Zamtel,Acquaculture	1yr

Figure 6-4-2 presents the levels of educational institutions public and private against the available investment opportunities for the fund. These are assets which have lower risk but promise higher returns for which government can easily create regulatory frame works to enhance steady growth. The Josephian economic empowerment for Student financial security fund is envisaged to grow effective practices for providing financial capability services (e.g., financial education, benefits access and/or work supports) to students in both general and higher education.

Becoming financially capable is a critical step toward establishing financial security, particularly for lower-income, financially underserved students. By managing expenses, establishing long-term goals, and by investing in the financial products, services, and income supports available to them, students are likely to be better positioned to stay in school, graduate on time, and establish healthy financial behaviors.

6.4.3 Data management system

Basically, the system shall be able to put Onboard the students by a unique identifier, which could be either NRC or any appropriate personal identification. All mandatory Premiums made by the students would be done automatically into a collection account. The whole essence is to ensure that, as much as possible, the physical handling of cash is eliminated.

The system should be able to book the premium and track accruals against investment due from pool fund, Liquidate and close the contracts at redemption.

6.4.4 Benefits to the student

- **Experience:** The student will graduate from college, already having investment experience.
- **Nest egg:** The student will graduate from college, and already have at least a small investment nest egg – the future time value of that investment can be enormous.
- **Maturity:** The student will cross an important “adult” threshold – investing – earlier in life than most.
- **Education:** Real-world lessons will be learned in the process of investing that could never be learned by reading books, visiting websites, or even watching “how to” videos.
- **Initiative:** Just getting started is often the single biggest hurdle for a new investor, and if one begins while still in school one will have already cleared it.
- **Potential:** If one can save and invest while still in school, and on a very limited income, it becomes obvious that they more likely to do greater things after graduating when they have a full-time income.

Benefits of the programme to the learning institution

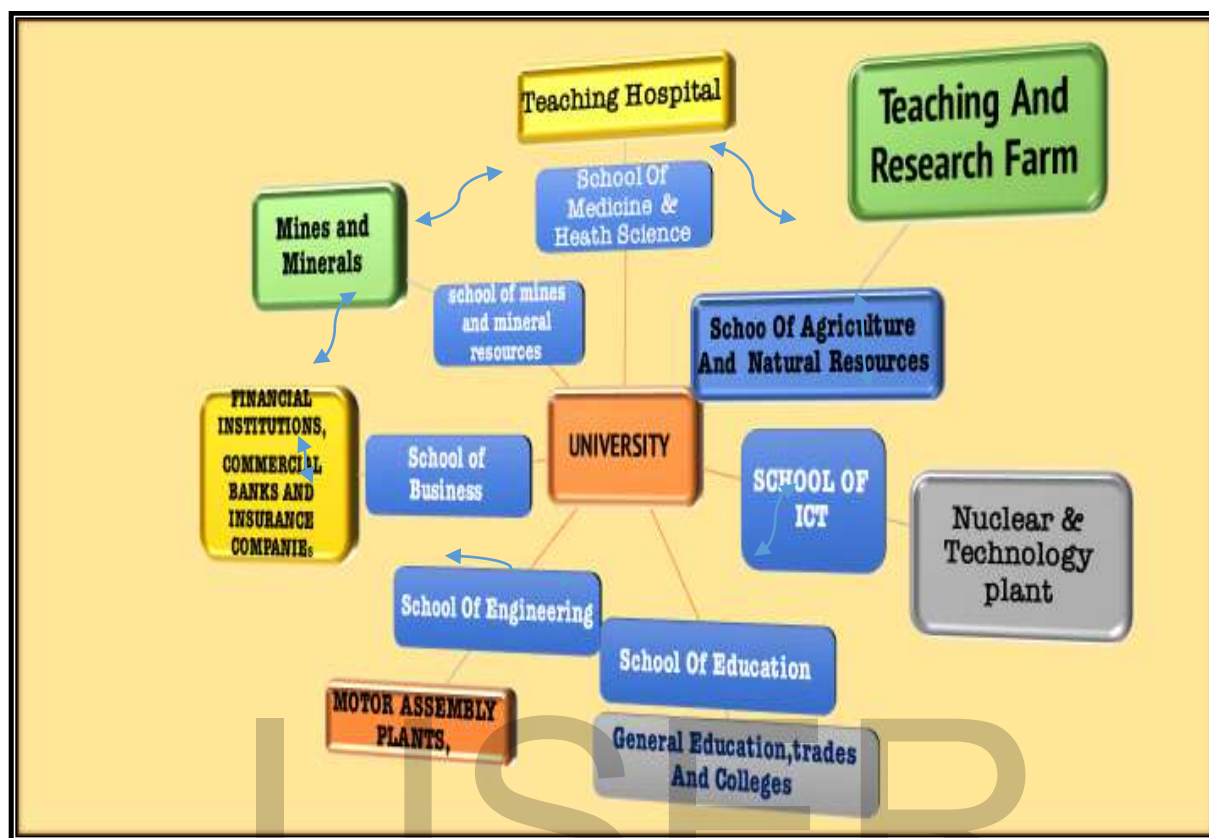
Enrollment-Increased enrollment as education will be perceived to be the entry into investment and entitlement to a share in the wealth of the nation.

