

**FACULTY PRODUCTIVITY AT THE  
UNIVERSITY OF ZAMBIA: EXPLORING  
RESEARCH AND PUBLICATION**

**BY**

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*A Dissertation Submitted to the University Of Zambia in Partial  
Fulfillment of the Requirements for the Award of the Degree of  
Master of Education in Education and Development*

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## AUTHOR'S DECLARATION

I, **Cecilia Kulyambanino**, do hereby declare that this dissertation is my own original work and that it has not previously been submitted for a degree at this or any other University except in the case where acknowledgement has been made in the text.

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## CERTIFICATE OF APPROVAL

This dissertation of **Cecilia Kulyambanino** is approved as a partial fulfillment of the requirements for the award of the degree of Master of Education in Education and Development at the University of Zambia.

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## DEDICATION

I am grateful to my parents Mr. Nkiambe Gwankisa Kulyambanino-Mwakabela (*deceased*) and my beautiful mother Grace Angetile Kajaba-Kulyambanino for being who they were and are in my life. Mum, thank you for your sacrifices. It's my sincere prayer that the Almighty God gives you abundant life, full of joy and happiness.

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## **ABBREVIATIONS AND ACRONYMS**

**ASRPI**-Academic Staff Research Productivity Inventory

**DRGS**-Directorate of Research and Graduate Studies

**GRZ**-Government of the Republic of Zambia

**HE**-Higher Education

**HEIs**-Higher Education Institutions

**INESOR**-Institute of Economic and Social Research

**MoE**-Ministry of Education

**SPSS**-Statistical Package for Social Sciences

**RSNDP**- Revised Sixth National Development Plan.

**UNESCO**- United Nations Educational, Scientific and Cultural Organisation.

**UNZA**-University of Zambia

**USA**-United States of America

## ABSTRACT

This study examined the faculty productivity at the University of Zambia (UNZA) with specific focus on research and publication. This was done by investigating the extent to which faculties were involved in Research, Publication and the Challenges faculty members faced when conducting Research and Publication at UNZA. The study was guided by Nonaka (1994)'s knowledge creation theory which says that knowledge creation and the successful implementation of it rely on the members sharing different behavioural assumption conducive for knowledge sharing and collaboration and that its creation depend a lot on the members' willingness and capability to participate in the activities.

The research design used in this study was a convergent parallel mixed-methods design; an approach to inquiry that combines both qualitative and quantitative methods concurrently both methods carrying equal weight. For qualitative method; interview guides were used for interviewees and for quantitative method questionnaires were distributed to respondents. The sample size was 251 participants; 242 lecturers were subjected to questionnaires and 8 Assistant Deans (Research) were interviewed. Assistant Deans (Research) were central to the study because they were the custodians of research activities at the University. Interviews were also used to collect data from Directorate of Research and Graduate Studies. Qualitative data was analysed according to emerging themes while quantitative data was analysed using SPSS and Excel spreadsheet.

The findings of this study suggested that faculties are involved in both applied and basic research recording 75%, but their publication output is significantly low. Only about 19.5% of respondents published books in 2 years and 39% published articles annually. The publication output was poor, below the expected standard of a normal functioning University. This could have been due to poor writing skills to compose good manuscript, poor publication culture and generally lack of publication platforms. The research also established that faculty members faced a number of challenges when conducting research at UNZA namely; insufficient funding, poor infrastructure and teaching loads. The study recommends that UNZA should allocate more money towards research. Secondly, if UNZA was to be relevant to the community it, should strive to publish its findings and also conduct developmental research. Schools should also encourage co-teaching to lessen on high teaching loads which also take away time for research activities. Finally, provide capacity building training in research and report writing skills.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.0 Overview**

This chapter presents the introduction of the study on Faculty Productivity with a specific focus on Research and Publication at the University of Zambia. The first part is a background of the study explaining the views and arguments that have been posited regarding faculty productivity globally and in a Zambian context. The chapter also presents the statement of the problem, purpose of the study, research objectives, research questions, significance and scope of the study. The theoretical and conceptual frameworks, ethical considerations and operational definitions have also been framed. The chapter concludes with a summary.

### **1.1 Background**

Faculty productivity of a university can be measured by research and publication. Research in the university is a major or most significant indicator of academic staff productivity. It may also be pointed out that, research and publication in any field of specialization provide current information for growth, progress, development, and improved society (Usanget al., 2007). Universities, through research, make important contributions to the growth and development of industries and government houses, thus enhancing national and global development (Okiki, 2013). For example, in his study, Zhang (2014) established that the benefits of research help produce wealth and public support that is needed for sustainable development. Stafford (2011) affirms that any university is productive by the performance of its faculty members and one type of productivity is research and publication. Subsequently, the increase in research productivity should be directly associated to an increase in institutional effectiveness. Faculty productivity is manifested in several types of outcomes

associated with research, service, and teaching activities (Cepero, 2007).Jung (2012) indicated that research productivity is also one of the major measures of university academic performance and it is also an indicator for ranking a university.

Lertputtatak (2008) contended that the major responsibilities of faculty members in most universities are teaching, research and community service but, research is at the top of the pyramid followed by teaching and then community service. He further established that faculty members see research to be the outstanding factor but in the actual fact, research is considered to be twice as important as teaching and five times more important than community service (Lertputtatak, 2008).Zhang (2014) affirms that research has become a major and important factor in economic development in the twenty first century and has become increasingly important in the university context. He reports that emphasis is largely placed on scholarly productivity and the publication output of academic staff, with less priority being given to teaching and service roles. The benefits of research help produce wealth and public support that is needed for sustainable development. As a result, most developing countries, as well as developed, have continued to invest huge amounts of money in the development of research in universities. It can further be argued that all the three activities (research, teaching and community service) are of great importance to development. Faculties should, therefore, participate in both research and teaching because research improves the quality of teaching and reinforces many of the skills that are required for effective teaching. The University of Zambia Research Policy document (2009) argue that

The University of Zambia (UNZA) is the first higher educational institution in the country of Zambia and, the oldest republic universities established by the Government of the Republic of Zambia (GRZ) to provide higher education in the country. From it's foundation 1966, it

has been expanding as a response to the ever-growing demand for higher education in the country. The University of Zambia is supported by the government through the Ministry of Education to realize a national obligation of providing high quality education and service. The aim of the University is to effectively contribute to national development by providing skilled human resource that can foster national development. This has been done through teaching, research and community service (UNZA, 2009). To carry out these functions, UNZA has nine schools consisting of Agricultural Sciences, Education, Engineering, Humanities and Social Sciences, Law, Medicine, Mines, Natural Sciences, and Veterinary Medicine (UNZA, 2009). Immediately after her independence in 1964, Zambia had numerous problems; key of them was the issue of human resource.

In order to address the vacant positions that were left by the colonial regime, it was necessary to train up human resource in various aspects, therefore, there was a recommendation made by the John Lockwood commission of 1960 to put up a University that would promote human resources. In early 1964, the government accepted the findings and recommendation of the Lockwood Committee and set up grounds for the establishment of the university. The university was to conduct research and provide consultancy besides training human resource (Mulamfu, 1998). According to the University of Zambia strategic plan, (2013-2017) the vision of the University of Zambia is, “...*to be a Provider of World Class Service in Higher Education and Knowledge Generation*”, while the mission is “*To Provided Relevance to Higher Education, Through Teaching, Research and Community Service*”(UNZA, 2012:xii).

The Research Policy document (2009) argue that teaching Schools and other Units have conducted research in an uncoordinated manner resulting into a lack of clear institutional and collective research focus at the institution. Whilst there has been some research activity going



on, the lack of coordination entails that it has not been probable to know the amount of research conducted throughout the entire University. The University of Zambia has a Directorate of Research and Graduate Studies charged with coordinating all the research and postgraduate activities of the university. However, in practice, the coordination of research has not been very effective.

On the other hand UNZA, (2009) contended that while UNZA has made significant achievements in undergraduate education since inception, postgraduate training is still lagging behind. The institution has experienced severe under-funding since the 1970s. This has led to overcrowding, dilapidated infrastructure, high student lecturer ratios, lack of expansion in facilities, inadequate education materials, and ICT. This may also lead to poor quality of research. To have the type of research that may result in enhancing development the university need adequate funding, good infrastructure, equipment and a conducive environment. When research activities are not properly handled they may lead to slow progress in terms of economic development and knowledge creation and, affect teaching standards. Furthermore, the institution may also be ranked poorly.

Stafford (2011) points out that one of the characteristics of a good research university is its focus on graduate level education and the amount of research conducted by the faculty members. A university faculty is expected to stay abreast and master the content of their field, practice the skills required by the field, and research skills that are appropriate to their field of expertise. Therefore, if the core business of the University of Zambia is moving towards graduate education and research, it is important and helpful to have information on the productivity of faculty members at the institution in terms of research and publication. So, it was important from this background to undertake this study because its results were

expected to reveal the extent to which faculties at UNZA were involved in research and publication.

According to the studies above, UNZA, has been involved in research, however, the level of involvement of faculties in research has never been researched at UNZA and, it was equally important to find out what challenges could have hindered them conduct research. This is the more reason this study was conducted, to find out how productive faculties at UNZA were in terms of research and publication. Such information is needed so that it is revealed as to whether faculties at UNZA are productive. UNZA (2009) established that, the University has made tremendous progress in teaching and service, but, in the area of research and scholarly publications the information is not known.

## **1.2 Statement of the Problem**

Productivity of any university is determined by its active involvement in Research, teaching and consultancy. However, this study was about faculty productivity at the University of Zambia focusing on research and publication. Some studies on research output at UNZA have been done but only mentioned in passing research activities at the institution (UNZA, 2009; DRSG, 2015; Akakandelwa et. al., 2016; Masaiti & Mwale, 2016). These studies do not show us how productive faculty members are. The studies are not specific and not empirical, which this current study addressed. My research brings out empirical evidence to faculty involvement in research and knowledge creation. Therefore, the research problem is that it is not empirically known how productive faculties at UNZA are and the challenges that might hinder their research activities.

Once the study is done it will help in knowledge creation and also give us the picture as to where UNZA stands in terms of research output.

### **1.3 Purpose of the study**

The purpose of this study was to ascertain the levels of faculty productivity in Research and Publication at the University of Zambia.

### **1.4 Objectives**

- i. To ascertain the extent faculties were involved in Research at the UNZA as a measure of productivity in Higher Education Institutions.
- ii. To assess the extent faculties at UNZA were involved in publication as a key component of a university in knowledge creation.
- iii. To establish the challenges that might hinder faculty involvement in Research and Publication at UNZA so that possible interventions and suggestions can be provided.

### **1.5 Research Questions**

- i. To what extent are faculty members involved in academic Research at the University of Zambia?
- ii. To what extent are faculties involved in academic Publication at UNZA?
- iii. What are the challenges faculties at UNZA face when carrying out academic research activities and publication?

## **1.6 Significance of the Study**

If it was not established how productive faculties at UNZA were, it would be difficult for UNZA to plan and help in national development. UNZA would be poorly ranked and lose its status as number one university in the country. This study might help UNZA know where it stands in terms of its faculty members' productivity in the area of research and publication. Furthermore, the study might help UNZA partner with the industry and thereby contribute to national develop. Once faculty productivity is enhanced, it would help raise the status of the institution in terms of ranking and thereby attract many foreign students and be internally recognised.

## **1.7 Theoretical Framework**

The study used Nonaka's knowledge creation theory which proposes that there is need for the dynamic interaction between people from different functional backgrounds and organizational hierarchies (Cole, 1992). Nonaka's knowledge creation theory borrows heavily from the pioneering work of Polanyi (1962) on the distinctive aspects of tacit knowledge and the relation to the explicit knowledge. According to Nonaka and Takeuchi (1995), the knowledge creation process involves a dynamic interaction between tacit and explicit knowledge, which is commonly known as 'knowledge creation spiral'. The spiral is demonstrated below:

# NONAKA'S KNOWLEDGE CREATION THEORY

## Tacit knowledge Vs Explicit Knowledge

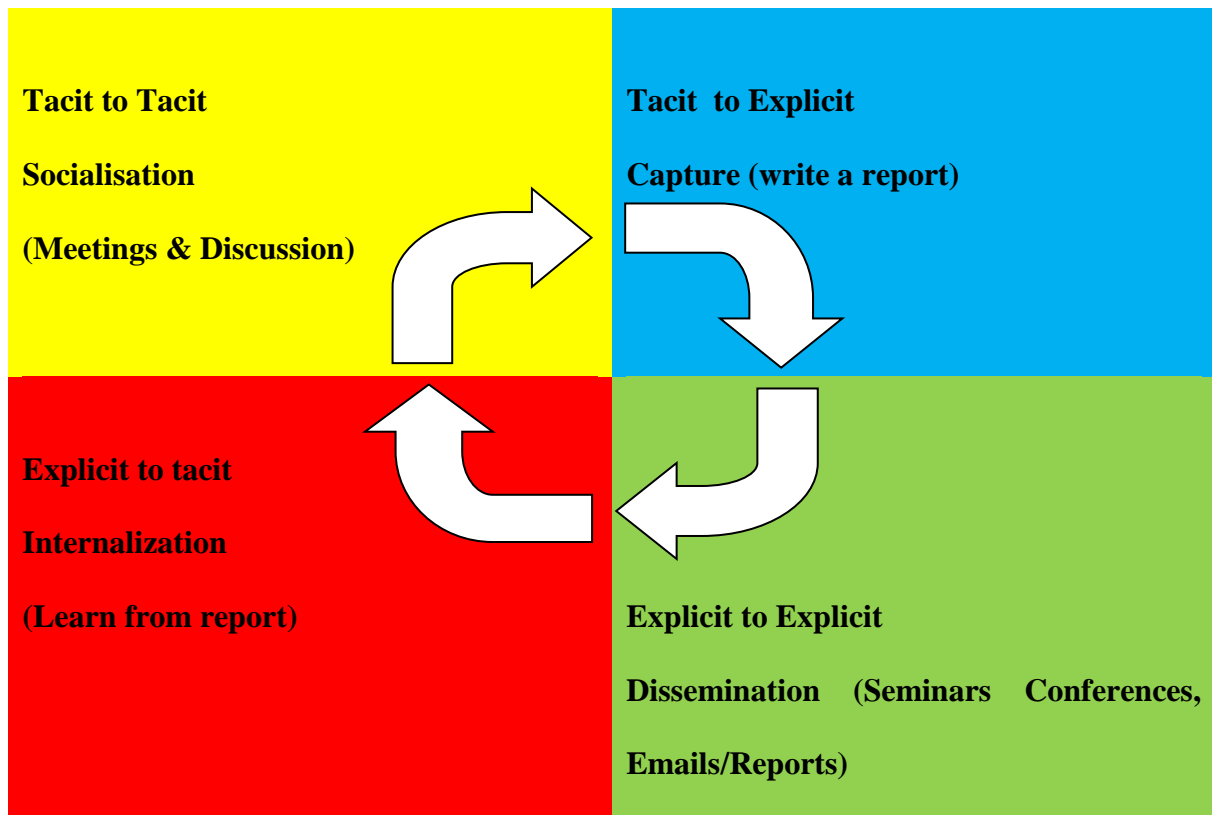


Fig 1.1 Nonaka's Knowledge Creation Theory

Source: Author

The spiral above illustrates that knowledge creation should not come to a stop. It is a continuous process. When the knowledge is discovered it should be shared. Abegglen (1957) and Kumazawa (1996) postulate that for the Japanese companies, the production work is normally organized in teams in which each employee co-ordinates with other members from the same or different departments to solve daily problems. It is through the engagement in group dialogues that the individual members bring the tacit nexus of meanings into forth for explication and development of shared understanding. This theory relates to the study in that for a normal functioning university, academic research and publication should be continuous. It means that young lecturers should be mentored to do academic research and

they should also be publishing. Since there will be academic research and publication going on there will be productivity. It is from the discovered or created knowledge that people would come with new styles of doing things for example, come up with innovations or new policies in the county. This is mainly accomplished when individuals work as a team. The theory, firmly suggested that knowledge creation process involves a dynamic interaction between tacit and explicit knowledge which is commonly known as ‘knowledge creation spiral.

