

THE ROLE OF HUMAN CAPITAL ON THE PRODUCTIVITY OF FIRM.

CASE STUDY OF VISION GROUP UGANDA.

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DEDICATION.

This research effort is dedicated to my entire family and friends who encourage me to work hard every single day and have been of great inspiration to me.

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I wish to extend my sincere gratitude to the Lord Almighty for always proving His faithfulness teaching me how to prosper and grow in Him every day. To my supervisor Mr. Mujuni Perez for dedicating his valuable time and interest in reading and correcting the content of this dissertation and making sure I finish and hand it in time. I would also like to thank all my friends, classmates and Uganda Martyrs University for the skills and knowledge they provided me during my stay in the University.

God protect and bless all of you abundantly.

ABSTRACT.

This study was to determine the role of human capital on the productivity of a firm. It focuses on human capital in three forms: education, on- job- training and health and how they affect the productivity of the firm. Productivity was also looked at in three forms: head count per unit production, return on investment in human capital and total working hours. The problem with the current state of human capital in Uganda is that more than 80 percentage of Ugandan population has no marketable skills therefore making them unproductive in there various occupations and places of work. This has led to low productivity in firms as in Uganda on a large scale.

The researcher used quantitative and descriptive study designs in which questionnaires were given to a sample population at Vision Group Uganda. SPSS 16.0 was used to analyse the data. The result of a case study at Vision Group Uganda, revealed that the firm placed high importance to education, on job training and health of employees as a form of establishing quality of the human capital which are more productive with better quality and equipped with a vision and mission.

The research led to the following findings: Human capital is of paramount importance for personal development and performance in terms of productivity and quality of life: the quality of education improves human capital: structured on-job-training and use of expert trainers improves the skills of the employees. Lastly, it was also established that health is an important determinant of human capital. Human capital resulting from investing in education, training and health care plays a big and important role in the productivity of a firm.

I recommend corporations and the government to invest more in human capital with the aim of attaining productive and highly skilled labour force and human capital.

LIST OF ABBREVIATIONS AND ACRONYMS

PWC	Price Water Coopers
DHS	Demographic Health Surveys
OJT	On-Job Training
ROI	Return On Investment
OECD	Organisation for Economic Corporation and Development
JIT	Job Instruction Training
TWI	Training Within Industry
LDCs	Less Developed countries
MDCs	More Developed Countries

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CHAPTER ONE

INTRODUCTION.

1.0. INTRODUCTION.

Becker (1964a) defined human capital as the knowledge, skills and abilities of employees. Human capital are acquired and useful abilities or skills of all the inhabitants or members of the society. The attainment of such abilities under the care of the acquirer during his or her education, study, or training, always costs a real expense, which is an investment secure and gathered in his person. Recent research on trends on human capital (PWC, 2014) has shown that the organizations that will stand out from the crowd in the next few years will be those that coax every drop of value from their investment in human capital.

According to Benhabib and Spiegel, (1994), investments must be made into education because Education as a measurement for quantity, availability and human resource quality was the sole method which can be used to analyze the effect or human capital impact on economic growth. Other than tangible capitals, human capitals such as education or schooling, training and health care expenses. These factors indeed can further increase productivity, income, improve health and fitness, good habits in individuals such as being trustworthy and responsible. Hence, education and training among others are the most important factors in human capital investment.

However, Kabiru Tukur Isa, (2008) states that the overall human resource situation in Uganda is as follows; critical shortages of skilled human resource at all levels and groups; inadequate equality among available skilled human resource; and inefficient increasing unemployment. Uganda like many underdeveloped countries suffers from a critical shortage of high level skilled human resource. This research should be able to help us find ways to improve the skills and abilities of members of the Ugandan society by figuring out what is

not being done by those responsible. Human capital is a great aspect for economic growth and development therefore it should be given a lot of attention if development is to occur in Uganda.

This chapter presents a background of the study topic, statement of the problem, main objective of the study, specific objectives, research questions, scope of the study, significance of the study, justifications of the study, definition of key terms and the conceptual framework.

1.1. BACKGROUND TO THE STUDY.

Human capital is among the many important factors significant to economic growth of a country. Through quality human capital, the process of economic progress becomes easier and be better realised. This human capital quality could be seen mainly via the level of education and training as well as health. As such, within the framework to spur economic growth, there is a need to include human development regardless of ones status of a country. This is important to ensure that each citizen is productive to contribute and is not left behind. Investment in education towards human capital would largely benefit the individual and his community.