Liquidity-Improved liquidity for institutions as sponsors will be motivated to pay knowing that their child has a double benefit out of education.

Service delivery - Universities will be able to make their programmes more relevant and attractive thereby improving the liquidity positions.

Model Two (2)

Figure 6-10 – Typology for reengineering the University- Industry Partnerships and Collaborations



Source: Own Research 2018/2019

Among the available sources of internally generated funds for the university are funds generated through research and consultancy including scholarships. Figure 6-10 above presents the typology for the possible reengineering of the university-industry partnerships and collaborations with a primary focus on attracting finance for working capital by making university programmes relevant and responsive to the industry trends.

The primary focus of this industry-university collaborations is joint research, which impacts on teaching and learning that develops naturally out of the partnership. An exchange would occur as Professors join a project inside the company and practitioners give their real life experience to students. This would help to modernize curricula and cut down on the cost of running the programme. When companies and universities work in this manner to push the frontiers of knowledge, they become a powerful engine for innovation and economic growth. Working with industry will give faculty members and students an exciting opportunity to see their research have real-world impact. This way research will attract funding into the university. Industry-university partnerships generate income for the academic institutions in a number of ways. In one case, the

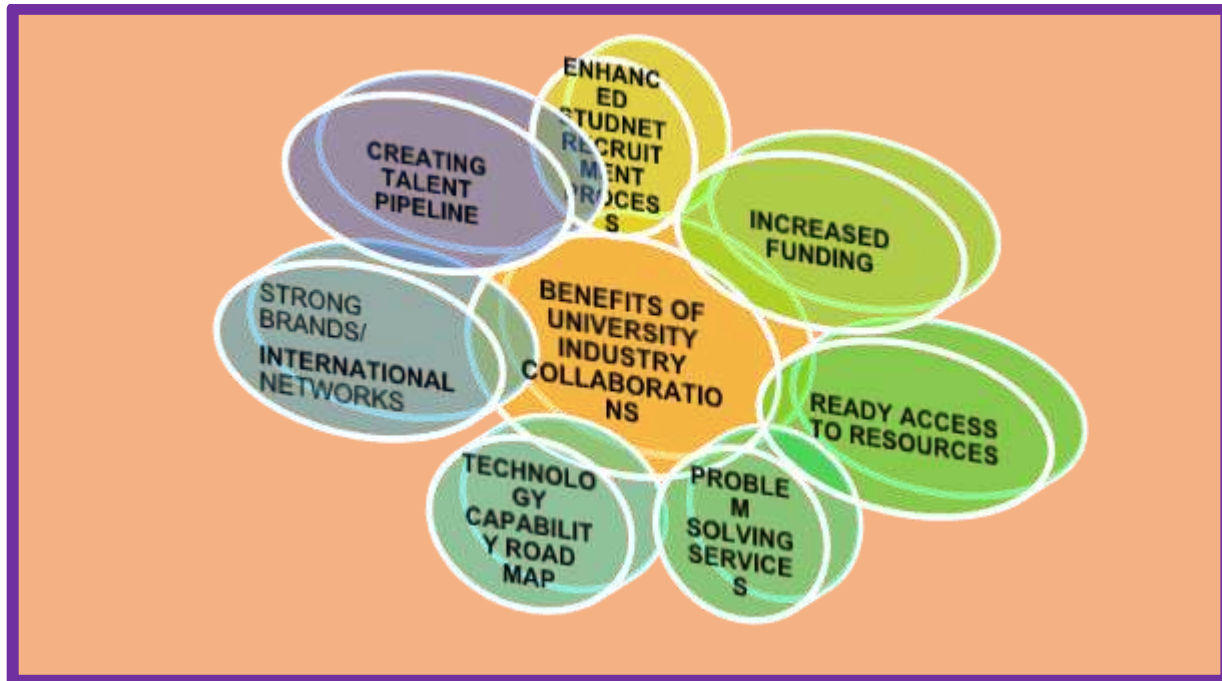
money be channeled into a school or department dedicated to soliciting and working with corporate partners for research purposes. The other way, funds flow directly into the university's main account.