Faculty members are encouraged by this theory to be productive in terms of publication whereby knowledge is shared among them, documented, disseminated and internalised by other key stakeholders like fellow academics, policy makers who read their reports and thereby contribute to social and economic development. This theory also promotes to some extent to work in a collaborative manner hence promote team work.

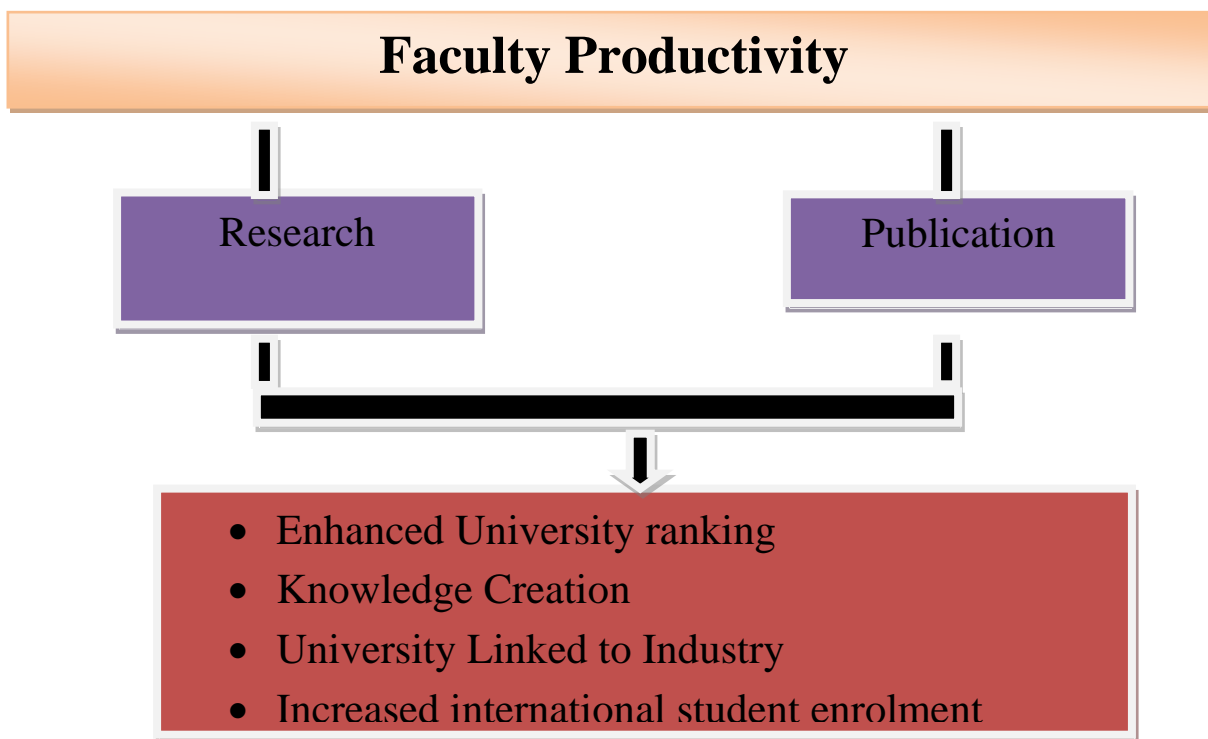
## **1.8 Delimitations**

The study was done at the University of Zambia because UNZA is the first and oldest public university in Zambia. It has a long research tradition thus, expect it to have high productivity than other smaller universities which have been in operational not for many years and their research culture is not yet been established.

## **1.9 Limitations of the Study**

It might be difficult to generalise the findings of my study to other universities. UNZA’s culture could be more different from other universities. However, the results can still inform other universities in their planning for research agenda.

## 10 Conceptual Framework



*Figure 1.2 : Conceptual framework*

The outline of this study will follow the structure as illustrated above. The framework consists of an interrelated network of factors organised into two groups that influence faculty productivity. These are research and publication. This study was conceptualised based on faculty productivity. The conceptual framework was designed to investigate faculty productivity at the University of Zambia, which was investigated from two aspects: research and publication. The assumption behind the conceptualisation is that for the university to be productive faculty members should conduct research activities and publish their findings. When faculties involve themselves in research and publication, there would be enhanced university ranking knowledge creation, the university will be linked to the industry and increased international student enrolment. The expected outcome of this study is variability of faculty productivity depending on the determinant.

## **1.11 Definitions of Terms**

Different words in the text were used in this study to mean different things depending on the context. Words in a text may be used to mean different things depending on the situation or context. However, the following words whose working definitions are given below were used in the context of the study.

**Faculty:** Academic members of staff at a University/College.

**Productivity:** The activities that academic members of staff perform with the hope of contributing to national development.

**Exploring:** Analyse something in a more careful way or investigate systematically.

**Research:** Structured inquiry aimed at solving problems and creating new knowledge that is generally acceptable.

**Publication:** The act or process of producing a book, magazine or journal and making it available to the public

**University:** Institution of higher learning mainly offering undergraduate and postgraduate programs.

**Higher Education:** Postsecondary education offered at colleges and universities.

## **1.11 Organization of the Dissertation**

This dissertation is divided into six chapters the following is a brief summary: Chapter one gives an overview of the faculty productivity from the global perspective and Zambian context, the chapter sets the background that prompts the need to conduct this study on faculty productivity at the University of Zambia, to be specific, looking at research and publication. The assumption behind this research was that proper information on the productivity of faculties was not known. The chapter also looked at three specific objectives and research questions that guided the study. The study was grounded by the motivation



theory which attests that “a person is more productive when they are motivated”. Chapter one provides the background to this study, the statement of the problem, purpose and objectives of the study, research questions and significance of the study. It also provides the conceptual and theoretical underpinnings, operational definitions and ethical considerations.

Chapter Two reviews and analyses the literature relevant to the study topic which helped to examine faculty productivity in terms of research and publication output. These areas have been reviewed from different subject perspectives globally and at national level, and, challenges they face when conducting research activities.

Chapter three presents the methodology which is segmented into themes that include research design, description of the study area, study population, sample size and sampling techniques. The chapter also presents data collection methods and techniques and data analysis methods.

Chapter four provides the presentation of findings and interpretation in view of the research questions set at the beginning of the study. Chapter five discusses the findings presented in chapter four while chapter six provides the conclusion, recommendations and suggestions for future research. The next chapter will deal with a wide board of literature that was reviewed to come up with the literature gap.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Overview**

In order to establish what other researchers have discovered about faculty productivity, this chapter deals with a wide range of literature that was reviewed prior to the research in order to understand different methodologies, findings and recommendations of various studies conducted from both internationally and locally. Kombo and Tromp (2006) define literature review to be an account of what has been published on a topic by other scholars and researchers. It is the selection of available and relevant information on the topic to be studied with the aim of fulfilling lined objectives. The literature has discussed the main variables in the study and the benefits of the study. This is in a bid to make the study more broad and meaningful and systematic over and above to show the gap to be filled in by this study.

#### **2.1 Faculty Productivity**

Any university is productive by the performance of its faculty. In higher education, one type of productivity is research productivity. Thus, the increase in research productivity should be directly related to an increase in organizational effectiveness (Stafford, 2011). It is widely believed that there are important social benefits from scientific research outputs. Due to the potential to enhance development (economic growth) many countries around the world have increased resources towards university research and publication. However, the ability of increased resources to increase research output heavily depends on the productivity of the research system (Akakandelwa et al., 2016). They further affirm that a key step to determining research output is to measure both the quality and quantity of university's research output. In his study, Zhang (2014) established that Universities and other academic institutions have

constantly served as key players in the development of nations through scientific research. He further pointed out that national governments and a number of organizations have invested huge amounts of money in the development of research in universities. The study by Zhang (2014) employed a mixed design method of data collection and analysis. The study also took a similar methodological approach in which a mixed design was used to collect and analyse data. Zhang's study studied at factors which influence research productivity while, this study looked at faculty productivity at UNZA of individual lectures focusing on research and publication, investigating individual lecturers' research output. There has not been any empirically known study on faculty productivity at the University of Zambia and, this could be the first of the kind.

OECD (2012) affirms that faculty members have played a key role in the take-off of Asian economies such as China, India and Korea. As a result of faculty productivity a number of emerging economies have come up with industries or firms that have improved and increased participation in global innovation networks. Xiangping (2000) point out that research is of immense value to the development of human knowledge. Its importance can be seen in the fact that nearly all current developments depend largely on research. Even though some advancement of knowledge have occurred by mere accident, trial and error or even by sheer smart reasoning, experience through the ages has shown clearly that none of these has been as efficient as research. Braimoh (1999) in Okiki (2013) states that everywhere where there is productive research and publication, development has taken place, direct or indirectly. Direct, this can be through innovations or patent while, indirect is through transferring of knowledge or policy formulation. Research done by Carayol (2006) found that departments with a high number of full professors tend to have higher productivity levels than those with a lower percentage of professors in high ranks. This relationship can be explained by the processes

and policies that promote faculty members to higher ranks based on productivity indicators. Other reasons could be that high ranked faculties have more experience and have acquired necessary skills to publish quality work. Secondly, high ranked faculty members have networked with other researchers across, having the advantage of sharing knowledge (Carayol, 2006).

Stafford (2011) attests that research productivity is often associated with socio-demographic, psychological and sociological factors. At the individual level most researchers used socio-demographic variables as predictors. Creswell (1985) in Stafford (2011) stated that there are four variants at the individual level: innate, “sacred spark”, personality traits of researchers and personal characteristics. The first variant of the individual explanation is that productive researchers may possess “innate” scientific ability or talent that enables them to be more productive than others. The “sacred spark” explanation states that faculty members engage themselves in research because they have “a strong inner compulsion or motivation.” A third variant includes explanation based on the personality traits of researchers. The fourth variant explains research performance by background or personal characteristics like sex and age (Stafford, 2011).

Bassey et al., (2007) contended that research entails a lot of effort and demands a huge sum of money. If a member of the academic staff is to carry out a research with the purpose of publishing it in reputable journals outside the country, there is need to have funds and laboratory equipment required to accomplish the work. If Zambia is going to catch up with and get into the main stream of development, her universities must be alive to their research responsibilities, because research is cardinal in scientific, technological and economic development. For example, products of science and technology, which Zambians consume,

take their root from world class universities and research institutions. Bassey et al., (2001) noted that articles published in reputable journals provide an avenue of recognition for many researchers, since a published journal article is the first formal presentation to the scientific community of an innovation or discovery.

## **2.2 Faculty, Research and Publication**

Oloruntoba and Ajayi (2006) in Sulo, et al., (2012) attest that Research productivity includes research publications in professional journals and in conference proceedings, writing a book or chapter, gathering and analysing original evidence, working with post-graduate students on dissertations, obtaining research grants, carrying out editorial duties, obtaining patents and licenses, writing of monographs, developing experimental designs and engaging in public debates and commentaries. Oloruntoba and Ajayi, (2006) further observed that research publication in the university is a major or most significant indicator of academic staff productivity, and that research attainment is determined by the number of published articles in refereed journals and conference proceedings of repute. Research productivity in academic institutions is reflected in the number and quality of articles published by the affiliated faculty. There seemed to be a gap in terms of literature how the University of Zambia has contributed in this regard. A universal approach to measuring research productivity was to count the number of books, articles, technical reports, bulletins, and book reviews published, as well as presentations given and grants received, (Rotten, 1990) in Sulo et al. (2012).

Most of the research productivity of academics is disseminated through publications. Research publications enable academics to earn recognition in academic circles locally and internationally (Okiki, 2013). In higher education, research productivity often served as a major role in attaining success in academics circles as it is related to promotion, tenure, and

salary (Okiki, 2013). In Nigeria a study was conducted by Okiki (2013) with the purpose of assessing the level of research productivity of teaching faculty members in Nigerian federal universities. Their research productivity was high in the publishing of journal articles, technical reports, conference papers, working papers, and occasional papers. On the other hand, their research productivity was lower in the publishing of textbooks, book chapters, monographs, and patents and certified inventions. The financial constraint and slow Internet connectivity were major inhibitors to their research activities. The study adopted the descriptive survey design to collect data. A multi-stage sampling procedure was adopted. The instrument used to collect data for this study was a questionnaire. The study by Okiki (2013) employed a single method of data collection and analysis. However, this study under discussion took a different methodological approach in which a mixed design was used to collect and analyse data. This is because mixed design always bring out critical information especially in a situation where one type of data collection is not satisfying, the other type can supplement.

In Kenya, the current academic climate in higher education threatens the ability of universities to sustain the conditions that support research productivity. Increased demands on government and private funding, a deteriorating physical infrastructure, increased pressure on undergraduate programmes and the general economic climate in the country have raised concerns about the continued capacity of universities to maintain research productivity (Migosi, et. al, 2011). In his study Migosi (2011) sought to examine the factors that influence research productivity among business academic staff in selected universities in Kenya. Survey research design was employed in this study. Questionnaire was used to collect information from 277 (70.2% male and 29.8% female) university business academic staff. The results from this study indicated that personal career development factors form the main

factor influenced research productivity among business academic staff in Kenya. The conclusion made from this study was that the business academic staff's research productivity was heavily dependent on appropriate skills in research methodology. The main recommendation was for the development and enhancement of national and institutional research policies to guide and manage research in Kenya with clear provisions for improvement of research methodology skills for the business faculty. The researcher felt this study was significant to her study because it was assessing research output from more than one university but was quick to mention that her study was different from hers because hers was studying one university and that the sample size used in Migosi (2011)'s study was not enough for more than one university. The method used to collect data was not appropriate.

Additionally, Bassey et al., (2007) carried out a study whose aim was to examine academic staff research productivity in Universities in South-South zone of Nigeria. Ex post facto design was adopted for this study. Three hypotheses were formulated to guide this study. The sample size comprised of 480 academic staff drawn from a population of 3120. Data collection was carried out using a researcher constructed instrument called Academic Staff Research Productivity Inventory (A.S.R.P.I.), which was validated and pilot tested. The data obtained were treated statistically using Independent t-test and contingency Chi-square ( $\chi^2$ ) analyses. Results indicated that male and female academic staff differed significantly in their research productivity. It was recommended that academic staff in universities should be encouraged to carry out research work irrespective of their gender, marital status and areas of specialization. The study was different from the researchers' study in that it looked at productivity basing on gender while the researcher's did not. The researcher used a mixed method design that is parallel convergent and the sample size is smaller than that of Usang's study (2007).

Furthermore, a research conducted by Schulze (2008) critically analysed how a university context influence the quality of academics' research output. Wenger's social theory of learning was used as theoretical framework. Data collection was mainly by means of participant observation, interviews and document analysis. Findings revealed that certain institutional practices facilitated high-quality research. These included financial incentives, some training programmes and travel opportunities to interact with other researchers. Practices that inhibited the delivery of quality research related to lack of job security, research support and uninterrupted time as well as excessive institutional control. Schulze (2008)'s study was looking at the influence the university has on the quality of research output. The author's current study investigated the level of intensity of academic members' in research. Her data collection was a mixed design, convergent parallel and the study was conducted at the highest public university.

Salazar-Clemeña and Almonte-Acosta (2007) conducted a study in Philippine to investigate the prevailing research culture in Philippine Higher Education Institutions. The method used was a mixed design method. Forty faculty members from 14 universities and colleges, both public and private, with representations from the three biggest island groups of the Philippines, accomplished a questionnaire. Ten participants were interviewed using open ended questions. Findings revealed that the faculty members did not consider any of the aspects of research culture in their institutions as being strong. They deemed the following indicators as present only to a moderate extent: the impact of research, administrative practices, inter-institutional collaboration, institutional research strategy, financial reward system, infrastructure, the presence of ethical policies, and the availability of research funding. As a result of these findings, the study recommended that developing a research



culture should take into account functions of HEIs, the researcher's mind, and the body of institutional policy.