The inter-relationship between human capital and economic growth has in fact already been discussed at length in previous studies. Ramirez et al. (1998) explains that although, there are bilateral ties between human capital and economic growth, specific factors to link them still lacks in the aspect of systematic exploration. He also said that high level human capital development will affect the level of the economy through population's increase in their capacity, productivity and creativity. The population's education will determine their ability

to absorb and organize all economic growth resources such as technology because with good education, technology usage or technological innovation can be utilised to its best.

Considering a case study conducted in Indonesia, the relationship between human capital development and economic growth could be seen through the economic crisis faced by the country. Akita and Alisjahbana (2002) explain that Jawa and Bali were two areas whose economy level declined the most. Irianjaya and Maluku, meanwhile recorded the decline onto the human capital development index. The issue here is about those areas having quality of human resource being able to cope better when facing an economic crisis is seen from the side of worsening income per capita and do those areas having high per capita income also able to continue to uphold their human capital development? However, Akita and Alisjahbana (2002) conclude that the case study showed that human capital in the form of education especially is the most important contributor in economic growth.

In addition, other studies done before gave focus to the effect of education investment on the economic growth of a nation. Mankiw et al. (1992), Barro and Sala-I-Martin (1995) and Barro (1996a, b) in their study found that there is positive relationship between the schooling periods that is education with economic growth. At the same time, by using a more detailed filter measure on skill, a country whose literacy level is as much as 1% higher than the average experience an increase of as much as 1.5% in Gross Domestic Product growth per-capita.

Compared to physical capital such as machines and the like even though it has important links with productivity, it is still not as important when compared to human capital (Barro, 1996a). As such, investment in education is seen to have an important role in contributing to the centralization of productivity level which will further lead to growth and progress of the national economy compared to investment in physical capital.

Furthermore, he adds that Human capital theory and approach to the rate of return for instance has proven that education has the ability to enhance the productivity and income of an individual and further encourage economic growth. Meanwhile, macroeconomic growth model also mention the importance of education in contributing to the economic growth of a nation. Apart from that education is also said to be having a big influence on income distribution.

Besides giving direct impact to economic development from the aspect of rate of return and also human capital combination and physical capital, human capital investment through education also resulted in indirect effects. These indirect effects may be seen from aspects of health and nutrition, fertility and children's schooling and cognitive development.

Based on the analysis made by the World Fertility Surveys and Demographic and Health Surveys (DHS), children in developed countries, whose parents are educated, face very low premature death risk (Hobcroft, 1993). Moreover, survey in socio-economic shows that educated parents usually will report their children's health condition to health experts. In Uganda, studies have found that an educated mother is able to understand easier and has more access to information on diseases and such information is linked to the low death rate among children (Mackinnon, 1995).

Recent study done by Mansur et al. (2009) found that education provides better work opportunities and thus increases the level of income of an individual. Education is perceived to be an important factor in human capital formation. In their study, 78% of the total of 189 respondents among muslim women was interviewed from selected kampongs in the district papar, Sabah perceived that education is very important. The link between education investment among women and fertility also has a correlation. In Africa, educated women are able to get higher wages and this increase release cost from the time aspect used to upkeep

their children. They also tend to have educated children and this would further increase the expenses for larger families. So, the research by DHS says that the inter-relationship between education and fertility differ according to education levels whereby there is a negative relationship for women who complete secondary school education and are fertile.

At the same time, children with educated parents would rather go to school. Through a case study done in Kenya, anyone entering school around 1960 were predicted to have 21% chance in completing their lower secondary if both their parents were uneducated. On the other hand, they will be having as much as 83% chance if either their mother or father has completed their secondary or primary school. This reflects that by giving education to one generation, it will be able to give effect on cognitive skills and health in future. Education investment is said to have a positive relationship with economic development because education facilitates people to better absorb or organize all source of economic growth nicely such as technological innovation.

Apart from that development in education is also said to affect the rate of return because it is able to increase the productivity and income of the individual which will further spur the growth of the nation's economy. Therefore, by doubling the effort to develop human capital in the society, it is able to produce productive people who can then help further in generating the progress of the country.