This Paradigm shift requires faculty members to take a proactive approach to funding rather than waiting for government and university agencies to dictate their research agendas.

The model proposes an alignment of each discipline to the industry as a way, first of sharing the cost of providing the service, thereby increasing the revenue. As presented in the model it is envisaged that a collaboration between the schools and the industry as in the case of medicine and teaching hospitals will promote professional learning. The term "professional learning" (PL) is often used to encapsulate dimensions of educational programs that highlight contemporary industry issues explicitly linked to industry and professional bodies. PL encompasses the skills, qualities and attributes that are required by industry and the processes through which those skills are acquired. It encourages deep learning in relation to the student's future profession, and includes industry engagement, work-integrated learning and authentic learning environments.

Gibson et al. (2002) identified benefits for universities for professional learning. It was established that degree programs that provide Professional Learning opportunities are more attractive to prospective students and therefore boost university enrollment. They also reported that PL is a straightforward way to make links with industry which can lead to consulting and collaborative opportunities and so strengthen institutional programs. Harvey et al. (1998) have also recognized that when PL is embedded into the curriculum graduate employability is increased, which is a good way to improve a university's Graduate Destination Survey results.

Figure 6 – 14 Summary of Benefits of University - Industry Collaborations/Partnerships



Source: Adapted from <http://www.ijettjournal.org>

Figure 6 -14 above presents the interacting benefits of university industry collaborations. Seven benefits stand as opportunity costs of the current practices which preclude the university – industry collaboration paradigm. The benefits that would accrue to the university in making successful application of the university industry partnerships include among many others:

- Enhanced student recruitment –
- Increased funding of university programmes thereby increasing the levels of internally generated funds
- Ready access to resources –
- Problem solving services
- Technology capability road map
- Strong brands and international networks
- Creation of talent pipelines.

Therefore, in this study which was aimed at working capital management approaches and how they affect service delivery in public universities, and where as it has been established that there is a strong positive correlation between working capital management policies and the speed, consistency and quality of core service delivery, it is recommended that a promotion of university-industry partnerships be adopted by Zambian public universities. This will facilitate the improvement of internally generated income in three areas:

- 1) **Enrollments** - Increased enrollment which translates to increased tuition income.

- 2) **Cost reduction** - Mitigation of operating costs as companies take to sponsor some research programmes
- 3) **Scholarship and research income** - Improved university curricula which will attract income through scholarships

Recommendations for future research

As a particular study topic can never be exhaustive of all issues, and considering the limitations of this study, the researcher did note a number of areas in university education financial management which need further research. Too numerous to mention but a few notable ones include:

- Higher education leadership styles and organizational culture
- Marketing strategies for higher education
- The role of universities in building foreign reserves
- Management accounting and reporting standards for institutions of learning.

IJSER

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APENDICES

APPENDIX 1- INTRODUCTORY LETTER FROM AFRICA RESEARCH UNIVERSITY



27th, September, 2018

TO WHOM IT MAY CONCERN

REF: LETTER OF INTRODUCTION- MR NORMAN KACHAMBA (PhD Student)

This serves to confirm that Mr. Norman Kachamba, student no 201600036 is a registered student at Africa Research University.

He is enrolled for the Degree of Doctor of Philosophy in Strategic Financial Management.

He is conducting research into the management of working capital in higher education. His research will benefit the people of Zambia in solving some of the challenges faced by the country. Your support to him in access to and gathering of information will be greatly appreciated.

For any confirmation regarding the above, the undersigned may be contacted through the contact details provided below

J Malan

Vice Chancellor

APPENDIX II - REQUEST FOR DATA COLLECTION LETTER TO CBU

Mr. Norman Kachamba
c/o Kanini Secondary School
P.O. Box 70589
Ndola.