Jung (2012) affirmed that research productivity was on the rise in Asia, and Hong Kong who often lead the region in the production of refereed academic journal articles. According to annual reports from the University Grants Committee (UGC), higher education institutions in Hong Kong showed high research productivity in various types of publications, and research productivity is balanced across institutions and academic disciplines. In 1999, the number of articles published in Hong Kong was 999; in 2011, this number reached 10,533. Jung (2012) conducted a study whose aim was to examine the research productivity of Hong Kong academics. Specifically, it explored the individual and institutional factors that contribute to their productivity while also comparing determinants across academic disciplines. The study employed a quantitative method to collect data. Findings found that Hong Kong academics were highly internationalized in terms of research activities. And that research productivity was influenced by a number of factors, including personal characteristics, workload, differences in research styles, and institutional characteristics. This study was different from the current study in terms of the methodology used and also the former looked at the institutional factors in relation to faculty productivity. This study purely looked at individual lecturers' productivity in terms of research output at the University of Zambia.

In Zambia, a study was also conducted by Akakandelwa et, al., (2016) whose aim was to establish research output at the University from 1966 to 2016. The study sought to investigate the research output of Schools and investigate the main channels of dissemination of findings and investigate the research output amongst others. Data was collected from various sources i.e. annual reports, library catalogues, online institution repository and

personal resumes. Results of the study indicated that research output in schools started at a very small scale in the early years but there has been an increase over the years. School of Medicine and School of Veterinary Medicine recorded high output compared to other schools. The study also revealed that collaboration among members was also at play. Following these findings the study recommended that UNZA does not evaluate its research output yearly thus should develop an internal evaluating system. Akakandelwa's study looked at research output since inception while the current study concentrated on individual faculty members' level of involvement in research and publication and used a mixed design to collect data. Data collection was gotten from questionnaires, which were distributed to individual from all the Schools in the university.

Additionally, Masaiti and Mwale (2016) affirmed that UNZA had contributed to providing the skilled labour that Zambia had needed since independence. UNZA gave a good standard for reference by different institutions, organisations, and government when it came to research output. UNZA had the expertise to undertake different kinds of research and the expertise to provide management and leadership for research projects that needed to provide both academic and policy results. However, Masaiti and Mwale (2016) indicated that UNZA had generally been characterized by low research output as measured by peer-reviewed articles, books and chapters. Their study (Masaiti and Mwale, 2016) was not an empirical study. The focus of the study was the contribution of UNZA from the time it was established. Their major focus was not on research and publication but they alluded to research. However, my study purely looked at research output and the extent to which individual lecturers were involved in research and publication at the University of Zambia. Although research output was mentioned in their study, it was done without empirical study.

UNZA's Strategic Plan (2008 -2012) attested that the University supported various types of research, including postgraduate, commissioned and responsive research in various crucial areas such as education, agriculture, health, environment and natural resources, energy and poverty reduction, which contributed immensely to national development (UNZA, 2012). The major responsibility of the University was to create knowledge through various research activities, the results of which were crucial in making informed decisions and policies by industry, Government and society. Research was also expected to generate knowledge, which should provide the basis for teaching and learning (UNZA, 2012). This therefore, implies that the need for quality research has been widely acknowledged not only in academic institutions, but also in management organisations. However, a mere mention of research in the UNZA Strategic Plan document does not mean a study was conducted about research output at the university. It was just a mention in passing.

Additionally, Republic of Zambia (1996, p48) affirmed that research done by staff in higher education was important in providing data for planning, policy making and reform in education. She Republic of Zambia (1996,p.48) further stated that:

Research is important in the operation and development of the educational system. The isolation of successful strategies and interventions, the identification of problems affecting the system or any of its parts, the analysis of policy options that could make the delivery of education more effective and efficient, and the evaluation of policy effectiveness, all require the information and insights that come from well-designed research, (p.48)

## **2.4 Research at the University of Zambia**

Research is one of the cornerstones of UNZA mission which, strives to meet the needs of the Zambia through excellence in teaching, research and community service so as to enhance sustainable development. The research has been internally and externally supported.

External research is one that was funded by resources from commissioned research through MoUs with other universities and other bodies (Akakandelwa et. al., 2016). Additionally, UNZA had conducted research in the area of traditional medicine and HIV/AIDS (UNZA, 2009). For instance, School of Agriculture had developed and released some crop varieties that had continued to be of great importance to national food security and the food processing industry in the country (UNZA, 2009). In 2007, the School further released two heat tolerant wheat varieties, which grow well in the valley areas. Research by Scientists in the Animal Science Department resulted in developing local formulations of diets or feed for poultry, pig, and cattle using soya beans and other locally available alternatives (UNZA, 2009). The foods have been widely adopted by the feed industry.

UNZA (2009) attested that, in a bid to promote research the University of Zambia developed the Research and Intellectual Property Policy whose aim was to stimulate and encourage research undertakings and publications and, also to regulate and guide the conduct of research at the institution. The policy addressed fundamental issues such as funding for research and effective coordination of research activities at the Institution by establishing a necessary institutional research agenda anchored on the unique needs of the society it served. The policy also recognised the importance of commercialisation of research outputs and also explained Intellectual Property guidelines aimed at promoting innovations, inventions and creative works.

With reference to the above literature it shows that studies have been conducted locally, to specifically look at research output in Zambia and at the University of Zambia. However, the levels of involvement in their research productivity have not been researched or documented. The studies conducted were too generalized and did not show the statistics of how individual

faculty members performed in terms of research and publication. There was no empirical study, which the current study did. The current study planned to research on this issue by going to all the schools at the university to investigate the faculty productivity specifically focusing on research and publication.

## **2.6 Challenges for Faculty in Research and Publication**

In most developing countries universities are the main and often the only institutions to undertake research, and if these fade away, knowledge production for the country as a whole would be seriously affected. Although Africa's universities ought to be the breeding grounds for the skilled individuals whom the continent need, they are plagued by critical shortage of teaching faculty and research scholars. The situation is more serious with respect to the shortage of senior faculty at levels of PhD (Yazengaw, 2008). A synthesis report based on consultations and review of literature related to higher education and development in Africa made between March - April, 2008 revealed that higher education sector in Africa faces challenges related to critical shortage of quality faculty; inadequate financial support and inadequate facilities and infrastructures; problems of quality and relevance of teaching and research and limited capacity of research (Yazengaw, 2008).

Furthermore, Yazengaw (2008) argued that higher education institutions in Africa have weak research and innovation capacities. He pointed out that universities in Africa do not yet possess adequate research capabilities, infrastructure and facilities and funding needed to make them active beneficiaries of global knowledge and/or to generate knowledge, innovation and problem solving. Higher education institutions in Africa face critical shortage of staff to adapt and generate knowledge and innovate. There is little investment in research and innovation, particularly in high priority areas, such as agriculture and natural resources,

applied sciences, health sciences, engineering and technology, limiting their capacity to meaningfully contribute to Africa's development and integrate themselves to the global knowledge networks. Expansion and development of postgraduate education in many countries is very slow, except in South Africa. These circumstances seriously constrain the building up of those elements of national innovation systems that are cardinal for increasing national productivity and research capacity.

Yazengaw (2008) suggested that African universities could be supported to improve their poor capacity in conducting development-oriented research- through mentoring programs and joint research projects between American and African researchers with the goal of developing locally appropriate technologies aimed at increasing labour productivity and market competitiveness.

On the other hand, Aswath and Gopikuttan (2013) argued that many faculty members considered teaching as their main task whereas research was only an add-on activity. Teaching occupied most of their time in their respective universities as a result, there was not enough time for the conduct of research. The study further, revealed that community service also served as an obstacle in doing research. Instead of doing academic research from their respective universities some faculty members would be doing consultancy out there. Time also seemed to be a factor that affected research activities and, therefore, maintaining a balance among the three functions was a challenge. The researcher, however, felt that, the fact that the lecturers gave more time to teaching than research demonstrated that teaching was seen as priority for many university faculties. Most likely they conducted research because of the incentives attached to it, like pay raise and promotion. Universities in Zambia are expected to play a huge role in knowledge creation and dissemination through research

but it appeared there was inadequate investment in research and development (Mulamfu, 1998).

UNESCO (2006) confirms that Africa faces a number of challenges in terms of research output but the most disadvantaged region in sub-Saharan Africa. UNESCO (2006) further pointed out that most universities had taken teaching to be their first priority and often their only pursuit. Also, because of scarce financial resources, they were unable to adequately equip and maintain their research facilities or replenish their libraries. In addition, they were unable to recruit or retain well-qualified faculty with strong research credentials who, for various reasons, preferred to move to developed countries (brain drain).

Shin and Cummings, (2010) attested to the fact that academics teaching in graduate programs, supervision of doctoral candidates also affected research productivity. A high ratio of graduate program workload meant that faculty members might have had less time to do research. However, a high ratio of graduate workload could also mean that faculty and students collaborated and conducted joint research projects and, subsequently, co-published their results. The researcher was of the view that collaboration between faculty members and graduate students might enhance productivity. Caridad and Cepero (2007) affirmed that International collaboration had shown positive impacts on the number of published articles and total number of publications. The increase in internationally oriented research journals had made international collaboration attractive to more academics than in the past.

In Zambia, the study by Mulamfu (1998) indicated that UNZA had made significant achievements in undergraduate education over the past four decades but postgraduate training was lagging behind. The university had experienced severe under-funding since the 1970s. This had led to overcrowding, dilapidated infrastructure, high student lecturer ratios and lack

of expansion in facilities. Mulamfu (1998) revealed that low levels of funding to public university had, over the years, meant that the monthly grant received was solely used to cover recurrent expenditure, mainly salaries, leaving insufficient funds for capital investment, staff development or research. He added that the other challenges facing the university included lack of curriculum responsiveness and relevance to individual, community and national needs. He further argued that UNZA had the capacity to generate alternative sources of income more than they could get in form of grants. It had farms and other ventures but the major problem faced by the university was accountability (Auditor General Report, 1996) in (Mulamfu, 1998).

He further contended that, despite government funding research activities, funds had not been adequate thus, contributing to the poor performance of research output and also the application of Technology in national development (Mulamfu, 1998). The NPST report (1996) further, suggested that, a weak linkage between the Research System, Government and the Industry was another contributing factor to weak research output. This means that the system lacked team work and a situation where there is no team work it is extremely difficult to succeed. Masaiti (2013) confirmed that in the western countries, there was a lot of collaborative research among faculty members. Members came together to write research proposals for funds to carry out research activities. This was missing in the Zambian universities. Most of the senior faculties and professors in Zambian universities had not channelled their time to do developmental research, write books or articles that might improve their knowledge base. This is because of lack of a well-defined research agenda that is integrated with national development plans and the declining public funding to the university.



## **2.7 Summary of the Chapter**

The literature reviewed exposed various levels of involvement in research activities and publication and the challenges faculties faced when conducting research in most universities especially in Africa. The literature review revealed that a lot of faculties had the potential to conduct research but what created the problem was inadequate funding towards research. In terms of infrastructure, studies revealed that physical structures of most universities were dilapidated, and insufficient. The literature review further suggested that most of the research conducted was not development oriented research. Faculties conducted research for CV purposes, promotion and pay rise. Furthermore, it also appeared that there was no empirical study that had been conducted to assess faculty productivity in Zambia to be specific at the University of Zambia. To this end, this study sought to close up the literature gap between the findings of the reviewed literature and the current state of affairs at the institution.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.0 Overview**

This chapter presents the research methodology which was used in this study. Howell (2013) describes methodology as the systematic, theoretical and analysis of the methods applied to a field of study. The methodology comprises of the theoretical analysis of the body of methods and principles associated with a branch of knowledge, theoretical model, phases and quantitative or qualitative techniques. The chapter is divided into many themes that include description of the study area, research design, study population, sample size, and sampling techniques. The chapter also presents data collection methods and techniques, research approach and data analysis methods.

#### **3.1 Rresearch Design**

Bless and Achola (1998) referred to research design as the planning of any scientific investigation from the first to the last step. Research design involves deciding what the research purpose and questions will be, what information will appropriately answer specific questions and which strategies are most effective for getting the answers (Gay, 1996). Research design guides the researcher in data collection, data analysis and interpretation of the collected data. The design of study is basically the overall approach used to investigate the problem of interest that is to shed light on, or answer the questions of interest. The function of a research design is to ensure that the evidence obtained enables us to answer the initial question as clearly as possible (De Vaus, 2001)

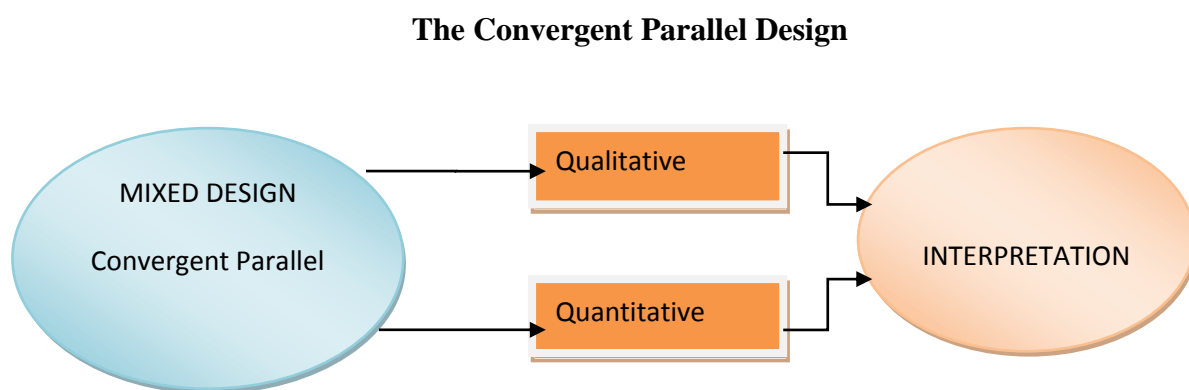
The research design this study used was a convergent parallel mixed-methods design; an approach to inquiry that combines both qualitative and quantitative methods concurrently,

prioritizing both methods almost equally (Creswell & Clark, 2011). In other words, a parallel convergent mixed-method design occurs when the researcher collects and analyses both quantitative and qualitative data during the same phase of the research process and then merges the two sets of results with same weight into an overall interpretation. A researcher collects both quantitative and qualitative data, analyses them separately, and then compares the results to see if the findings confirm or disconfirm each other. Sambili (2000) supported the combination of the methods so as to reveal many ways to deal with shortcoming of each approach and to double-check findings by examining them from different angles. In terms of priority, both qualitative and quantitative approaches were given equal weight and in terms of sequence the researcher collected both quantitative and qualitative data at the same time.

In qualitative research, feelings and insights are considered important. Bryman (2008) said that qualitative research usually emphasizes words rather than quantification in the collection and analysis of data. In terms of data collection in the qualitative approach, the study used in-depth semi structured interviews and documents analysis. This method is appropriate in that the researcher interacts with the participants in order to gather honest and broad information on the problem under investigation. Ziwa (2014) added that under qualitative research the researcher interacts with participants fully, a situation which helps him collect information in a natural environment.

In quantitative approach, data collection involved questionnaires. Bryman (2008) said that, quantitative research usually emphasizes on quantification in the collection and analysis of data. Kombo and Tromp (2006) said quantitative research relies on the principle of verifiability. That means confirmation, proof, corroboration or substantiation. The researcher's values, interpretation and feelings are not considered. Objectivity is reinforced. This research focuses on measurement i.e. the assignment of numerical events according to

rules. The numbers are specified, for example, sex: male or female. Of the two research designs mentioned, this study employed both quantitative and qualitative approaches in understanding faculty productivity at the University of Zambia, focusing on research and publication hence it is a convergent parallel mixed-methods design. The quantitative data from faculty members was collected through the designed questionnaire that had variables established from the literature review.



*Figure 3.1: The Convergent Parallel Design*

### 3.2 Study Area

Kombo and Tromp (2006) argued that the selection of the study site is essential as it influences the usefulness of the information produced. The study was conducted at the University of Zambia. The reason for arriving at this study site was that faculties in universities were expected to conduct research as a way of creating new knowledge thus contributing to national development through their research outputs. The researcher was of the view that the faculty at UNZA conducted research but the extent to which they were involved was not known. Therefore, conducting the study at this institution would make stakeholders know the extent (level or intensity) of faculty productivity.

### **3.3 Study Population**

Bryman (2004) defined population as a universe of unit from which the sample is selected or chosen. According to Kombo and Tromp (2006), a population is a group of individuals, objectives, or items from which samples are taken for measurement. In the case of this study, the population was the number of lecturers at UNZA. The total number of faculty members at the time of data collection was 684. Then from this, came a population sample. The target participants for this study comprised lecturers (ranking from lecturer III, II, I, Senior, Associates and Full Professors), Assistant Deans (Research) from eight Schools minus School of Law which was used for pilot testing. Assistant Director, Directorate of Research and Graduate Studies was also part of the population sample.