1.2. PROBLEM STATEMENT.

The government of Uganda has endeavored that education reaches everyone in the country by creating programs such as universal primary and secondary education and granting scholarships to bright secondary students for university. However according to (Kabiru Tukur Isa, 2008), more than 80 percentage of Ugandans population has no marketable skills therefore making them unsuitable for the term "human capital" because they can barely be

put to productive use. This means that there is inadequate preparation of job seekers by the current education system for the job market. Therefore this has created a problem of unskilled employees.

1.3. GENERAL OBJECTIVE OF THE STUDY.

The general objective of this study is to assess the role of human capital on firm productivity.

1.4. SPECIFIC OBJECTIVES.

- I. To find out how education curriculum affects the head count of a firm.
- II. To determine the effect of on-job-training on return on human capital investment of a firm.
- III. To assess the impact of health of individuals on total labour hours of employees in a firm.

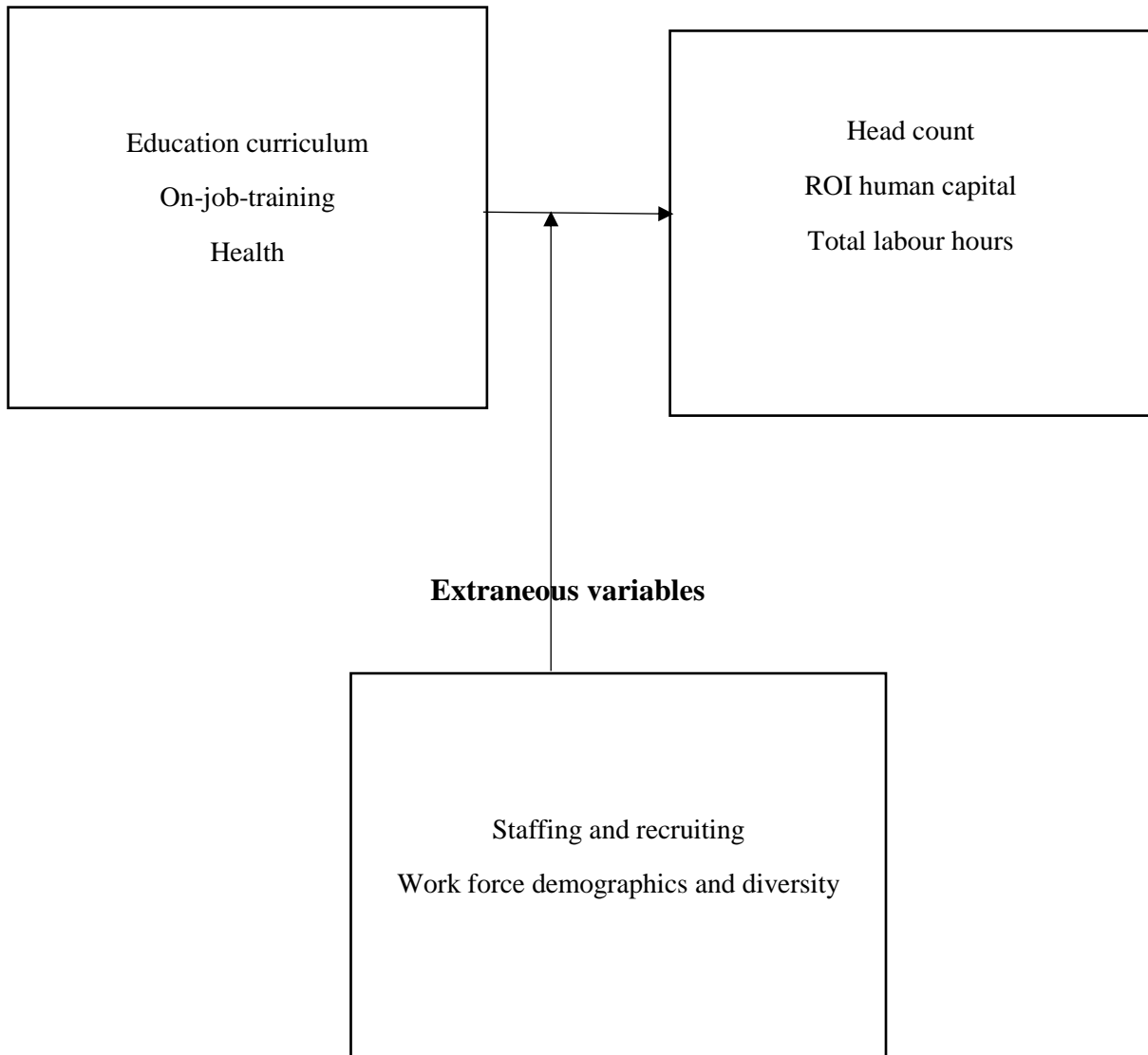
1.5. RESEARCH QUESTIONS.