29th, October 2018

The Registrar,
The Copperbelt University,
P.o.box 21692
Kitwe.

Dear Sir or Madam:

Ref: Request for Permission to Carryout Research Data Collection at Your Institution.

I am a registered candidate for the Doctor of Philosophy(PhD) Degree in the department of management science at the Africa Research University.

In accordance with the requirements for this degree, I am conducting a study on strategic financial governance in higher education in Zambia.

The main objective of this multiple case study is to analyze the Working capital management policies employed by public Universities in Zambia, and their relationship with service delivery.

This study is done with an intent to develop a conceptual framework model of working capital management for higher education administration.

Permission granted, I would like to commence the exercise on 5th November, 2018.

The target population for the study are all officers who interact with or are affected by working capital variables and will include the following:

- 1) The Vice Chancellor,
- 2) Deputy Vice Chancellor,
- 3) The Registrar,
- 4) The Bursar (the Accounting officers responsible for student finance, expenditure, revenues and any other office relevant to the working capital management),
- 5) School Deans,
- 6) Dean of student affairs, Student representatives,
- 7) Directorate of Research,
- 8) Directorate of distance learning,
- 9) Stores officers

Cognizant of the sensitivity of the data so required in the study, strict adherence to the governing ethics and confidentiality are here pledged.

Data gathered will be analyzed to shed light on sustainability and value creation for stakeholders.

Find attached the introductory letter from the Africa Research university.

Yours truly,

Norman Kachamba

Cell: 0979 420535/0969703176/0954936872 e-mail normankachamba@yahoo.com

APPENDIX III - REQUEST FOR DATA COLLECTION LETTER TO MU

Mr. Norman Kachamba
c/o Kanini Secondary School
P.O. Box 70589
Ndola.

29th, October 2018

The Registrar,
Mulungushi University,
P.o.box 80415
kabwe.

Dear Sir or Madam:

Ref: Request for Permission to Carryout Research Data Collection at Your Institution.

I am a registered candidate for the Doctor of Philosophy(PhD) Degree in the department of management science at the Africa Research University.

In accordance with the requirements for this degree, I am conducting a study on strategic financial governance in higher education in Zambia.

The main objective of this multiple case study is to analyze the Working capital management policies employed by public Universities in Zambia, and their relationship with service delivery.

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6. Dean of student affairs, Student representatives,
7. Directorate of Research,
8. Directorate of distance learning,
9. Stores officers