### **3.4 Sample Size**

A sample is a sub-set of a segment of the population that is selected for investigation (Bryman, 2001). Sample size in this case involved faculty members (ranging from lecturer III, II, I, Senior, Associate Professor and Full Professor); Assistant Deans Research (Administrators), of all the Schools in the university and the Assistant Director DRGS. Therefore, the population sample targeted 242 lecturers who were subjected to answering questionnaires. In addition to this, a group of experts comprised of eight (8) Assistant Deans Research (Administrators), from the eight Schools in the University and one official from the Directorate of Research and Graduate Studies were interviewed. The interviewed participants were equally important for the study because they were coordinators of research activities in the respective Schools and kept the information in relation to Schools' performance in terms of research output.

Bryan (2008) argued that in order to be able to generalize your findings from your sample to the population from which it was selected, the sample was to be representative. By targeting all the schools in this study, the sample was justified and representative. Representative sample is a sample that reflects the population accurately so that it is a microcosm of the population (Bryan, 2008). A consideration was put in place to see to it that there was no sampling bias that is, a distortion in the representativeness of the sample that arises when some members of the population (or more precisely the sampling frame) stand little or no chance of being selected for inclusion in the sample (Bryan, 2008). Below is the formula and calculation that was used to come up with sample size. The sample size was arrived at by using Yamane Taro (1970) formula below:

**Below is the formula:**

Formula: 
$$\frac{N}{1 + N (e)^2}$$

Therefore:  $N = \text{Target population}(684)$

$n = \text{Total sample size}$

$e = \text{Desired margin error} \quad (0.05)$

$n = 684/1+684(0.05) (0.05)$

$=684/1+684 (0.0025)$

$=684/1+1.7225$

$= 684/2.7225$

$= \mathbf{251}$

A total of 251 lecturers were targeted from the university.

**Response Rate**

Out of 242 faculties who were given the questionnaires only 164 participants returned the questionnaires. The response rate, therefore, being:

$$174 \div 242 \times 100 = 72\%$$

**72%** is therefore the response rate

*Table 3.1: Gender of Participants*

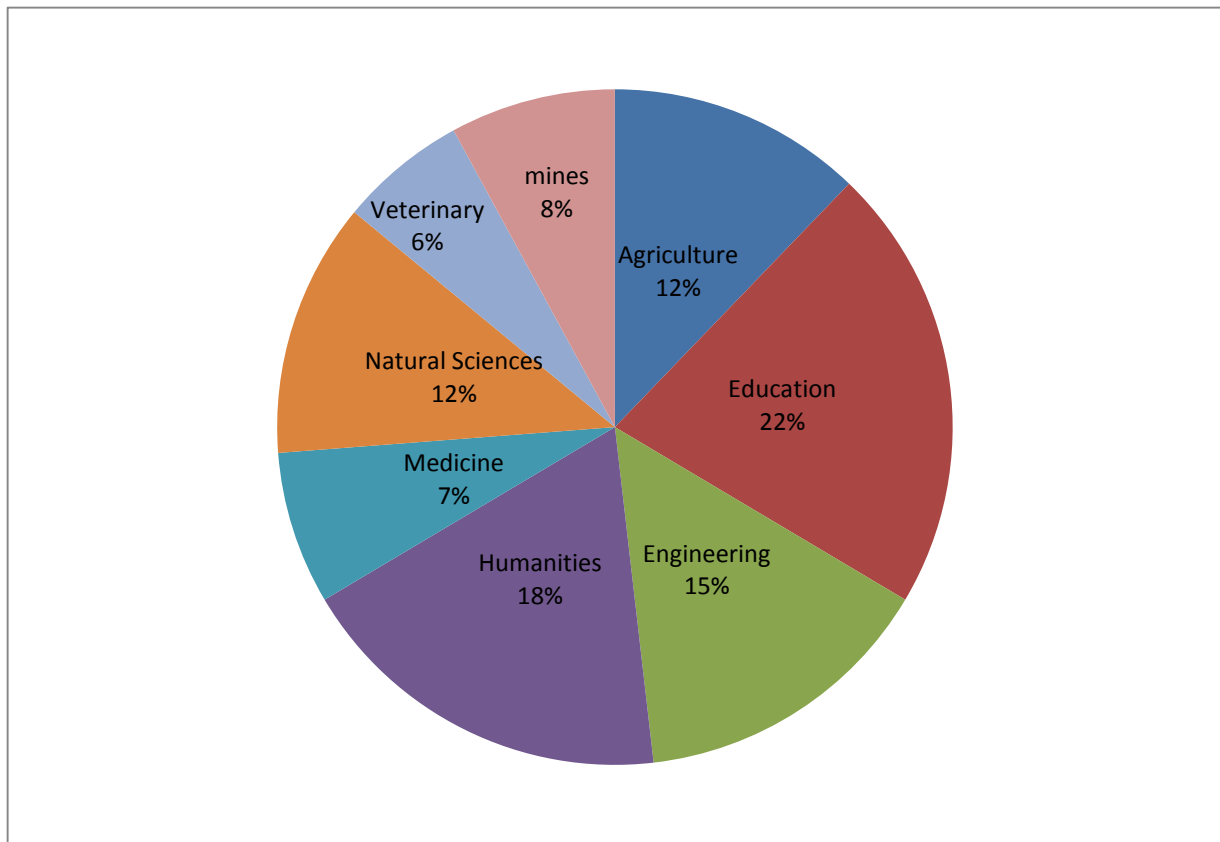
	Frequency	Percent	Cumulative Percent
Male	129	78.7	78.7
Female	35	21.3	100.0
Total	164	100.0	

Table 3 show that out of 164 participants, there were 129 male participants representing 78.7% and 36 female representing 21.3%.

### **3.4.1 Age of Participants**

Findings revealed that out of 164 participants, 7 participants were below the age of 30 representing 4.3%, 48 participants were between the age of 31 to 40 representing 29.3%, 43 participants ranged from 41 to 50 representing 26.2% and 39 participants between 51 to 60 years representing 23.8%. Lastly, 27 participants were 60+ years representing 16.5%.

### 3.4.2 Distribution of Participants by Schools



**Figure 3:** *Distribution of Participants per School*

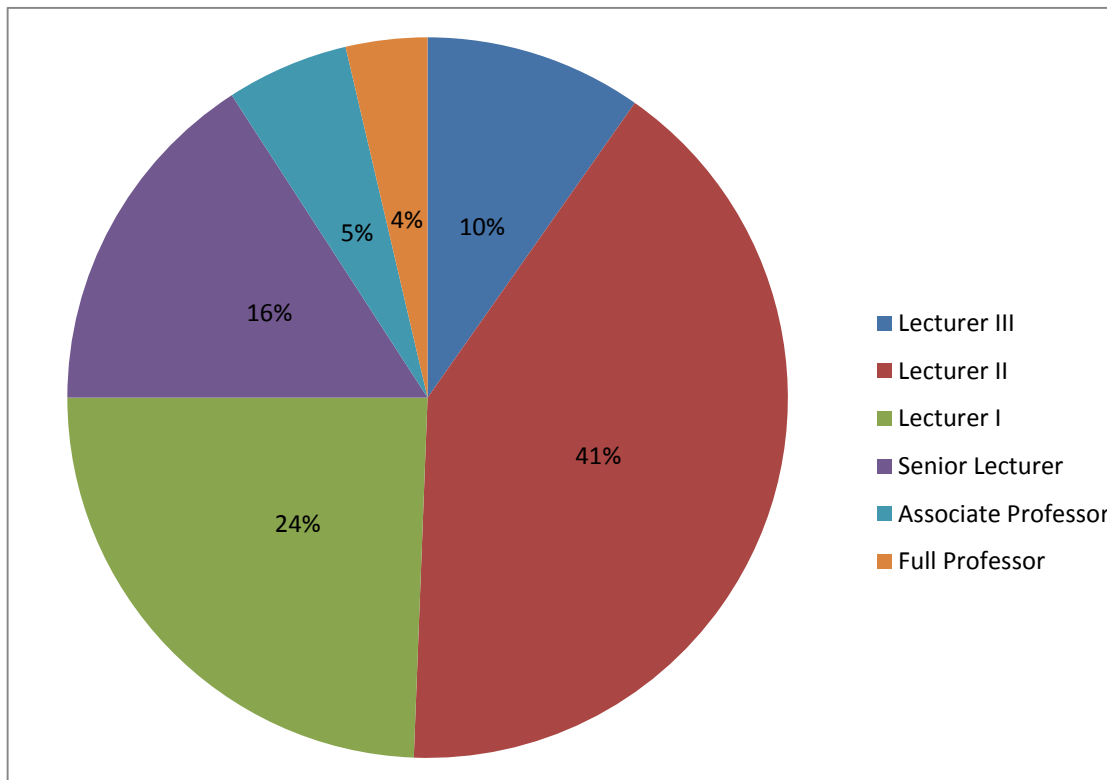
Figure 3 above shows the distribution of participants per School. Out of the 8 Schools in the University, the following were the Schools that participated; School of Agriculture recorded 21(12.8%) lecturers, School of Education 34(20.7%) respondent, School of Engineering recorded 24 (14.6%), School of Humanities 30(18.3%), School of Medicine 12(7.3%), School of Natural Sciences recorded 20(12.2%), School of Veterinary recorded 10(6.1%) and School of Mines recorded 13(7.9%).



### 3.4.3 Length of Service

Results on length of service indicate that out of the 164 participants 36 (22%) served the institution from 0 to 5 years, while 23 (14%) served from 6 to 10 years, 34 (20.7%) served from 11 to 15 year, then, 71(43.3%) participants served the University from 15 years and above.

### 3.4.4 Rank of Lecturers



*Figure 3.2: Rank of Lecturers*

Figure 4 shows that out of 164 participants, 16(10%) were lecturer III, 67 (41%) were lecturer II, 40 (24%) were Lecturer I, while 26 (16%) were senior lecturers, 9 (6%) were Associate Professors and finally, 6 (4%) were Full Professors.

### 3.4.5 Qualification of Participants

*Table 3.2 Qualification of Participants*

	Frequency	Percent
<b>Masters Degree</b>	84	51.2
<b>PhD</b>	80	48.8
<b>Total</b>	164	100.0

**Table 3.1.** above indicates that there were two categories of qualifications obtained by the participants. Out of 164 participants, 84 (51.1%) participants had the Masters qualifications and 80 (48.8%) held the PhD qualifications.

### 3.5 Sampling Procedure

Sampling procedure is a process or criteria that a researcher puts across to gather people, places or things to study. It is a process of selecting a number of individuals or objects from a population such that the selected group contains elements representative of the characteristics found in the entire group (Orodho & Kombo, 2002). This selected group is called the population sample. According to Bryman (2008) as already stated above, a sample is a segment of the population that is selected for investigation. It is a subset of the population. The method of selection may be based on a probability or a non-probability approach. Probability sample; a sample that has been selected using, random selection so that each unit in the population has a known chance of being selected. It is generally assumed that a representative sample is more likely to be the outcome when this method of selection from

the population is employed. The aim of probability sampling is to keep sampling error to a minimum (Bryman, 2008). Non-probability sample is a sample that has not been selected using a random selection method. Essentially, this implies that some units in the population are more likely to be selected than others. Stratified random sampling is a sample

Random and purposive sampling procedures were used in choosing participants (and Schools). Random sampling is a method used where each unit in the population has an equal chance of being selected (Kombo & Tromp, 2006). Specifically, simple random sampling was used in this study since no complexities are involved (Kombo & Tromp, 2006). This method was used in selecting lecturers to answer the questionnaires in the schools.

On the other hand, non-probability sampling was employed in this study. Under this, purposive sampling was used. Kombo and Tromp (2006) argued that in purposive sampling the researcher targets a group of people believed to be reliable for the study. A purposive sampling method was appropriate for this study in qualitative data because it only targeted those participants who were expected to have adequate knowledge and information about research and publication. Therefore, purposive sampling was used to select interviewees.

### **3.6 Data Collection Instruments**

Ng'andu (2013) stated that research instruments refer to the tools that the researcher uses in collecting the necessary data. In order to gather data for the study, research instruments that were used during research included questionnaires and interview schedules. Questionnaires expected to be answered by faculty members were given to 242 participants. Assistant Deans research from the 8 Schools were interviewed according to the interview guide. The Assistant Director, Directorate of Research and Graduate Studies was also interviewed using the

interview guide. Documents from DRGS were analysed especially on research output and publication. Appendices of research instruments are attached to this report at the end.

### **3.6.1 Questionnaires**

Quantitative data was collected through a questionnaire. Kombo and Tromp (2006) defined a questionnaire as a research instrument that gathers data over a large sample. A self-administered questionnaire was distributed to 242 faculty members to collect quantitative data. The main essence of administering a self-completion questionnaire to faculty members was to explore faculty productivity at UNZA focusing on research and publication. The questionnaire had two sections. Section A dealt with social demographic information and section B contained statements regarding research and publication. To achieve that, 72 related statements based on a 3-point Likert scale ranging from 1 to 3, with 3 representing the agree option while 2 representing not sure and 1 representing disagree were prepared. Lecturers, therefore, graded each statement by means of ticking one of the three rankings appearing next to it. Questionnaires upheld confidentiality and served on time.

### **3.6.2 Interviews**

Interviews were also employed to collect data in this study. An interview as a method of data gathering refers to the questions which are asked to the participants orally (Kombo & Tromp, 2006). It is an interaction between the researcher and the participants in which both participants create and construct the narrative versions of the social world (Silverman, 2004). An interview consists of a written list of questions that need to be covered by the interviewer. In this study, to collect qualitative data, semi-structured interviews were administered to 8 Assistant Deans Research to crosscheck other lecturers' responses in the questionnaires. Semi structured interviews were also used to collect data from the Assistant Director, DRGS. One-on-one interviews were conducted and tape-recorded to collect data on faculty

productivity at UNZA from all the key informants. Due to semi-structured interviews' flexibility, both open and closed-ended questions were included in the interview schedules to collect in-depth information so as to get a complete and detailed understanding of the issue at hand.

### **3.6.3 Field Observation**

Holmes and Boxham (2007) define observation as not just seeing things but carefully watching the things and trying to understand them in depth, in order to get some information about them. The field observation method was to collect data regarding laboratory and classroom activities because it helps in enriching our understanding of what activates. This method was used to supplement information gathered through questionnaires and interviews on the nature of infrastructure to ascertain if it is appropriate for research activities. However, the limitations in using this instrument is that it is not scientific (Holmes &Boxham2007).

### **3.6.4 Document Analysis**

Document analysis was involved in order to obtain comprehensive information on how many researches were conducted as well as publications were done for example per school in a year. This method was advantageous as it provided supplementary information on faculty productivity in terms of research output.

## **3.7 Data Analysis**

Kombo and Tromp (2006) attested that data analysis is the process of bringing order and meaning to the collected data. It is examining what has been collected in a survey or experiment and making deductions and inferences (Kombo & Tromp, 2006). Since the

research design that was used in this study was convergent parallel mixed-methods design, even the data analysis was done separately for both quantitative and qualitative approach and then comparison or conclusion drawn. Below, I explained how I analysed the data:

### **3.7.1 Qualitative Data Analysis**

Qualitative data analysis according to Kasonde (2013) is a manipulation of the collected data for the purpose of drawing conclusions that reflect on the interest, ideas and theories that initiated the study. Hammersley et al., (1995:209), suggested that in analysing qualitative data, the initial task is to find concepts that help “make sense of what is going on. Creswell (2012) observes that analysing qualitative data requires an understanding on how to make sense of the text and images so that answers to the research questions are formed.

Qualitative data from semi-structured interviews were collected, transcribed and coded into themes and sub-themes that emerged through thematic analysis. This was done by carefully listening to the recorded conversations in order to interpret, reduce and code key responses into major and sub-themes that emerged for later discussion. This was done in the light of the research questions at hand. Some responses were also isolated to be used as original quotes for verbatim to highlight important findings of the study.