- I. How is the education curriculum affecting the head count of a firm?
- II. In what ways is the on-job-training of company employees affecting the return on human capital investment of a firm?
- III. What is the impact of health of individuals to the total labour hours of a firm?

1.6. CONCEPTUAL FRAMEWORK.

Independent variables

Dependent variables



Source: Adapted form Becker, 1993

1.8. SIGNIFICANCE OF THE STUDY.

The study will add on the existing literature and help the academicians by getting more reference in future when carrying out research on similar or related topics.

The study will help market The Vision Group and the findings will help formulate appropriate training for its employees.

The study will equip the researcher with real experience of scientific research and will lead to the attainment of a Bachelor's Degree in Financial Mathematics.

1.9. SCOPE OF THE STUDY.

1.9.1. Geographical scope.

This took place at The Vision Group Uganda located on plot 19/21, First Street Industrial area.

1.9.2. Content scope.

This investigates the role of human capital on economic development.

1.9.3. Time scope.

This will consider a period from the independence of Uganda to 2014.

1.10. OPERATIONAL DEFINITIONS.

Human capital are the skills, capacities and abilities possessed by an individual which permit him to earn income. (The Penguin Dictionary of Economics, 1984.)

On-the-job training (OJT) can be stated as employee training at the place of work while he or she is doing the actual job. Usually a professional trainer serves the course instructor using hands- on training often supported by formal classroom training. (The Business Dictionary, 2016)

Labour productivity measures the amount of goods and services produced by one hour of labor. (The Business Dictionary, 2016)

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION.

This chapter reviewed various literature sources related to the study. The study was guided by the objectives of the study, which was the role of human capital in productivity of a firm.

This chapter represent the discussion of the theoretical and conceptual outcomes of the study.

2.1 HUMAN CAPITAL.

The concept of human capital was originated from Schultz's "Investment in Human Capital" published in 1961. Schultz thought that human capital involved technology, experience, and knowledge. Later Becker wrote a book, (Becker, 1964a) formally recognizing the significance of human capital as a serious research project.

Schultz's introduction of the concept of human capital proved based on the studies on a large quantity of case studies, that human resource was one of the foremost resources while investment in education and training as the main component of human resource investment. He thought that gains from education represented benefits from human capital.

However, Becker thought that investment in human capital came from all investments to improve human resource, and monetary income and consumption. He further suggested that organizations could manage and invest in human resource in order to further grow human resource. Human resources or the human capital in an organization are viewed as the driving force for the success of organisations because of their skills, competencies, knowledge and experience.

The way that human capital is developed also depends upon a range of settings, which relate to cultural backgrounds, social relationships, and political, legal and institutional

arrangements. For example, investment in skills takes place in many different stages of the lifecycle of individuals, while social capital plays a critical role in fostering a culture of learning within society (Coleman, 1990).

Although it is widely acknowledged that human capital is a key driver of economic growth, it is always a challenge for developing countries to accumulate adequate and appropriate technical skills required for the development process. According to Kabiru tukur isa, (2008), the most significant factor leading the unproductive utilization of human resource has been lack of a coherent integrated human resource and employment policy. This has led to increased unemployment and a critical shortage of high level skilled human resource thus making it the major problem retarding economic progress.

The education system of Uganda has generated a theoretical system. The post primary education and training at present make little contribution to rural development plans, and the government policy to bring about a transformation of the country. All post primary education and trainings is instead focused on wage employment.

2.2. MEASURES OF HUMAN CAPITAL.

Edvinsson & Malone (1999) considered human capital measurement factors as employee productivity, company investment in training, employee education and credentials, professional background and years of working experience. He used indicators such number of long-term full time employees, average age of employees, average number of days spent on training per year, number of long term full-time employees left per year, percentage of managers with high education...etc. Sveiby (1997) used indicators such as number of years of profession, level of education, training and education costs, grading, age, seniority.

Furthermore, Grossman (2000) proposed 10 key performance indicators for human capital some of which include revenue factor, human capital value added, human capital ROI, total

labor cost revenue percent, training investment factor, cost per hire, health care costs per employee, turnover costs.