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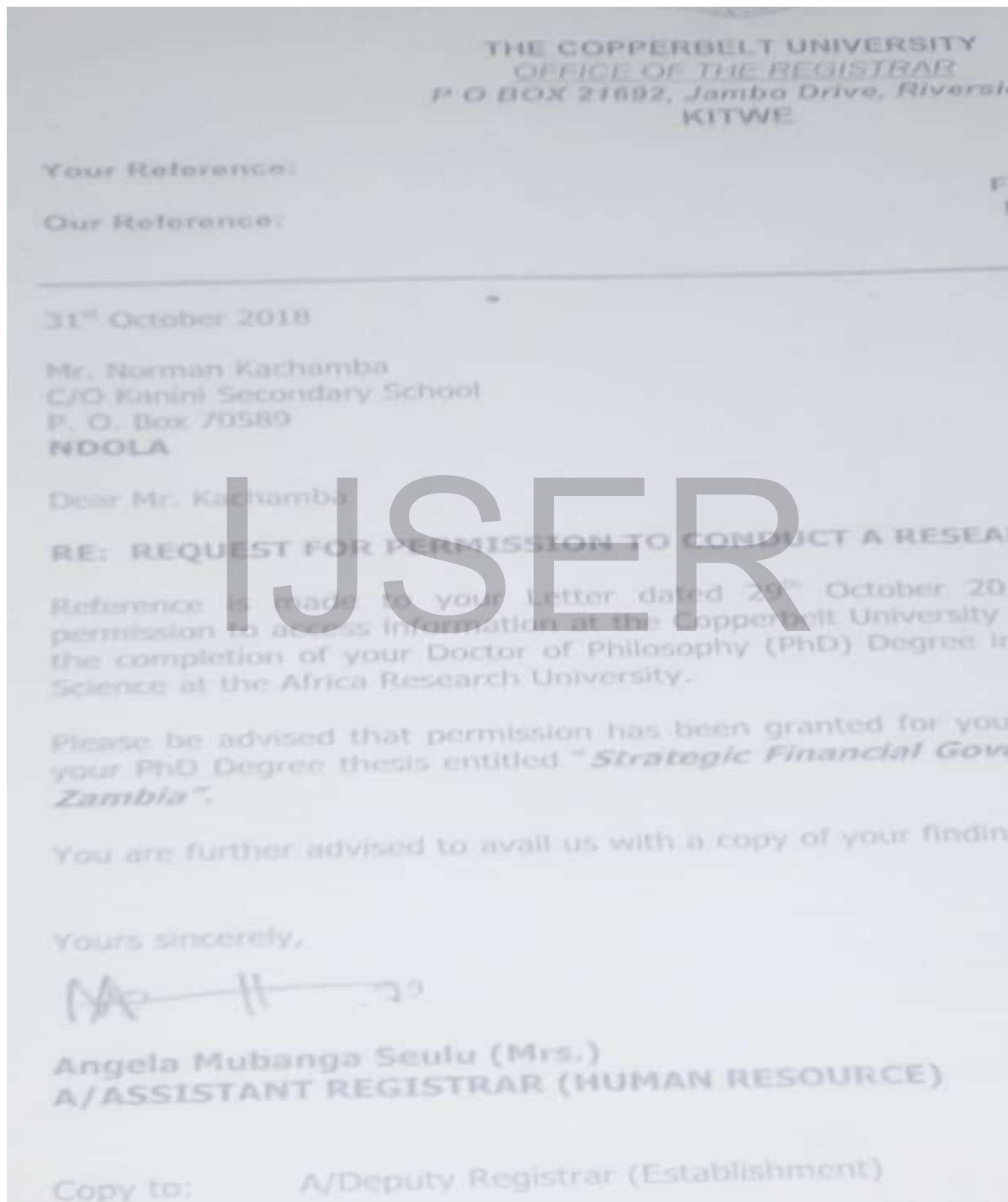
Data gathered will be analyzed to shed light on sustainability and value creation for stakeholders.

Find attached the introductory letter from the Africa Research university.

Yours truly,

Norman Kachamba

APPENDIX IV – LETTER OF PERMISSION TO DO DATA COLLECTION AT CBU



APPENDIX V – LETTER OF PERMISSION TO DO DATA COLLECTION AT MU



MULUNGUSHI UNIVERSITY
OFFICE OF THE DEPUTY VICE-CHANCELLOR

MEMORANDUM

TO : DEANS AND DIRECTOR

FROM : DEPUTY VICE CHANCELLOR

DATE : 14TH FEBRUARY 2019

SUBJECT : REQUEST TO FILL IN QUESTIONNAIRE FOR DOCTORAL STUDENT – NORMAN KACHAMBA

Norman Kachamba is a Doctoral Student from Africa Research University who is requesting for your assistance in filling in his questionnaire on Working Capital Management and Application by Public Universities.

Having looked at the questionnaire, I believe answering the questions will not violate your rights except for question 2 that requires submission of your comprehensive CV, you therefore do not need to comply with question 2 unless you want to.



DR. JUDITH C.N LUNGU

cc Vice-Chancellor
Registrar

APPENDIX VI- QUESTIONNAIRE FOR THE DEAN OF STUDENT AFFAIRS

Dear Sir/Madam,

You are invited to take part in a research study on working management in public universities in Zambia.

Objective of the Study:

The main objective of this study is to understand the Working capital management policies employed by public Universities in Zambia, and how these policies affect the day to day operating activities and service delivery.

This study is done with an intent to develop WCM conceptual framework model appropriate for the effective provision of Research, Teaching and Consultancy in public universities.

The name of the researcher is Norman Kachamba, who is a Doctoral student at the Africa Research University. He can be contacted on:

Cell 0979420535;

E-mail normankachamba@yahoo.com

Confidentiality:

The researcher guarantees confidentiality of all information that you disclose during the interviews and on the questionnaires. Your name or anything that identifies you will not be included in the information you provide and this information will only be used for the research study only.

Part A: General Information

Title: (Tick the appropriate block please)

Mr.	Mrs.	Dr	Prof
-----	------	----	------

Years of service in the university environment

5-10	11- 15	above 15
------	--------	----------

1. Current Position _____

Other positions held before in public universities

2. Other positions held before in private universities

3. Other positions held before in other institutions/organizations

Years of service in such position with the institution or elsewhere.