### **3.7.2 Quantitative Data Analysis**

The data from 164 questionnaires collected, were entered on the data entry screen created on the Statistical Package for Social Sciences (SPSS) version 20.0 software. SPSS software facilitated for accuracy and speedy entry of data from questionnaires as well as analysis of the responses. Descriptive statistics were generated in form of frequency tables, modes, means and standard deviations.

### **3.8 Ethical Consideration**

The researcher got permission letters to gain access to the study sites. Permission to carry out the research on the faculty productivity was sort from Deans and Directors of Schools/Directorates. The researcher also ensured voluntary participation of participants and no harm either emotional or physical was inflicted on them. The integrity and privacy of participants including surety of anonymity and confidentiality of some information they gave was granted. The purpose of the study was clearly defined that it was purely academic.

### **3.9 Validity and Reliability**

Validity is concerned with the integrity of the conclusions that are generated from a piece of research (Bryman, 2008). Validity in this regard entails the extent to which an instrument fairly and comprehensively represents the factors under study (Cohen et al., 2007). It has to do with the accuracy and precision of data, and whether a study can yield the same results when repeated. Validity examines the extent to which the results of the study could be generalised to the real world (Bless and Achola, 1988). All the research instruments to do with qualitative data were personally administered by the researcher who ensured that probes, clarifications and follow-up questions were addressed but also contact numbers (of the researcher) were put on self-administered questionnaires that dealt with quantitative data. Recording of the interviews also helped in further strengthening the trustworthiness of data by ensuring that data was not distorted. The interview guides were pilot tested on the Assistant Dean, Research, School of Law to obtain validation data and ensure that any anomalies and ambiguous questions were corrected before the interview guides were administered to the sampled population.

Reliability was also put into consideration. Reliability is concerned with the consistency of the results obtained from a measuring instrument. According to Bless and Achola (1988), reliability is concerned with the degree of consistency to which a particular measuring procedure gives equivalent results over a number of repeated trials.

In the case of this study, the combination of methods it having used the convergent parallel mixed-methods design increased reliability and validity. The quantitative and qualitative methods complemented each other and provided for the triangulation of findings, hence greater validity and reliability of the emerging inferences. Parallel forms are a type of reliability. Multiple methods of data collection validate research. This is so because methods complement each other with no overlapping weaknesses (Brewer and Patton, 2002). Combination of methods ensures that inconsistencies are removed and thus valid and reliable data emerges (Patton, 1990).

### **3.10 Summary of the Chapter**

The chapter presented the methodology employed by the researcher. The study adopted a mixed methods design known as parallel convergent design. The study sample consisted 253 participants. Quantitative data was collected from 244 lecturers while, qualitative data was collected by interviewing 8 Assistant Deans Research, and 1 Assistant Director from DRGS. Observations and a document analysis were also done to consolidate qualitative data from interviews. Purposive sampling was used to select the participants for interviews while stratified simple random and random sampling were used to select lecturers. Questionnaire data was analysed using SPSS and interviews were analysed thematically. Validity and Reliability was ensured by triangulation, large sample size and pilot study.



## CHAPTER FOUR

### PRESENTATION OF FINDINGS

#### 4.0 Overview

The previous chapter provided the methodology that was employed to obtain the data. This chapter presents the findings in view of the research questions set at the beginning of the study. The participants in this study included Lecturers at the university, Assistant Deans Research from the 8 Schools and an official from DRGS. Two hundred and forty-two (242) questionnaires were distributed to the university faculty members out of which 164 questionnaires were returned resulting in a 72% response rate. In the analysis of the qualitative in this study, codes were used to represent real names of people, schools and institutions for ethical reasons. The research questions set at the beginning of the study were:

- i. To ascertain the extent faculties were involved in Research at UNZA.
- ii. To assess the extent faculties at UNZA were involved in publication.
- iii. To establish the challenges faculty members face when conducting Research and Publication.

The chapter is divided into the following themes; social demographic characteristics for participants, findings on the extent faculties were involved in research, findings on the extent faculties were involved in publication and findings on challenges face when conducting research and publishing.

## **4.1 Findings on Involvement of Faculty in Research**

**Research Question One:** To what extent are faculty members involved in Research at the University of Zambia?

The responses from the lecturers on various items relating to involvement of faculties in research are displayed on figure 5 below:

### **4.1.1 Basic Research**

Results in Figure 5 below indicated that from the 164 participants, 123 (75%) participants confirmed having conducted basic research. In line with findings in figure 5, table 4.1.0 under whose mean response 2.62 which was closely corresponding with the response agree on the likert scale with the standard d of 0.703 imply that the majority of the participants had been involved in basic research.

### **4.1.2 Applied Research**

One hundred and twenty-six representing (76.8%) in figure 5 agreed to having conducted applied research while 23 (14%) disagreed and 15 (9.1%) were not sure. The mean response 2.63 according to Table 4.1.0 under, which was closely corresponding with the response agree on the likert scale with the standard deviation of 0.719 implying that the majority of the participants had been involved in Applied research.

### **4.1.3 Academic Rank Correlates with Research**

In relation to figure 5 underneath it was discovered that out of 164 participants, 41% of them supported the statement that faculty rank correlates with research output while 38% disagreed to the assertion and 21% remained neutral. However, the mean 2.05 according to table 4.1.0 is closely corresponding with the response not sure on the likert scale while the standard

deviation was 0.888 implying that the number of participants that agreed to the statement was almost statistically equal to those that disagreed.

#### 4.1.4 Research Productivity and Tenure/Promotion

Findings in figure 5 below suggests that out of 164 participants, 135 (82.3%) participants indicated that research productivity leads to promotion and tenure, while 17 (10.4%) were not sure and 12 (7.3%) disputed the assertion. While Table 4.1.0 under confirmed that the mean response 2.75 which is closely corresponding with the response agree on the likert scale with the standard deviation of 0.580 implying that the majority of the participants have been promoted on the basis of research output.

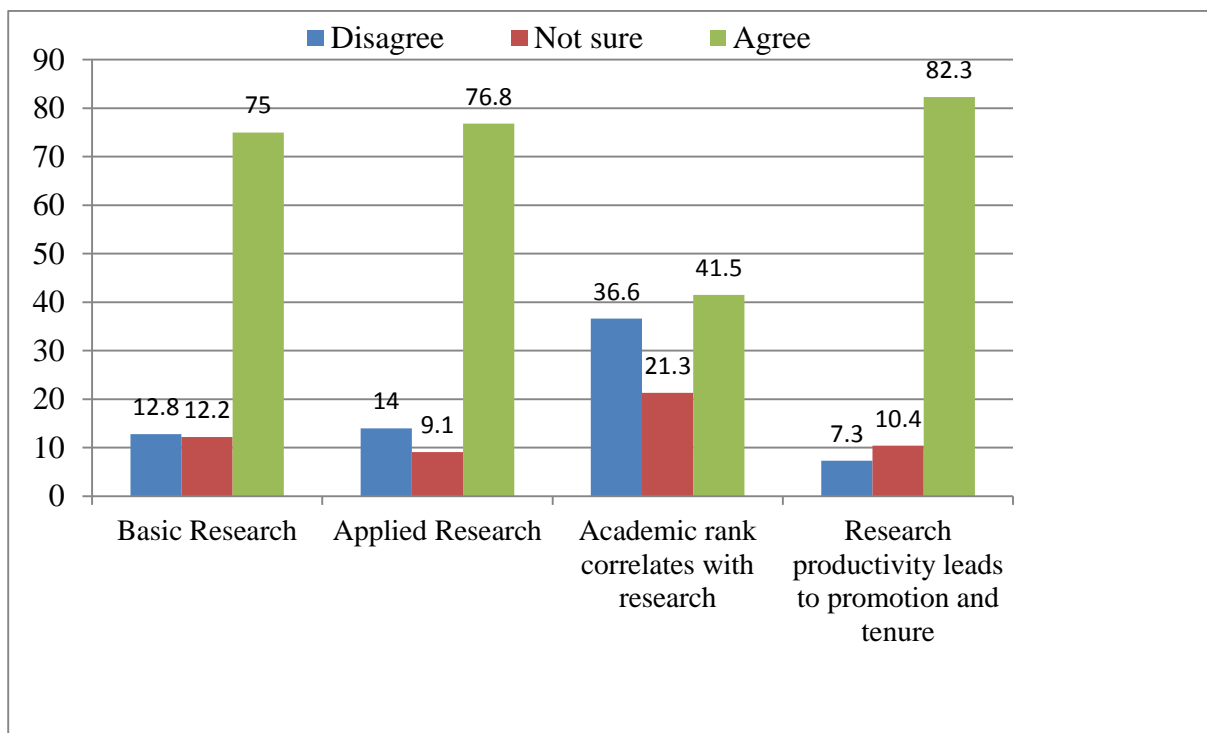


Figure 4.1: Faculty involvement in Research

**Table 4.1: Measures of central tendency and dispersion on faculty involvement in Research**

<b>Faculty involvement in research</b>	<b>Mean</b>	<b>Std. Deviation</b>
Basic Research	2.62	.703
Applied Research	2.63	.719
Great skills-more research	2.62	.677
Academic rank correlates with research	2.05	.888
Research productivity leads to promotion and tenure	2.75	.580

Similar responses were collected from the interviews. The Assistant Dean (Research) of School C said “Faculty members conducted self-funded academic research and that they conducted research as to get promoted and have pay rise as well as to remain employed

At the moment if I were to divide basically what I would call basic research where we are always doing research and involving students, we have quite a number of those taking place then the other part where the faculty are doing their own research which is funded, but because of funding difficulties we have just a few taking place. (Interview, December, 2015).

Similar concerns were raised by the Assistant Dean (Research) from School F who pointed out that, faculties were conducting research but, they were not performing as expected. The Dean further added that a University like UNZA can do better than it is doing.

In the same vein the Assistant Dean (Research) School B revealed that University of Zambia has potential to do research, but the challenge was poor funding to the institution by the

government and poor infrastructure. Findings further revealed that most of the research conducted in the School was collaborative research. Faculty members enter into partnership within and outside the School. Some faculties even gone beyond the institution across borders looking for scholars to partner with.

The Assistant Dean (Research) from School A *reported that faculties conducted research but the score was not impressive, citing reasons that the School had a shortage of senior faculty, poor infrastructure and lack of funding.*

The Assistant Dean (Research) School H said that *“faculty members at UNZA conduct academic research but the problem is that most of them conduct research using their personal money and, conduct research to get promotion to get pay rise and also to remain employed at the institution. (Interview, December 2015).”*

## **4.2 Findings on Faculty and Publication at UNZA**

**Research Question two:** To what extent are faculties involved in publication at UNZA?

### **4.2.1 Published Journal Articles in 2 years**

Findings in Figure 6 below revealed that from 164 lecturers, 67.7% of them published journal articles in the period of 2 years while, 28.7% denied and 3.7% of participants were not sure. To qualify the findings in figure 5, table 4.2.0 suggest that the mean response 2.49 which is closely corresponding with the response agree on the likert scale with the standard deviation of 0.903 implying that a considerable number of participants have published journals in 2 year.

#### **4.2.2 Publish Journal articles annually**

According to findings in figure 6, 37.8% of 164 participants published journal articles annually, while 11.6% remained neutral and 50.6% denied to have published journal articles annually. Table 4.2.0 under confirms findings of figure 6 that the mean response 1.87 is closely corresponding with the response not sure or neutral on the likert scale while the standard deviation was 0.934 indicating that the number of participants that agreed to the statement was almost equal to those that disagreed.

#### **4.2.3 Published in international journals in 2 years**

Results in figure 6 underneath established that 56.1% agreed 4.3% not sure and 39.6% disagreed to have published in the International journals for the period of 2 years. Table 4.2.0 below suggested that the mean response is 2.16 which is closely corresponding with the response not sure on the likert scale with the standard deviation of 0.967 meaning that the number of participants that agreed to the statement were almost equal to those that disagreed.

#### **4.2.4 Published a book in 2 years**

Also revealed in figure 6 down is that, out of 164 participants, only 19.5% participants published books while, 78% did not publish any book in 2 years and 2.4% were neutral. The mean response in table 4.2.0 underneath is 1.41 which is closely corresponding with the response disagree on the likert scale with the standard deviation of 0.798 confirm that the number of participants that agreed to the statement were far apart to those that agreed.

#### 4.2.5 Presented paper at a conference in 2 years

Furthermore, results from figure 6 revealed that out of 164 of the participants, 62.8% presented papers at conference in the past 2 years, 31.7% did not and 5.5% were neutral. The mean response 2.31 as indicated in table 4.2.0 below, which is closely corresponding with the response agree on the likert scale with the standard deviation of 0.934 entail that the majority of the participants had been involved in basic research.

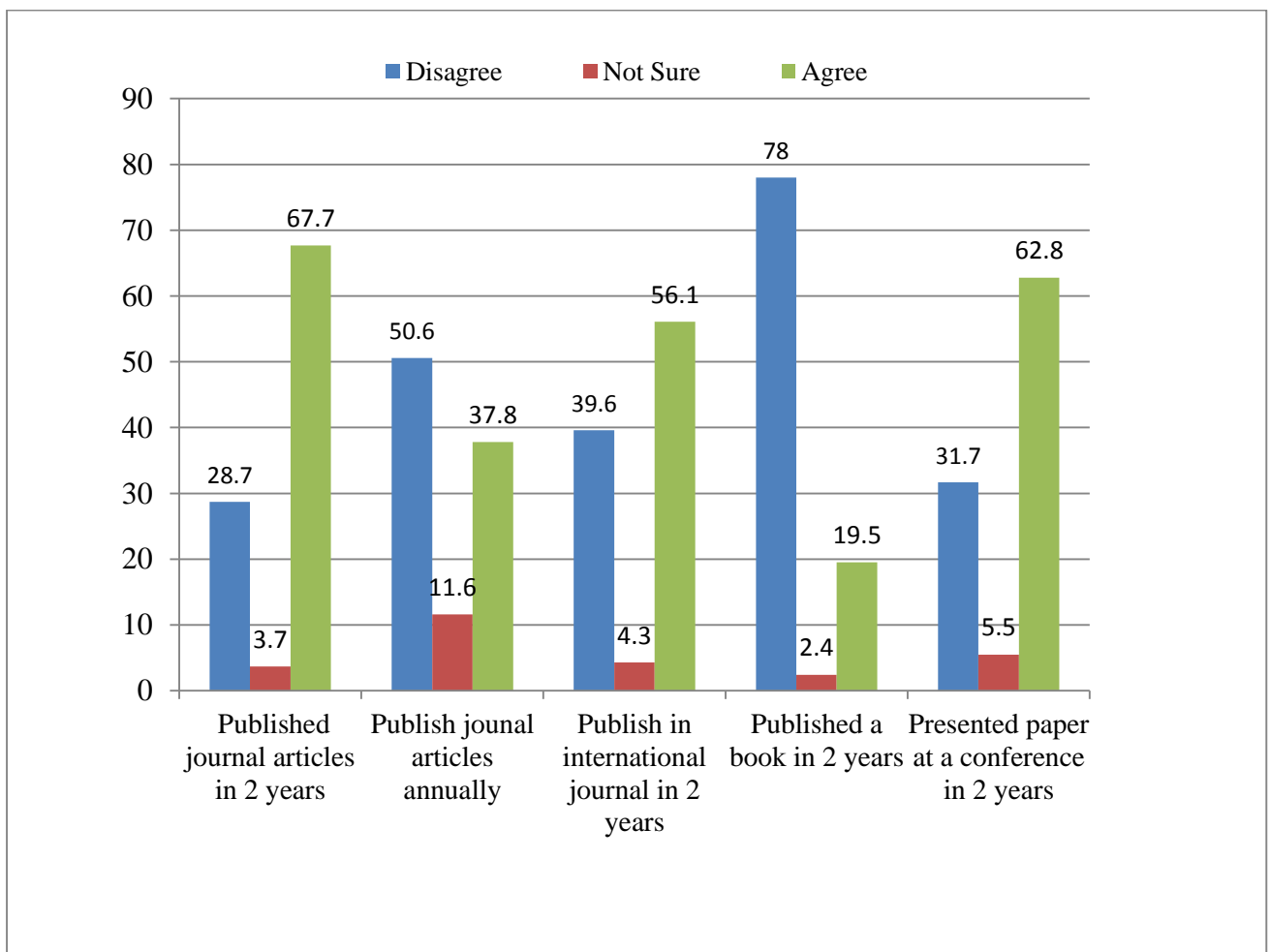


Figure 4.1: Faculty and Publication

**Table 4.2 Measures of Central Tendency and Dispersion on faculty involvement in Publication**

Faculty involvement in Publication	Mean	Std. Deviation
Published journal in 2 years	2.49	.903
Published journal articles annually	1.87	.934
Published in an international journal in 2 years	2.16	.967
Published book in 2 years	1.41	.798
Presented paper at conference in 2 years	2.31	.924

An interview with Assistant Dean (Research) School C reported that for the past 20 years it was very bad, faculties tended to be on teaching than doing research. Reported that *“the situation is improving a bit, schools have increased the number of postgraduate, and so postgraduate research normally ends up in publication if well written, unlike before when they only had undergraduate students.”*

In the same vein, Assistant Dean (Research) School E reported that in the past five years, there has been some improvement in terms of level of publication. For example, in 2015 the School recorded over 100 publications. When we look at our annual reports it is confirming that we have been improving, giving an average of each lecturer having a paper per year. Although for the university like this one it is too low. The Assistant Dean (Research) School H also added; That on a bad year the School records about 40 publications while, on a good



year for example, in 2013 they recorded 106 publications. It was further revealed that publication varies year in year out depending on the funding and that some projects take long, one may need to do a lot of testing and field work.