However there are several other approaches that can be used to measure human capital. They can be stated as the cost based approach, income based approach and approaches based on monetary measures. The cost-based approach according to Kendrick, (1976) and the income-based approach according to Jorgenson and Fraumeni, (1989) are the two main types of direct measures.

Kendrick, (1979) further explains that the cost based approach measures human capital by looking at the stream of past investments undertaken by individuals, households, employers and governments. This approach relies on information about all the inputs that are incurred when producing human capital which may include teachers' wages and salaries, the consumption of fixed capital, household expenditures for school fees and educational materials, to mention but a few and the imputed value of the time devoted to education by students, their parents and volunteers. However, Le et al, (2003) says the approach has been criticized on a conceptual ground as the value of human capital should be regarded as determined by demand and supply rather than solely by production-costs.

Furthermore Weisbrod, (1961) states that the income-based approach measures human capital by looking at the stream of future earnings that human capital investment generates over a person's lifetime. Differing from the cost-based approach which focuses on the input side, the income-based approach focuses on the outcomes of human capital investment.

Another monetary measure is the indirect or residual approach that is applied by the World Bank. This approach measures human capital as the difference between the total wealth and the sum of produced and natural capitals (World Bank, 2006) of which human capital is found to be the most important component (World Bank 2011). The World Bank also adds that monetary measures of the stock of human capital include estimates based on the direct estimates based on information on its various components.

However, all the approaches to measuring human capital have strengths and weaknesses.

2.3 EDUCATION.

2.3.1 Education and productivity

According to Harris, (1999), Human capital in the form of education has received much attention empirical growth studies across the world and researchers have found considerable support for its importance as a productivity driver. It is the most important component of human capital in that for individuals, education can enhance well-being not only by opening economic opportunities but also through benefits such as improvements in health, nutrition, fertility, upbringing of children, opportunity for self-fulfillment, enjoyment and development of individual capabilities.

At the macro level, education plays a central role in economic, institutional and social development and technological progress. Sianesi and Reenen, (2003) state that it enhances productivity, not only through the knowledge or competencies incorporated on individuals but also through the stimulation of physical investment and adoption of technological development.

Education is a key driver of human capital investment and the education sector accounts for around 6% of OECD GDP where a large part of educational expenditures come from public sources, and this share has been growing in recent years. On average according to OECD, (2011), OECD countries devoted 13% of their total public expenditures in 2008 to education around, a share that has been rising in most countries since 1995. To understand why such amounts are allocated to the education sector, one has to understand the productivity and performance of the education sector. Hence, the output based approach and several other approaches may be used to derive an output-based estimate of the volume of production in the education sector. However, input based approach is inadequate to analyse productivity because it ignores changes in the efficiency with which various inputs are used in production.

2.3.2 Quality of education

Researchers who attempt to estimate the effect of the quality of education on students' human capital outcomes typically use measures of resources as a substitute for the unobservable 'quality' variable. These measures of resources usually include pupil/teacher ratios, class size, teacher salary and per/pupil funding. Using such proxies for quality might be desirable as policy makers would like to know the effect of the resources which they can control, but these measures probably do not do justice to the complication of the educational process.

Most scholars have managed to determine quality of education through the test scores received and future earnings. However the evidence with test scores is mixed but most authors found a positive effect from increased resources on future earnings.

Hanushek, (1998) found that between 1966 and 1980, increases in real teacher salaries and per pupil spending, as well as decreasing pupil/teacher ratios, were accompanied by a

deterioration in average student test scores. He saw this as evidence that there is no systematic relationship between expenditure on education and academic achievement.

Boozer and Rouse, (1995) argued that resources do affect academic achievement. They argue that using class size, rather than the more commonly used pupil/teacher ratios, provides a more accurate (and higher) estimate of the positive effect of resources on test scores, especially where remedial education is common. Taylor et al, (1996), also supported the argument that educational resources do not positively affect educational outcomes. They argued that there is upward bias in most measures of such an effect, because of aggregation across school districts or states.

Krueger, (1997) used a unique semi-experimental approach to determine that: Class size has a significant effect on test scores; Family background has an impact at least as large as class size; Teacher characteristics (qualifications) have only a weak effect on test results; Lower achieving students benefit more from smaller classes; Some schools are better at achieving improved performance with smaller class sizes.

However, a major part of the blame for the failure to demonstrate the importance of school quality on human capital outcomes seems to be that only crude input measures have been used. As stated by Boozer and Rouse, even what appears at first to be a small change using class size instead of the pupil/teacher ratio yields demonstrably positive effects of school quality.