5-10	11- 15	above 15
------	--------	----------

PART B: CHALLENGES RELATED TO TEACHING AND LEARNING

1.RESOURCES	agree	disagree
1. The facilities in the faculty are adequate for the operation .		
2. Facilities are serviced regularly		
3. All the necessary accessories are available to allow for continued operations		
4. The computers are serviced regularly.		
5. The faculty is adequately funded for Operations .		
6. The faculty receives adequate funding for maintenance.		
7. The school raises part of the fund .		
8. The faculty/school is able to maintain a revolving fund through its operation.		
9. Under the current system of operations management, there is possibility of the school being financially independent and sustainable		

PART C. STAFFING:

Rank the problems beginning with the most serious and ending with the least challenging in relation to faculty operations management [1 – 8].

CHALLENGE	RANKING
Hiring,	
Remuneration,	
Understaffing	
Overstaffing	
Office Space	
Funding	
Material usage	
Sharing of Workload	

PART D: FINANCE

1. Rate the adequacy of the money allocated to your school/faculty annually in relation to the needs .

Adequate

Inadequate

2. What strategies do you employ to cope with challenges related to inadequacy of finances (if any)?

3. What is the percentage contribution of the school to the generation of revenue/income of the institution? [tick what is applicable]

non income generating insignificant below 5% 5-10

4. what is the contribution of your school to the Funding (working capital) needs of the institution?

OPERATING FUND ITEM	None	Insignificant	Significant
Cash(receipts)			
Accts Receivables(revenues			
Inventory, supplies, usages, etc.)			
Payables, bills, operating expenses			

1. State whether you agree or disagree with each of the following statements:

Statement	Agree	Disagree	Not Sure
Operation fund information is important to my office			
The operating budget supports the strategic plan			
My office is connected to the server for financial information			
Financial information is availed at the right time			
The operations budget is line with the mission of the university			
The operations fund budget caters for the basic needs of the institution			
The institution fully utilizes the funding sources			
There are resources the institution has not yet fully utilized			

Thank you for your support in this study

APPENDIX VII – QUESTIONNAIRE FOR ACCOUNTING STAFF

Dear Sir/Madam,

You are invited to take part in a research study to understand the Working capital management policies employed by public Universities in Zambia, and how the policies affect the day to day operating activities and service delivery.

The name of the researcher is Norman Kachamba, who is a Doctoral student at the Africa Research University. He can be contacted on:

Cell 0979420535;

E-mail normankachamba@yahoo.com

Confidentiality:

The researcher guarantees confidentiality of all information that you disclose during the interviews and on the questionnaires. Your name or anything that identifies you will not be included in the information you provide and this information will only be used for the research study only.

Objective of the Study

This study investigates the working capital management challenges faced by higher education institutions with an intent to develop a conceptual framework model and provide recommendations to improve the provision of core services of research, teaching and consultancy in universities in Zambia.

Thanking you in anticipation

Part A: General Information

Title: (Tick the appropriate block please)

Mr.	Mrs.	Dr.	Prof
-----	------	-----	------

Years of service in the university environment

5- 10	11- 15	above 15
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4. Current Position _____

Other positions held before in public universities

5. Other positions held before in private universities

6. Other positions held before in other institutions/organizations

Years of service in such position with the institution or elsewhere _____

7. How often does the institution use the listed criteria for allocating the financial resources to the respective schools/departments of the university?

Criteria	2 Never	4 Often	5 very often
Performance based			
Formula per student			
Negotiation by each respective school/department			
Budgetary allocation as per policy			

B2: On Average how long does your institution take to pay its credit suppliers and part-time lecturers? (Mark with X or tick where applicable)

- Less than one Month (< 30 days)
- One to two months (30 - 60 days)
- Three to four months (61-120 days)
- More than four months (> 120 days)

B3: On Average how long does your institution take to receive cash from its credit customers/Students? (Mark with X or tick where applicable)

- Less than one Month (< 30 days)
- One to two months (30 - 60 days)
- Three to four months (61-120 days)
- More than four months (> 120 days)

B4: On Average how long does your institution take to sell its books/research materials? (Mark with X or tick where applicable)

- Less than one Month (< 30 days)
- One to two months (30 - 60 days)
- Three to four months (61-120 days)
- More than four months (> 120 days)

B5: On Average what is the length of your institution's Operating cycle? (Mark with X or tick where applicable)

- Less than one Month (< 30 days)
- One to two months (30 - 60 days)
- Three to four months (61-120 days)
- More than four months (> 120 days)

Part C: Financing Working Capital

The purpose of the section is to find out how Institutions finance their working capital.