### **4.3 Findings on Challenges in Research & Publication**

**Research Question three:** what are the challenges faculty members face when conducting research and publication at UNZA. The responses from the participants are as follows:

#### **4.3.1 Insufficient funds**

One hundred and forty-seven participants representing (89.6%) alluded to insufficient funding as one of the major challenges faculty members faced when conducting research, 5 (3.0%) remained neutral and 12 (7.3%) denied to the assertion as indicated in figure 7 below. Table 4.3.0 below also confirm that the mean response 2.82 which is closely corresponding with the response agree on the likert scale with the standard deviation of 0.582 suggested that the majority of the participants were in support of the statement that UNZA was heavily underfunded.

#### **4.3.2 Teaching Overloads**

Findings from Figure 6 below indicated that out of 164 participants, 129 (78.7%) mentioned teaching overloads as one among other challenges, faculties faced in their research activities while, 20 (12.2%) refuted the assertion and 15 (9.1%) remained neutral. The mean response 2.66 in Table 4.3.0 below, which is closely corresponding with the response agree on the likert scale with the standard deviation of 0.685 suggested that the majority of the faculty members were faced with teaching overloads.

### **4.3.3 High Teaching Ratios**

One hundred and twenty-nine (78.7%) participants alluded to high teaching ratio as a challenge that was hindering their progress in research and development, while 21 (12.8%) disagreed and 14 (8.5%) remained neutral. The mean response 2.66 which is closely corresponding with the response agree on the likert scale with the standard deviation of 0.696 entail that a lot of participants were in agreement with the concerns of high teaching ratios. These findings are evident in figure 7 and table 4.3.0 below.

### **4.3.4 Poor Infrastructure**

Participants, 147 (89.6%) according to findings in figure 7 below referred to poor infrastructure as a huge challenge that frustrated faculties' efforts to conducting productive research activities while, 5 (3.0%) remained neutral and 12 (7.3%) disputed the assertion. Table 4.3.0 underneath confirm the findings in figure 7 which state that the mean response 2.73 which is closely corresponding with the response agree on the likert scale with the standard deviation of 0.591 meaning that the majority of the participants had been involved in basic research.

### **4.3.5 Lack of mentorship**

One hundred and nine participants representing (66.5%) pointed to lack of mentorship, while 27(16.5%) participants were not sure and 28 (17.1%) disagreed to the statement. Table 4.3.0 beneath supported the findings in figure 7 below that the mean response 2.49 which is closely corresponding with the response agree on the likert scale with the standard deviation of 0.771 suggest that the majority of the participants faced the challenge of not having people to mentor them.

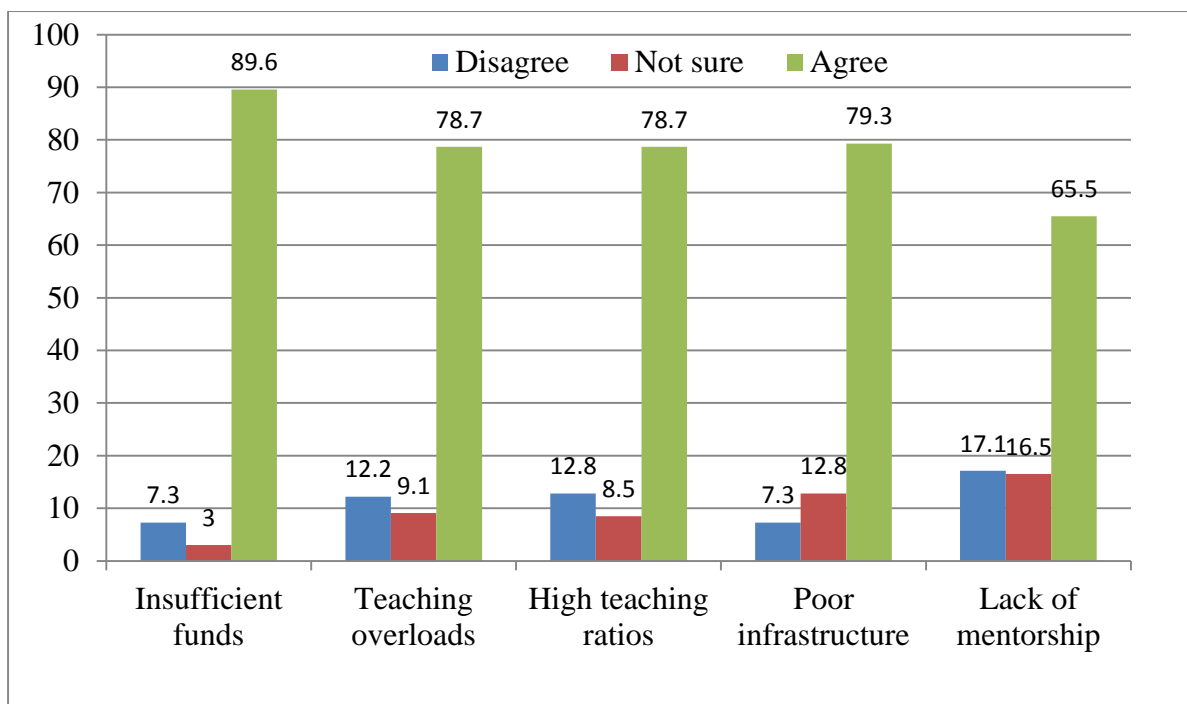


Figure 4.2: Challenges faculties face

**Table4.3: Measures of central tendency and dispersion on challenges**

**Faculties face when conducting Research and Publication**

Challenges faced by faculties	Mean	Std. Deviation
Insufficient funds	2.82	.542
Teaching overloads	2.66	.685
High student ratio	2.66	.696
Poor infrastructure	2.72	.591
Lack of mentorship	2.49	.771

Responses that were obtained from the interviews indicate that, insufficient funding was the major challenge faculties faced at UNZA when conducting research and publication. The other challenge that emerged were; poor infrastructure, teaching overloads and high teacher ratio, lack of mentorship. The Assistant Dean (Research) from School G, reported that UNZA was heavily underfunded and that the infrastructure was not conducive for research activities. Similar concerns were also raised by the Assistant Dean (Research) from School F, that the School has quite a number of challenges namely; inadequate funding, lack of proper equipment to carry out research, lack of mentorship, and the environment in terms of infrastructure was not conducive to do research. He also pointed out to attitude, it was also a challenge; there was a lot of inertia from members of staff. An official from DRGS cited lack of funding for research as the major challenge, but was quick to mention that:

Funding is not that much of a challenge. What created a challenge in terms of publication was the poor quality of the manuscripts produced by some academic members of staff as well as produced by the students. The manuscripts have not been packaged the way they should if they were to compete favourably, on the international market for publication. So in terms of publication, the major challenge has been quality of manuscripts, (Interview, December 2015).

The document analysis of 2016 Research Board Meeting (Research Progress Report) suggested that faculty members conducted research whose moderate percentages were recorded but performed extremely poor in patents, design and trademarks, where they recorded zero percent. The document analysis also indicated that faculties recorded fairly in journal publication and presentation at conferences but performed badly with publication of books (See appendix I).

#### **4.4 Summary of the Chapter**

Chapter four provided the presentation of findings relating to faculty and research activities; faculty and publication. The chapter also presented data on the challenges faculties face when conducting research and publication.

## CHAPTER FIVE

### DISCUSSION OF FINDINGS

#### 5.0 Overview

The previous chapter, presented and analysed data collected from questionnaires and interviews. This chapter discusses the findings presented in chapter four. The chapter is divided into parts such as social demographic characteristics, faculty research output, faculty and publication and challenges faculty members face in executing research activities. Based on the findings presented in the previous chapter, specific points have been identified and discussed in the following paragraphs.

#### 5.1 Social Demographic Characteristics

Results in table 2 indicate that there was a huge disparity between the ratios of female to male faculty members. Most of the faculty members in this study were male representing 78% of the participants while females recorded 22% of the participants. This meant that there was more male faculty members than females. The reasonable explanation for this result is that male academic staffs are by nature stronger and more resilient to undertake highly tasking and strenuous activities such as research activity. Thus, while male academic staff can spend several hours, if not days to execute a research activity, female academic staff may not have such strength. The findings on gender disparity could be explained by (Jung, 2012) who postulated that women academics published less than their male counterparts, this might be explained in terms of women's social roles somehow impeding their research productivity. However, this could also be attributed to the fact that there were many men than women in the higher academic ranks and hard disciplines such as engineering or natural science. The researcher felt that the problem could be the mind-set; women were very reluctant to take up jobs that were perceived to be for men. Gender stereotyping influenced the choice of career

path of females. Although, government had put deliberate policies to encourage females to take up male –dominated jobs, females appeared to be very reluctant to do that. For example, at UNZA, very few female graduates wanted to train as lecturers after completing their first degree according to UNZA statistics. It was therefore important that other initiatives were put in place to encourage women to take up male dominated programs so that they fairly competed for job opportunities in the industry with their male counterparts. There was need for women organizations to come on board to encourage females and also sponsor them where possible to pursue such programmes.

Age of UNZA faculty was between 31–40 representing 48%. Majority of the university faculty who participated in this study were below 41 years. From these findings it clearly showed that most of the participants were still young. Chronological age had been a positive and negative interpreter in faculty productivity. The association of age and productivity can either work to the advantage or disadvantage of faculty members. In this case, age could be used as an indicator of academic research experience and maturity. However, productivity decreases with the advancement of age. The qualities of output rarely matched what was accomplished at an earlier age. Growing old deteriorated performance, though, on the other hand, performance improved with experience, could also work to the disadvantage, having too many youths in an organisation might compromise the standards as they might not be experienced thus might need to be mentored.

Distribution of faculty members' representation revealed that School of Education recorded the highest percentage of 21%, followed by School of Humanities with 18% of representation. School of Engineering recorded 15%, School of Agriculture 13% lecturers, School of Medicine 7%, while School of Natural Sciences recorded 12%, School of Veterinary

recorded 6% and School of Mines recorded 8%. The percentage is slightly higher in the part of School of Education followed by School of Humanities because of the good return of questionnaires I got. However, the number of participants did not correlate with faculty productivity.

Findings on length of service (work experience) suggested that majority of the faculty members had more than 15 years (43%) work experience while, 22% served the institution for less than 5 years. Findings further, showed that those who served the institution from 6 to 10 years recorded 14% while 21% of participants worked from 11 to 15 years. This implied that there was a moderate retain of faculties but for an institution like this one, the rate of retain was not good. The poor retention of faculties could be attributed to the fact that UNZA was not employing to fill the establishments in different units and some faculties may have left for greener pastures. This meant that the institution is understaffed and when an organisation is understaffed it usually leads to less production, issues to do with high student ratio. However, in some cases Departments use part-time lecturers and tutors but these may leave anytime.

The findings were in line with Stafford, (2011) who argued that high student ratio is among the challenges that held back research productivity among faculty members. High student ratio came about when a lecturer is handling a big number of students than expected. This wore out lecturers because they spent more time on teaching huge classes than on research. Jung (2012) supported Stafford's study that affirmed that high ratio of graduate program workload, including teaching caused faculty members have less time to do research.

Findings on the rank of lecturers hinted that the majority of the participants were lecturer II representing 41% while 24% represented lecturer I and 16% represented senior lecturers. 6% were Associate Professors and 4% represented Full Professors. This was an indication that majority of faculty members at UNZA fell in the junior lectures' rank. This could be the more reason why the institution was recording very weak percentages of publication output. The reason for weak publication was that junior faculty had not yet acquired necessary writing skills for manuscripts. Findings were similar to what Jung (2012), who revealed that senior lecturers' performance was high compared to junior lecturers. The explanation is that senior faculties had already accumulated a certain degree of academic capital and momentum in order to write and publish. He further mentioned that tenured professors tended to publish more than non-tenured. Academic seniors were more inclined to a higher level of research production than those at the lower rungs of the academic ladder. Yazengaw (2008) also supported the findings when he said although Africa's universities ought to be the breeding grounds for the skilled individuals whom the continent need, they are plagued by critical shortage of teaching faculty and research scholars. The situation is more serious with respect to the shortage of senior faculty at levels of PhD. Research done by Carayol (2006) also affirmed that departments with a high number of full professors tend to have higher productivity levels than those with a lower percentage of professors in high ranks.

Findings on the qualifications of the lecturers revealed that 51% possessed a Masters' degree while 49% possessed PhD qualifications. These qualifications according to the university requirement were relevant. However, findings were a confirmation that there were more masters' holders than PhDs. Findings were in contrast with some of the reviewed literature which emphasised on higher qualifications for researchers. World Bank (2005) emphasised the need for a more skilled labour force to meet changing demands and maintain



competitiveness. It further advised that capabilities, knowledge and expertise faculties must be carefully examined in terms of qualifications so that we employed well qualified staff or better production. Yazengaw (2008) supported the findings when he suggested that we need PhD holders to improve African's research output.

Jung (2012) recommended that qualifications had an impact on performance. It was, therefore, important that UNZA promoted the programme of Staff Development Fellow and Staff Research Fellow, especially for lecturers who did not possess skills in conducting (supervising) research as well as teaching.

## **5.2 Faculty Involvement in Research**

Both the qualitative (interview) and quantitative (questionnaire) data indicated that an average number of the faculties were involved in research activities where 123(75%) of the participants confirmed conducting basic research, with the mean response on the likert scale standing at 2.62 and the standard deviation at 0.703. Similarly, 126 (77%) faculties conducted applied research giving us a mean response on the likert scale of 2.63 and a standard deviation at 0.719. The researcher was of the view that faculties were productive in terms of research activities except that the research conducted was not development oriented. Findings from the interviewees suggested that lecturers conducted both basic and applied research but did not publish because they of poor writing skills among some faculty members, poor publication culture and lack of publication platforms and, heavy teaching loads. It was further revealed that, the level of engagement that there was on research basis was half a time associated to grant funded projects as well as consultancy. The interviewees further suggested that most of the faculties conducted research because they wanted to be promoted, get a pay rise, and have their contracts renewed. This, therefore, means that most

of the faculties conducted research on the basis of the intrinsic motivation. One then tend to wonder, what happens when all the motivations have been exhausted?

This may mean that when faculties reach the apex in terms of promotion, their research output tend to decline because there is nothing else that is motivating them to keep on conducting research as a result becoming un productive. Findings further indicated that attitude of some of the faculties was another reason why research output was low. Some faculties have concentrated more to teaching than research and are not in a hurry to embrace themselves with research activities. This means that not so many faculty members were conducting research. This, therefore, means that a lot of faculty members were teaching and not researching.