Considering earnings, Card and Krueger (1992) estimated that the elasticity of earnings with respect to the pupil/teacher ratio is -11 percent, that is, a reduction in the number of pupils per

teacher will lead to an increase in the future earnings of students. Card and Krueger (1996) surveyed a collection of studies and found that the estimated positive effect on future earnings of an increase in per/pupil expenditure is in the range of 8.5- 19.5 percent per additional dollar. They found an elasticity of 5.3 percent for the effect of the pupil/teacher ratio on future earnings.

Furthermore, Altonji and Dunn (1995) used sibling data to control for student characteristics and estimate the effect of four types of educational resources on income: the pupil/teacher ratio, teacher salary, expenditure per pupil and a composite index consisting of the first two, plus the counsellor/student ratio and books per pupil. Under this, the pupil/teacher ratio was found to have an insignificant effect, while around 10 percent of changes in the composite index and per pupil spending were reflected in earnings. The result for teacher salary (a one-for-one effect on earnings) was rejected as implausible, with low sample variance for this variable.

In conclusion, Card and Krueger, 1992 state that the puzzle that academic achievement is relatively unaffected whereas earnings are affected, is usually explained by stressing that test scores are only a narrow measure of the human capital (work and social skills) that formal education provides and again, which are desired in the labour market.

2.4. ON JOB TRAINING.

2.4.1. History of On-the-Job Training

Kelly, (1995) states that On-the-job training has been a training method used for almost all types of learning throughout history. However according to Chase, (1996), OJT is viewed by experts to have originated through merchant and craft guilds and apprentices when craftsmen learned through informal training with master craftsmen. Kelly, (1995) states that “As America entered the twentieth century, and the industrialization of the economy continued, innovations occurred in work design which fundamentally transformed the nature of work: scientific management and the introduction of mass production methods”. These methods were used to break down jobs into several easy to perform tasks and to manage the large numbers of workers that performed the tasks.

Further developments in on-the-job training occurred during the two world wars. Kelly says that modern training methods were influenced and developed by wartime training efforts and innovations (1995). Later, job instruction training (JIT) was developed and World War II led to the Training Within Industry (TWI) which was a training effort designed to train large numbers of workers so that contractors could get better productivity to support war efforts and to help lower the costs of war materials (Kelly, 1995).

Bartel (1994) establishes a link between the adoption of training programs and productivity growth. Russell et al., (1985) identifies the links between motivation compensation schemes and productivity. The adoption of training programmes has also been linked to financial performance. Performance evaluation on the connection to compensation systems has also contributed to an increase in the firm’s profitability.

However, depending on single HR practices may not reveal an accurate picture. The dominant view of human resource effectiveness is that relying on the single HR practices with which to predict performance is unlikely to be revealing.

2.4.2. Overview of On-the-Job Training

According to Shauna, 2016, on-the-job training (OJT) is the process of teaching an employee to complete the key activities needed for their job after they are hired as two people working closely together so one person can learn from the other. This kind of training is useful when there is a need for skilled workers and it is best used in situations in which the employee does not know how to carry out his or her job due to a lack of knowledge, skills or experience, and job processes are new or have changed, and in which the equipment or tools are new.

However, Lawson, (1997) says that On-the-job training is not a useful solution when the employees do not possess the mental or physical capabilities to perform the job, when employees have motivational or attitudinal problems, or when the environment has a high degree of constraints or is very chaotic. He continues to state that there are two basic categories of on-the-job training: unstructured, which, according is used frequently in most organizations, and structured on-the-job training, which is the more recent.

The unstructured category approach is one in which one employee follows another around, in hopes that he or she will learn what the trainer is doing. It occurs unsystematically the employee-trainer or expert teaches the tasks as he or she remembers them but because of time or other pressures, important steps may be forgotten or simply skipped. Hamilton and Hamilton, (1997) states that as much as unstructured on job training is the most used, it is the least beneficial and least effective type of training. In addition Martin Broadwell, in

Filipczak, (1993) states that “ninety-five percent of all training that’s done on the job is done so poorly that the job suffers measurably.”

Furthermore according to Lawson, (1997), the second category of on-the-job training is structured on-the-job training, which is a planned and organized, one-on-one program designed to provide the employee with the knowledge and skills required to perform tasks entailed in the employee’s job. He also states that structured on-the-job training is based on adult learning theories and on how and why people learn and it provides the delivery of “training in an organized, sequential manner, with an eye toward becoming as efficient as possible” and to achieve new (higher) levels of efficiency in production (Barron, 1997, p. 14). Within the category of structured on-the-job training are four general types of on-the-job training: job instruction training (JIT), job rotation, coaching, and mentoring.