To what extent does your institution use the following external sources of finance to finance its working

capital needs? (Within a span of six months Mark with X or tick where applicable)

	1 Never (less than once)	2 not often	3 Often(3-6 times)	4 Quite Often (7-10 times)	5 Very Often (more than 10 times)
Bank Overdraft					
Short term loans					
Medium term loans					
Long term loans					
Cash from operations					

Part D: Working capital management Challenges

The purpose of this section is to investigate the challenges Institutions face when managing their working capital.

D1: Kindly state whether you agree or disagree with the following working capital management (Mark with X)

challenge	Agree	Disagree
Cash is not readily available when needed		
Insufficient time to manage working Capital		
Difficulties in determining the right levels of working capital		
Difficulties in identifying risks associated with working capital		
Determining working capital needs of the institution		
Difficulties in managing high inventory levels		
Difficulties in collecting trade receivables		
Difficulties in paying trade receivables in time		
Difficulties in cash flow Management and forecasting		
Lack of capital management skills		

D2: To what extent does your institution use the following working capital management tools/ techniques (Mark with X or tick where applicable)

WCM TECHNIQUE	Very often	Not often	Not applicable
Extending payment periods to students			
Aggressive collection Policies			
Aging of Debtors			
Reducing stock levels			

Setting credit limits			
Projected cash budgeting			
Analysis of financial and operating leverage			

E: How does your working capital management practices affect your institutions operating performance?

The purpose of this section is to find out how Universities measure their operational performance and the effect of working capital management policies on service delivery.

E1: To what extent do you rate the importance of managing working capital to the University?

Very important [] Important [] Not important []

E2: What is your university's working capital financing policy?

Conservative [] Moderate [] Aggressive [] zero working capital

E3: Accounts Receivable Management

a) What is the policy provision on your accounts receivable collection period?

1 – 15 days [] 16 – 30 days [] 30 days and above []

b) What is the bad debt percentage of the accounts receivable?

Less than 1% [] 1%-5% [] 5%-10% [] 11%-20% [] over 25% []

c) What percentage of your fees income constitutes credit from students?

1 – 15 % [] 16 – 30 % [] 30 % and above []

E4: Accounts Payable Management

a) Do you purchase goods on credit? Yes [] No []

If yes to the question above, what percentage of your purchases constitutes credit?

1 – 15 % [] 16 – 30 % [] 30 % and above []

b) What is your accounts payable payment policy?

1 – 15 days [] 16 – 30 days [] over 30 days []

c) What motivates you to pay your creditors in good time?

Discounts [] Reduced prices [] after sale services []

Any other (specify).....

d) Do you have an accounts payable control system in place? Yes [] No []

If Yes, please explain.....

e) Do you maintain a good relationship with creditors? Yes [] No []

If no to the above question, how does that affect your operations?

.....

E5: Liquidity (Cash) Management

a) What factor motivates the holding of cash by your university?

Precautionary motive []

Transaction motive []

Speculative motive []

any other (specify).....

b) Do you prepare cash budgets?

Yes [] No []

c) How do you manage the difference in your required cash in case of shortfalls?

d) How do you control the proceeds generated on a daily basis?

Keep it in office cash till []

Keep it in the bank []

Spend the proceeds []

others (specify).....

E6: Inventory Management

The following area is geared towards understanding inventory management and the effectiveness of the policies. On a scale of 1 – 5 (where 1-never; 2-rarely, 3-sometimes, 4-most often and 5-very often.

	Never	Rarely	Sometimes
Frequency of inventory budgeting			
Frequency of review of inventory levels			
Frequency of stock monitoring			
Frequency of stock out costs of inventory			

Respond to the following questions appropriately

a) Do you have a re-order level policy? Yes [] No []

b) What are the common types of inventory used in the operations of the institution?

c) What percentage of stock represents your minimum re – order level?

1 - 10% [] 11 – 20 % [] 21 – 30% []

d) What percentage of stock represents your maximum re – order level?

51 – 60% [] 61 – 70% [] 71 – 80% [] 80% and above []

e) What influences re-ordering quantities or levels?