The two scholars Xiangping (2000) and Braimoh (1999) in Okiki (2013) supported the importance of research to a nation and the individuals conducting it, when they point out that research is of immense value to the development of human knowledge and that its importance can be seen in the fact that nearly all current developments depend largely on research. They also alluded that everywhere where there is productive research and publication, development has taken place, direct or indirectly. Direct, this can be through innovations or patent while, indirect is through transferring of knowledge or policy formulation.

Findings on the correlation between research productivity and promotion/ tenure were in accordance with (Okebukola, 2002)'s study which revealed that in higher education, research productivity often served as a major role in attaining success in academic circles as it was related to promotion, tenure, and salary. Additionally, research done by Carayol (2006) who revealed that, departments with a high number of full professors tend to have higher productivity levels than those with a lower percentage of professors in high ranks. This

relationship can be explained by the processes and policies that promote faculty members to higher ranks based on productivity indicators.

Findings on academic rank and research output revealed that the number of participants that agreed to the statement was almost equal to those that disagreed, meaning that there is no correlation between rank and research. In contrast, research done by Carayol (2006) found that departments with a high number of full professors tended to have higher productivity levels than those with a lower percentage of professors in high ranks. This relationship can be explained by the processes and policies that promoted faculty members to higher ranks based on productivity indicators. Zhang (2014) also added that some countries ranked higher education institutions according to their research performance and that, faculties of higher education institutions were considered to be the key research resource. Teodorescu, (2000) in (Jung 2014) suggest that an academic's rank correlates positively with research productivity. One possible explanation for this might be that higher ranked positions resulted in more opportunities to be productive due to better working conditions, invitations to write articles and book chapters, and greater overall confidence.

By contrast, the researcher is of the view that basing on the findings that some senior faculties had not been productive because they felt they had finished the ladder and had fulfilled the sense of scholarly obligation. For example, in a situation where faculty members conducted research to gain promotion and get more pay. Others it could be the issue of age, they had advanced in age and are decreasing on productivity. On the other hand, the researcher added that, there were low ranked faculties who had done so well as compared to senior faculties. May be they are also working extremely hard in order to be promoted. This

(finding) is in agreement with Jung (2012) who pointed out that journal article publication decreased with career age.

### **5.3 Faculty and Publication**

Publication is the end result of good and insightful research. Research which is conducted and has not published is as good as not conducting research. Faculties were asked if they published journal articles each in a period of 2 years. The results indicated that 111 (68%) of them agreed with the statement. The mean response 2.49 which was closely corresponding with the response agree on the likert scale with the standard deviation of 0.903 implied that a considerable number of participants had published journals in 2 years. This meant that faculties at the institution were at least publishing a journal article in two years but was done in collaboration with other scholars.

Lecturers were asked if they published articles annually 62 (38%) agreed to the assertion with the mean response 1.87 which is closely corresponding with the response not sure or neutral on the likert scale while the standard deviation was 0.934 implying that the number of participants that agreed to the statement was almost equal to those that disagreed. This, however, meant that faculties did not publish annually. These findings were similar to Masaiti and Mwale (2016)'s observation that UNZA had generally been characterized by low research output as measured by peer-reviewed articles, books, chapters, and general research. In their study, Masaiti and Mwale (2015) revealed that in 2013, UNZA recorded less than 500 published articles and books. This was as a result of scarce research funds and long-term research projects which were not always clearly documented. By contrast, Schulze, (2008) postulated that South Africa's Department of Education expected every academician to publish at least 1.25 articles annually in journals the Department had accredited. He,

however, reported that the performance of academics at the South African higher education (HE) institution at which this study took place was lower than the expected 1.25 articles per academic year (Schulze, 2008). Lecturers at the University of Zambia were asked if they had published journal articles in the international journals in 2 years. Findings revealed that faculties did not publish in international journals. This was may be because of the way they most of the manuscripts were packaged to compete favourably. The mean response was 2.16 close to the response not sure while the standard deviation of 0.967 implying that the number of participants that agreed to the statement were almost equal to those that disagreed.

When asked if they produced books, only 19.5% published books, 78% did not publish any book and 2.4% remained neutral. The mean response is 1.416 which is closely corresponding with the response disagree with the standard deviation of 0.798 implying that the number of participants that agreed to the statement were far apart to those that agreed.

From the findings above, it is very clear to suggest that publication at the University of Zambia was still low. Faculty members conducted research, but failed to publish especially in book publication, international journals, and annual publication. Also see appendix III (report on Research Progress -2016) which revealed that publication at UNZA was still low especially in the patents, designs and trademarks.

Interviewees suggested that for the past 20 years it was very bad. Faculties in most schools tended to be on teaching than doing research. Although the situation was improving a bit, schools had increased the number of postgraduate, and so postgraduate well conducted research normally ended up in publication, unlike before when they only had undergraduate. Similarly, results further revealed that in the past five years, there had been some improvement in terms of level of publication. Annual reports were a confirmation that there

had been an improvement, giving an average of each lecturer having a paper per year. Although they were quick to mention that for the university like this one it was still too low.

The greatest percentage of publication was recorded from School of Medicine and School of Veterinary Medicine. This was attributed to the nature of programs the schools offer. It was found out that programs offered had an advantage to accessing funds from donors. Most of their projects were donor funded thus making them more active as compared to other schools. The other factor could be the low teaching loads, this assisted them to have time to conduct research and write articles than lecturers in other Schools e.g. School of Education and School of Humanities and Social Sciences. In 2015 the School of Medicine recorded over 100 publications. While School of Veterinary Medicine indicated that on a bad year, they recorded 40 publications while on a good year they recorded 100 and above. In 2013, they recorded 106 publications giving an average of at least 1 publication per faculty member.

The researcher asserted that UNZA's publication output was still low, because UNZA did not have research grants thus, had not brought out good quality journals. This meant that the research aspect at the university would still be very weak. As long as UNZA was not publishing, the rank of the university would remain low and would continue being beaten by new universities like University of Botswana, University of Zimbabwe and University of Namibia. The researcher also felt that the poor quality of the manuscripts produced by some academic members of staff as well as students was the reason why the institution was still lagging behind in terms of publication output. The other contributing factor to poor performance, the researcher pointed to the fact that, the institution was under staffed in terms of senior faculties who should have been mentoring the junior faculties. The other

contributing factor is that the majority of senior faculties were more into consultancy than research.

Findings corresponds with the outcome of Okiki, (2013), Olountoba & Ajayi (2006) in Sulo, et al., (2012), and Stafford (2011) that academic institutions primarily measured research productivity based on published work and the most common productivity measures looked at publications that were submitted, accepted or published which could be journal articles (refereed and non-refereed), books and book chapters. That research productivity often served as a major role in attaining success in academics circles as it was related to promotion, tenure, and salary. Researchers presented their on-going research to let others know about what they had discovered. They further contended that research was not done until it was published.

#### **5.4 Challenges Faculties Face when Conducting Research and Publication**

The main funder of the institution was the government and also tuition fees from the students. When asked about challenges faculties were facing in their bid to conduct research activities, faculties cited a number of them. 147(90%) cited insufficient funds with the mean response 2.82 which was closely corresponding with the response agree on the likert scale with the standard deviation of 0.582 implying that the majority of the participants were in support of the statement that UNZA was heavily underfunded. Poor infrastructure was another challenge that was cited with the mean response 2.73 which was close to the response agree on with the standard of 0.591 meaning that the majority of the participants supported the statement. The cumulative frequency was 90%.

Similarly, other challenges cited were teaching overloads and high teaching ratios. These findings recorded same readings 129(79%) faculties supported the statements with the mean responses 2.66 which was close to the response agree. The standard deviation of 0.685 suggested that the majority of the lecturers were faced with teaching overloads. While standard deviation of 0.696 implied that a lot of participants were in agreement with the concern of high teaching ratios. Findings further revealed that lack of mentorship was also a challenge at UNZA. 109 (66.5%) agreed to the assertion. The mean response 2.49 which was close to the response agree on the likert scale with the standard deviation of 0.771 implying that the majority of the participants faced the challenge of not having people to mentor them

Findings from an interview with the Assistant Dean (Research) School revealed that, the school had quite a number of challenges namely; inadequate funding, lack of proper equipment to carry out research, lack of mentorship, and poor infrastructure. . He also cited negative attitude towards research by some faculty members. He said that *some faculty members have regarded UNZA as a teaching institution which trains people but not research.*” An official from, DRGS contended that lack of funding for research was the major challenge but, with regard to publication, what had created a challenge in terms of publication was the poor quality of the manuscripts produced by some academic members as well as produced by the students. The manuscripts had not been packaged the way they should if they were to compete favourably, on the international market for publication. So in terms of publication, the major challenge had been quality manuscripts (Interview, December 2015).

The researcher believed that inadequate funding and poor infrastructure on research and publication are among the reasons UNZA was not doing well in research and publication.



Evidence showed that the government was not investing enough in research and publication. Findings of this study confirmed that the Zambian government's limited level of support for research activities and publication was a major challenge for the institution. The participants acknowledged that government's reluctant support was negatively affecting both the quality of research, manuscripts for publication, teaching as well as the institutions. In addition, insufficient funding resulted in high student ratios and teaching overloads. This might also led to lack of motivation in terms of payment of salaries and benefits for members of staff. As a result, members might have sought for greener pastures thus brain drain leaving the institution with people that were not competent to conduct research, publish and other activities.

These finding were supported by Musiige and Maassen (2012) who postulated that universities required a financial basis to support their day- to- day activities. These ranged from remunerations of their staff and infrastructural development to direct research funding. The research function required adequate funding also, stocking laboratories with equipment; subscriptions to major journals; salaries and staff allowances; and facilitation of seminars and workshops. With higher education becoming more competitive, universities required more capital investments to be able to compete successfully with other research universities. However, because of lack of funds, universities were diversifying their income using private means in order to support their academic functions. World Bank, (2000) cited in Stafford (2011) stated that some of the challenges facing African universities were lack of faculty quality, and insufficient resources.

Findings were in conformity with Yizengaw (2008) who reported that institutions in Sub Saharan Africa were critically constrained by lack of adequate finance, mainly due to poor economic conditions, competing public service priorities, and weak support of the

international community. Financial challenges had led to inability to retain quality faculty and poor learning and research facilities and resources. Institutions were increasingly forced to diversify revenues, but usually with very limited experience, expertise and capacity in managing these challenges of financial diversification and resource mobilization. The lack of adequate funding had inhibited research capacities across Africa. In line with the assertion, Yizengaw (2008) reported that, in Africa, the quality research was declining, and was not maintained thus slowing the process of national development. This was because enhancement methods were not in place or were very weak and inefficient. Research capacities were generally poor given the shortage of senior faculty members, poor infrastructure and facilities and lack of funding. However, this idea was opposed by the Assistant Dean (Research) School F that faculties should not solely wait for government to fund their research. They could also go out there and source for funds or partner with other scholars. Within the same university under the same conditions, we have faculty members that are doing well in terms of research output because they have gone out to look for partnership. Even if we cry for funds government will never fund the institution adequately because we are not the only ones asking for funds.

This idea was opposed by the Assistant Dean (Research), On the other hand, Aswath and Gopikuttan (2013) refutes the assertion that faculties' poor performance in research was as a result of inadequate funding. He contended that many faculty members considered teaching as their main task whereas research was only an add-on activity. Jung (2012) also contended that, experience had been considered one of the most important factors influencing the productivity of academics. If people do not have the skills to conduct research, the issue of funding cannot count.

With regards to the findings above, the researcher argues that faculty members needed to go out there find partners to partner with and look for donors and apply for projects instead of waiting for government funds. They should start moving away from the idea of solely depending on government funding. UNZA can do much better especially being the oldest university and have the experience and can win partnership better than these upcoming universities.

The researcher also noted that the National Policy on Science and Technology (1996) gave an insight as to why Zambia had not done well in terms of research productivity being poor funding and weak linkage between the researchers and the industry. Globally, funding towards research had proved to be the major challenge to research output which, had also been revealed at local level. So assessing research output for faculty members was seen as a mockery especially in an event where institutions were not adequately funded. Ideally, if there were adequate research funds we would be pointing to other factors and say maybe it was laziness, lack of capacity, lack of skills in terms of writing skills but the truth was that there were no funds readily available for research activities. More investment in higher education was needed to strengthen research capacity further to be able to address development needs through quality research outputs.

Nonaka's knowledge creation theory (1974) used in the study also supported the study in the sense that sharing and collaboration were cardinal in any area for productivity. In supporting the theory that had been used for this study; it could be argued that as a result of knowledge creation some citizens maybe enlightened thus bring about positive change to the community. For example, the knowledge maybe disseminated to key people, i.e. policy makers, lecturers,

NGOs and the community at large who might use the information formulate policies or bring about inventions.

The theory is supported by a number of studies used in the study. The theory is in conformity with Caridad and Cepero (2007)'s findings who affirmed that collaboration had shown positive impacts on the number of published articles and total number of publications. The increase in internationally oriented research journals had made international collaboration attractive to more academics than in the past. The theory emphasizes on the need for the dynamic interaction between people from different functional backgrounds and organizational hierarchies. Oloruntoba and Ajayi (2006) further observed that research publication in the university is a major or most significant indicator of academic staff productivity, and that research attainment is determined by the number of published articles in refereed journals and conference proceedings of repute.

This is in line with what the theory states that created knowledge should be disseminated and documented. It is also in line with Okiki (2013) who postulated that research without publication is as good as not having conducted research. If faculties were to be considered productive their research findings ought to be disseminated. This can be other seminar presentation, conferences, journal articles, books or book chapters. These authors are in agreement with the theory which talks about collaboration (team work), documentation and dissemination. Basically the theory is talking about the importance of creating and sharing knowledge. If the knowledge discovered is not shared or disseminated, it is as good as not having discovered anything. Knowledge creation involves a dynamic interaction between tacit and explicit knowledge which is known as knowledge creation spiral can address the challenges they face when conducting research and publication at the institution. The study

has also revealed what other universities have done to improve their research activities. The study further established that UNZA has the potential to conduct research, but was faced with a number of challenges some of which are lack of funding, poor infrastructure and lack of mentorship. UNZA could also do well if it trained its faculty members with writing skills which could enable them come up with good research papers.

## **5.6 Summary of Chapter**

The chapter discusses the research findings; the researcher concludes that inadequate funding has been the main challenge the institution face. As a result, faculties are unable to conduct productive research due to dilapidated laboratories. The researcher also cites teaching overloads and high student teacher ratios which faculties tired because of having so many students to teach thus side-lining research. The next chapter concludes and gives the recommendations.

## **CHAPTER SIX**

### **COCLUSIONS AND RECOMMENDATIONS**

#### **6.0 Overview**

The previous chapter discussed the findings on the faculty productivity at UNZA in terms of Research and Publication. These were discussed according to the objectives of the Study. Chapter Six, however, makes a conclusion of the dissertation and also makes some recommendations and suggestions for future research. The study was explored with a focus on three objectives: to ascertain the extent faculties were involved in Research at the UNZA; to assess the extent to which faculties at UNZA were involved in publication and to establish the challenges faculty members faced when conducting research and publication.

#### **6.1 Conclusion.**

Conclusions were drawn below and they are as follows:

##### **6.1.1 Involvement of Faculties in Research**

The findings revealed that faculty members were involved in research activities (basic and applied research) but were confronted with inadequate funding and infrastructural challenges such as out-dated and dilapidated laboratories. Findings further suggested that faculty should work towards partnering with other scholars rather than solely depending on government funding. It was also suggested that faculties were more active in applied and basic research but not developmental research because those researches were self-funded and, were mainly conducting them to acquire promotion and also to remain employed. While for developmental research one needed good sums of money. The research that faculties do must be necessary to the industry, so, the laboratories must be well equipped and that has been the biggest challenge so far.

### **6.1.2 Faculty and Publication at UNZA**

Contrary to majority of previous studies, this study established that faculty members were very weak in publication of books and annual publication. For example, book publication recorded 19.5% while annual publications recorded 39% citing reasons that some faculty members lacked the writing skills. The quality of manuscripts they wrote was below standard and cannot compete on the market. This situation resulted in a number of manuscripts not being published. It is every researcher's goal to publish findings but, research without publication is as good as not conducting research. In other words every research should end up with publication so that what was discovered is shared or disseminated.

### **6.1.3 Challenges in Research & Publication**

The study finding revealed that UNZA mainly relied on government funding and tuition fees for its operations. The funding was however inadequate to cater for all the operational costs. As a result the institution was unable to make meaningful investment in research so that it can be able to buy modern equipment and also build structures that were conducive for research activities. However, the institution has income generating activities but very little was generated from such activities. The problem of insufficient funding was ignited by the fact that the institution was not charging economical fees and the little that was collected from students was spent on workers' salaries and other activities. The institution has no funds that are dedicated to research. Although the National Science and Technology Council was releasing some money towards research activities, it was too little.

Going by the findings of this study, it was very evident that UNZA was not getting adequate attention that it deserved in terms of funding. Such a situation made UNZA continue to suffer

setbacks in the area of research and publication as well as teaching. This being the case, there was a worry that UNZA would continue to conduct research that was not responsive to industry. Faculties would continue to conduct research for CV purposes, promotions and tenure.

## **6.2 Recommendations**

Based on these conclusion, the study, therefore, makes the following recommendations;

6.2.1 If UNZA has to be productive, Government should ensure that the institution has national research funds in order to tailor research plans. Some of it goes to early careers, some to senior researchers. Although in the absence of those is mentorship programs, this is happening where when senior researchers are applying for grants they are involving young junior researchers and in the process they are picking up few skills.

6.2.2 If UNZA has to be productive it should come up with income generating activities and improve on the already existing income generating activities and also partner with many industries to provide consultancy and other services that can bring income to the institution.

6.2.3 UNZA through DRGS should work with the communities to generate research items; and further open its doors to the public, where it will have an open day, display all its activities to the public and also present its findings so that the public can have an insight of what UNZA is able to offer.

6.2.4 UNZA has no benchmark in terms of publication, this leaves a loophole for faculties not put in effort to publish. Thus, UNZA should come up with a benchmark which would be



used as a yardstick to measure publication. Unlike a situation that is there now, where there are no benchmarks for measuring productivity at the institution.

6.3.5 UNZA has more junior lecturers than seniors. This poses a challenge in coming up with good articles because junior faculties still need mentorship from senior faculties for them to write good papers. UNZA should therefore, train more mentors to supervise junior faculties.

6.3.6 DRGS coordinates all the researches at UNZA but concentrated more on graduate studies and neglected research. DRGS should apportion equal attention to both graduate studies and research instead of leaving the other to suffer.

6.3.7 In order to improve the level of publication, DRGS should also come up with more works aimed at training faculty members on how to write quality good manuscripts.

### **6.3 Suggestions for Possible Future Research.**

This study was an assessment of faculty productivity and development at the University of Zambia in terms of research and publication output. The study was confined to UNZA in Lusaka province. The study has revealed pertinent issues surrounding faculty productivity and development at UNZA. My desire, therefore, is not to paint a picture that this study ends up in the future, but that the future itself must extend this study. To that effect, I recommend that:

Future studies should extend this work by using the three public universities (Copperbelt University, Mulungushi University, and Nkrumah University) as case studies within a nation, focusing on funding towards Higher Education (as engines for development), taking into

consideration the lessons from the successful Higher Education systems, such as Finland and South Korea.

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**APPENDIX I:****REPORT ON RESEARCH PROGRESS (2016)**

<b>School/Unit</b>	<b>No. Academic Staff</b>	<b>No. PhD Students</b>	<b>No. MA Students</b>	<b>No. Collaborative Research Project</b>	<b>No. Self Generated Research Projects</b>	<b>No. Publications</b>	<b>No. Patents</b>	<b>No. Designs</b>	<b>No. Trade Marks</b>
Agriculture	59	12	57	28	7	8	0	0	0
Education	150	24	272	109	-	18			
Engineering	57	16	67	4	3	4			
Humanities									
Medicine	123	11	417	72	12	92	0	0	0
Mines	28	6	41		0	3	0	0	0
Natural Science	95	7	136	17	3	4	0	0	0
Veterinary	42	10	45	17	2	10	0	0	0

*Table 2.1: Source: Report on Research Progress (2016)*

**APPENDIX II:**

**CONSENT FORM**

Consent Form

My name is Cecilia Kulyambanino, a second year student in the Master of Education and Development at the University of Zambia, Department of Educational Administration Policy Studies, School of Education. My research topic is: Faculty Productivity at the University of Zambia: Exploring Research and Publication.

I am kindly, requesting for your voluntary participation in this study. Please read the information below and ask questions about anything you do not understand, before deciding to participate or not.

1. There are no risks in taking part in this study, participating in the study may make you a contributor to possible improvement to national development.
2. If you are not interested in taking part in the study, please do not participate. Participation in the study is voluntary.
3. All the responses will be highly appreciated and treated confidentially and used for academic purposes just.
4. Should have question about this study, please do not hesitate to contact me on the following numbers: 0977/0955-876088 and 0968663201.
5. If you assent to this study, please sign against participant's signature provided below.

**PARTICIPANT'S SIGNATURE:.....**

**DATE:.....**

## **APPENDIX III:**

### **INTRODUCTION LETTER**

**THE UNIVERSITY OF ZAMBIA**  
**SCHOOL OF EDUCATION**  
**DEPARTMENT OF RELIGIOUS STUDIES**

#### **INTRODUCTION LETTER**

Dear Respondent,

I am a Masters student at the University of Zambia, Great East Road Campus, School of Education Religious Educational Administration Policy Studies, carrying out an academic research in the field of Education and Development.

The purpose of this research is to explore Faculty productivity at the University of Zambia, focusing on Research and Publication.

You have been randomly selected as one of the participants. Kindly, help me with your honest views and be assured that, the information that will be recorded will be treated with confidentiality. I, therefore, request you to be precise in your response.

Thank you for your cooperation.

**CECILIA KULYAMBANINO**

## **APPENDIX IV:**

### **QUESTIONNAIRE FOR LECTURERS**

Questionnaire for Lecturers

My name is Cecilia Kulyambanino a master's student at the University of Zambia carrying out a research on Faculty Productivity at the University of Zambia. I am Exploring Research and Publication at the University of Zambia.

You have been randomly selected to take part in this study voluntarily by means of questionnaire. Kindly give your honest answers by filling in the information appropriately. Taking part in this study will make you a contributor to the body of knowledge on the subject matter. Be rest assured that the information you provide will be strictly confidential and used for academic purposes.

Therefore, you should not indicate your name.

Thank you in advance for your cooperation and support.

Yours faithfully,

**CECILIA KULYAMBANINO**

## APPENDIX II:

### QUESTIONNAIRE

#### SECTION A: (Personal Details)

##### Instructions:

Kindly tick (✓) or indicate your appropriate response(s) in the spaces provided.

1. **AGE:**
2. **GENDER:** Male  Female  Transgender
3. **SCHOOL/UNIT:** Agriculture  Education   
Engineering  Humanities  Law   
Medicine  Natural Sciences  Veterinary
4. Length of service with the institution:  
0 to 3 years  3 to 5 years   
5 to 10  10 and above years
5. Rank currently held:  
Lecturer III  Lecturer II  Lecturer I   
Senior lecturer  Associate professor   
Full professor
6. Highest Qualifications held: Masters Degree  PhD   
Associate Professor  Full Professor

## SECTION B:

This research seeks to investigate the faculty productivity at the University of Zambia, exploring research and publication. The topic will be discussed using two variables; Research and Publication. To answer the questions that follow below, kindly, read the statements and indicate the extent to which you agree or disagree with the statements:

1. Disagree [ ]      2. Not sure [ ]      3. Agree [ ]

S/N	Research and Publication	Three Point Scale		
		1	2	3
	<b>Faculty productive in Research</b>	1	2	3
7	As an academia I am involved in research.	1	2	3
8	I am involved in Basic Research	1	2	3
9	I have conducted Applied Research	1	2	3
		1	2	3
10	I have commissioned research in the last 2 years			
11	I have disseminated my research findings through publication.	1	2	3
12	High teaching loads have an adverse effect on research output.	1	2	3
13	Faulty with greater research skills and training produce more research.	1	2	3
14	Academics whose interests are in research instead of teaching are more likely to be motivated in devoting themselves to research.	1	2	3
15	I consider teaching as my main task and research as only an add-on activity.	1	2	3
16	Academic seniors are more inclined to a higher level of research	1	2	3

	production than those at the lower rungs of the academic ladder.			
17	An academic's rank correlates positively with research productivity.	1	2	3
18	Research productivity often serve as a major role in attaining success in academics circles as it is related to promotion, tenure, and salary.	1	2	3
19	Departments with a high number of full professors tend to have higher productivity levels than those with a lower percentage of professors in high ranks.	1	2	3
20	Not all lecturers have a passion for research.	1	2	3
	There are lecturers who are meant for teaching alone and there are those who are meant for research.	1	2	3
	<b>Involvement in publication</b>	1	2	3
21	I have published journal articles in the last 2 years.	1	2	3
22	I disseminate my research findings in the industry.	1	2	3
23	I publish academic annually.	1	2	3
24	I have published a chapter in the last 2 years.	1	2	3
25	I have published in educational journal in the last 2 years.	1	2	3
26	I have published a book in the last 2 years.	1	2	3
27	I have presented an academic paper at a conference in the last 2 years.	1	2	3
28	Faculty members of lower rank tend to submit more manuscripts, but higher rank faculty members are more	1	2	3

	successful in actually getting published.			
29	The number of publications is strongly related to seniority..	1	2	3
30	PhD holders tend to publish more than non-PhD holders.	1	2	3
31	Faculty who wish to thrive in the university setting must publish or perish in order to remain employed.	1	2	3
	<b>Research and Development</b>			
32	Research and innovation is key to development.	1	2	3
33		1	2	3
34	Without research, educational problems cannot be resolved and progress would therefore, be slow.	1	2	3
35	Results emanating from such researches do contribute immensely to the data banks which are necessary for effective planning.	1	2	3
36	Research has become of immense value to the development of human knowledge.	1	2	3
37	Nearly all current developments depend largely on research.	1	2	3
38	Innovation resulting from research is widely recognized as a key ingredient in national development.	1	2	3
39	Research findings contribute to the improvement of education and the role of education itself in national development.	1	2	3
40	Our research findings are used by the industry for example, the creation of such policy documents as “Focus on Learning” (1992) and “Educating our Future” (1996).	1	2	3



41	Innovation resulting from research is widely recognized as a key ingredient in economic production.	1	2	3
42	Research is unavoidable for finding solutions to most problems i.e. health, educational and many more.	1	2	3
43	It is generally accepted that research plays a critical role in promoting the prosperity of a nation and the well-being of its citizens.	1	2	3
44	Research and researchers constitute part and parcel of the efforts to generate a functioning science, technology and innovation system.	1	2	3
45	Applied research, helps teachers in choosing curriculum and methods, to administrators in deciding structures and to the government in framing policies.	1	2	3
46	No matter how much research is done, if the results and findings are not incorporated into the policy formulation, for example, plan of education and its implementation, nothing positive can be achieved.	1	2	3
47	Research should help not only in discovering the truth, but also in the supreme power of truth to harmonise conflicts of human opinions and to make co-operation possible.	1	2	3
48	<b>Challenges of conducting research</b>	1	2	3
49	Insufficient funds and other resources is an obstacle to my conducting research.	1	2	3
50	Teaching overloads contribute to low output in research.	1	2	3

51	Faculties are still faced with the problem of high student ratio and this has a negative impact on research output.	1	2	3
52	Poor infrastructure is another great challenge faced by researchers in conducting productive research.	1	2	3
53	The poor reading culture of some of the faculties negatively affect the research productivity.	1	2	3
54	Institutional policies directly or indirectly influence research productivity negatively.	1	2	3
55	Teaching occupies most of my time; consequently, there is not enough time for the conduct of research.	1	2	3
56	Lack of provision for means to develop working conditions and environment that enhance research is one of the challenges lecturers face when conducting research.	1	2	3
57	High dependence on international donors for funds and other resources lure researchers into conducting research that may not contribute to national development.	1	2	3
58	Departments in which faculty have high financial support for research tend to be more productive.	1	2	3
59	The importance of research in an educational setting is often overlooked, however, those in academia often consider research as a way to earn tenure or remain in favour by the university that employs them.	1	2	3
60	In lieu of using research to better teaching practice, research is used simply to hold on to a job.	1	2	3

<b>Challenges encountered in publishing Articles/Journals/Books</b>				
61	Because of so many procedures lined up in publishing a journal article, a book or a chapter, a number of lecturers are discouraged to publish.	1	2	3
62	Lack of adequate funds and other resources block lecturers from publishing.	1	2	3
63	You have no opportunity to publicise your findings.	1	2	3
64	Lack of mentorship affects lecturers' personal development.	1	2	3
65	Lack of collaboration among lecturers hampers publication.	1	2	3
66	Poor attitudes toward research contribute to low publication.	1	2	3
67	Poor levels of quality research and publications have a negative effect to national development.	1	2	3
68	Poor communications and transport infrastructure largely contribute to low publication.	1	2	3
69	The university face a shortage of PhDs.	1	2	3
<b>Ways in which the University can improve research and publication.</b>				
70	The University should increase funding and other resources towards research and publication.	1	2	3
71	To improve productivity in research and publication, new culture and attitude should be encouraged to allow freedom of academic expression.	1	2	3
72	Incentives should be provided to offer better progress in academic careers.	1	2	3

73	Improve and expand the infrastructure in the university	1	2	3
74	Establish potential partners in research and consultancy.	1	2	3
75	Make regulations more clearly defined and convenient by reducing rules that are tightly restrictive.	1	2	3
76	Propose a kind of governance that is decentralized in order to respond better to the research capacity of faculty members.	1	2	3
77	Come up with a well-defined body of policies that demonstrates the relevance of research to professional advancement and growth is needed.	1	2	3
78	The University should align its graduate programs with the thrust of developing research institutions in order to produce research capable graduates.	1	2	3
79	A positive group environment, good coordination, and communication among novice and expert researchers are necessary.	1	2	3
80	Institutions should strengthen research benefits and incentives that could serve as motivational factors for doing research.	1	2	3
81	There should be a means to reach out to those who are less knowledgeable in research. Faculty involvement in the real sense of the word must be developed.	1	2	3
82	Review its guidelines for granting benefits and incentives to researchers, so as to have a stronger impact.	1	2	3
83	Universities should align their graduate programs with the thrust of developing research institutions in order to produce research capable graduates.	1	2	3

84	Have a research monitoring body that screens the types of research conducted and looks into ethical dilemmas involved	1	2	3
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**APPENDIX III:**

**INTERVIEW GUIDE FOR THE DIRECTOR, DIRECTORATE OF RESEARCH  
AND GRADUATE STUDIES**

**Interviewer:** \_\_\_\_\_

**Interviewee:** \_\_\_\_\_

**School:** \_\_\_\_\_ **Date:** \_\_\_\_\_ **Start Time** \_\_\_\_\_

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1. How is the academic level of involvement in Research and Publication?
2. How is the faculty involvement attitude towards research and publication?
3. How does research influence policy formulation?
4. How is research having an impact to national development?
5. Do faculties consider research as their core business?
6. What are the challenges encountered in conducting research and publication?
7. in which ways can the University of Zambia improve Research and
8. Publication?
9. What should we do to change the situation?

**End Time:** .....

Thank you for your time and participation in this study.

## APPENDIX VII:

### INTERVIEW GUIDE FOR THE ASSISTANT DEANS (RESEARCH)

Interviewer: \_\_\_\_\_

Interviewee: \_\_\_\_\_

School: \_\_\_\_\_ Date: \_\_\_\_\_ Start Time \_\_\_\_\_

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#### QUESTIONS FOR ASSISTANT DEANS (RESEARCH) - UNZA

1. How is the academic level of involvement in research and publication?
2. To what extent has our research informed policy?
3. Do you think research findings have an impact to national development, how?
4. How are research findings disseminated into the industry, give an example?
5. Approximately, how many publications do you record per year/lecturer?
6. How has research impacted different sectors?
7. In your own views what do you think are the factors that impact on low research productivity as well as publication?
8. How would you rate the university infrastructure for research and publication?
9. Does the University get research contracts? (i.e. from government).
10. What are the challenges of conducting research and publication?
11. Where are the sources of research funding?  
How does the university support research and publication?
12. How does it support lecturers in improving research skills?
13. In what ways can the university improve research productivity and publication?