Inflation []

Shortage Costs []

Price Discounts []

Availability []

Storage Costs []

Demand based on order []

f) What is your inventory turnover period?

1 – 15 days []

16 – 30 days []

over 30 days []

g): Any other comments with regards to working capital management (please explain in the space provided below)

Thank you for your time and responses.

IJSER

APPENDIX VIII –QUESTIONNAIRE FOR STUDENTS

Dear Sir/Madam,

You are invited to take part in a research study on working management in public universities in Zambia.

Objective of the Study:

The main objective of this study is to understand the Working capital management policies employed by public Universities in Zambia, and how these policies affect the day to day operating activities and service delivery.

This study is done with an intent to develop WCM conceptual framework model appropriate for the effective provision of research, teaching and consultancy in public universities.

The name of the researcher is Norman Kachamba, who is a Doctoral student at the Africa Research University. He can be contacted on:

Cell 0979420535;

E-mail normankachamba@yahoo.com

Confidentiality:

The researcher guarantees confidentiality of all information that you disclose during the interviews and on the questionnaires. Your name or anything that identifies you will not be included in the information you provide and this information will only be used for the research study only.

Guiding word: Please fill this questionnaire as accurately as possible. Your responses will be treated with utmost confidentiality and used only for academic purpose.

Do not write your name anywhere in this questionnaire.

1. What is the name of the degree you are pursuing?

Degree/Mode of study	Full time	Distance/Open	Research
Bachelors			
Masters			
PhD			

2. Who finances for your University education? (Tick all that apply)

SPONSOR	
Student Loan Scheme	
Parents	
Guardians	
Community/University/organization	
Self	

3. In the table below, rate the adequacy or inadequacy of the resources provided.

Resources	Adequate	Inadequate
Textbooks/Library facilities		
Computers for use by students		
Lecturers		
Lecture halls		
Accommodation facilities		
Extra-curricular resources e.g. sports equipment		
Laboratory and other technical learning tools/resources		
Internet access		
On-line learning tools e.g. e-journals		
Counseling resources		
Health personnel – doctors, nurses		
Catering facilities – dining		

4. In the table below, indicate the extent to which you agree or disagree with each of the statement provided.

Statement	Agree	Disagree	Not sure
All the units in the course I am taking are relevant for the job market			
There is no need for the course units to be reviewed in the near future			
There are enough learning materials to enable me cover all course outlines successfully			
The education offered in this university is of high quality			
Students are adequately involved in decision making at the university			
Examination results are communicated in good time.			
The way that teaching is conducted at the university does not equip students adequately for research			
The university effectively communicates course expectations to the students			
Examination management in the university is effective			
All lecturers are knowledgeable enough to deliver the curriculum adequately			
All lecturers are willing to assist students overcome any academic difficulties			
The University has effective mechanisms to address any students' welfare problems			

Thank you for sparing your time for the study.

APPENDIX XI SUMMARY OF KEY WORKING CAPITAL INDICATOR RATIOS

YEAR	2013		2014		2015		2016		2017	
	CBU	MU	CBU	MU	CBU	MU	CBU	MU	CBU	MU
ENROLMENTS	9,180	1054	9,323	1641	9,596	3,790	11,271	4,661	9,39 6	5,522
Net Op.cash flow	1,401,000	17,622,83 9	28,047,000	17,622,84 2	15,359,000	46,928,72 5	13,712,000	17,536,84 7		19,794,20 5
Av. Current liab	289,313,00 0	11,307,06 5	671,251,00 0	15,296,81 0	460,145,00 0	31,742,98 7	979,712,000	34,755,57 5		38,837,08 3
NOCF/Ave.C/lia b.	0.5%	156%	4.2%	115%	3.3%	148%	1.4%	51%		51%
C/assets	95,639,000	79,956,87 5	111,947,00 0	79,956,87 5	56,774,000	67,713,03 9	37,128,000	74,260,07 4		90,893,88 4
C /liabilities	578,625,00 0	30,593,61 9	763,877,00 0	30,593,61 9	920,290,00 0	32,892,35 5	1,039,134,00 0	36,618,79 4		41,055,37 2
C/liquidity ratio	-0.2:1	3:1	-0.2:1	3:1	-0.1:1	2.1:1	-0.04:1	2:1		2:1

Source: Own Research 2018/2019