2.5. HEALTH.

Gary S. Becker, (1993) viewed education, on-the-job training and health as components of human capital, all having consequences for earnings and economic productivity. Health capital can be both general and firm specific. According to Currie and Madrian, (1999) if health capital is general rather than firm specific, the fact that workers can take it with them from job to job suggests that firms might be unwilling to bear these costs, even if health capital increases worker productivity.

In addition, the little cross country studies that have considered some measure of health have discovered that it has a relatively few cross-country studies that have included some measure of health have found that it does have a significant and positive association with economic growth. Many of the empirical growth studies that include health have focused on developing countries like Bhargava et al. (2001), though some have included a broader range of countries like Bloom et al. (2001) and some have focused specifically on OECD countries for example

Knowles and Owen 1995, (1997). These studies according to Rivera and Currais (1999a, 1999b) use rather basic measures of health like life expectancy or mortality given as life expectancy at birth, infant mortality rates and adult survival rates, though some studies used per capita health care expenditures.

However Rivera and Currais (1999a) add that though mortality and life expectancy are important measures of health status, they may not capture the indirect changes in illness, health behaviours and other measures of health that are particularly noticeable to developed countries today. Life expectancy has increased intensely over the post-war period in many developed countries. Other work on health frequently may use measures of survival rates, death rates as proxies for health because the data is more readily accessible. All these concepts are different and at least in theory they might have different implications for economic analysis.

Polanyi et al., (2000) states that the strategies of health promotion and healthy workplace promotion are new firm level initiatives developed since the 1970s from the growing awareness that organizational level interventions can be an effective means of promoting healthy lifestyles, reducing stress, improving employee wellness, and reducing sickness-related absence and health-care costs.

However, at an individual level, health can directly increase general output through enhanced physical energy and mental acuity, yearly output through reduced sickness absence and career output through decreased morbidity or increased longevity, resulting in a longer career. Although at the aggregate level, these individual increases in output can translate into increases in labour productivity as output per hour worked, output per worker and standard of

living through GNP per capita for example by increasing the size of the active labour force relative to the population.

At the aggregate level, Bloom and Canning (2000) identify four pathways by which health can affect productivity: a healthy labour force may be more productive because workers have more physical and mental energy and are absent from work less often; individuals with a longer life expectancy may choose to invest more in education and receive greater returns from their investments; with longer life expectancy, individuals may be motivated to save more for retirement, resulting in a greater accumulation of physical capital; and improvement in the survival and health of young children may provide incentives for reduced fertility and may result in an increase in labour force participation which may, in turn, result in increased per capita income if these individuals are accommodated by the labour market.

Research on the contribution of good health to economic growth in the 1990s and early 2000s seemed to show that health has a strong positive impact on economic growth, at least for developing countries and over the long period of the Western economic development. A number of studies claim that improved health leads to little, no, or even negative results for economic growth. However, it has been discovered that the difference in both health outcomes and growth performance is higher among these developing countries. Bhargava et al. (2001) used a cross-section of poor and rich countries. They found a positive effect of increased adult survival rates on GDP growth rates. But the effect was small, even for the poorest countries but if illness is high then much of this human capital cannot be used. Therefore according to Ashraf et al. 2008, measured human capital is higher than actual, effective, human capital. This is important because research shows how hard it is to find a statistically important effect.

Grossman and Kaestner, (1997) explains that in the Grossman model, higher levels of education are theorized to improve the efficiency of gross health investment. They conclude that the evidence suggests the existence of a pathway from education to health therefore individuals with higher education are better at producing health.

Grossman's (1972) model for health demand vividly derives a relationship among health, human capital and consumption at the individual level, as well as a framework for modelling human capital accumulation and its relationship to productivity at the micro and macro levels. It offers insights into modelling two key aspects of human capital, health and education, and their relationship to labour supply, earnings and productivity.

2.6. HUMAN CAPITAL AND PRODUCTIVITY.

Current economic research on productivity has emphasized the importance of human capital.

OECD, (2001) defines productivity as a ratio of a volume measure of output to a measure of input use. An approach to combining human capital into the macroeconomic modelling of productivity is to expand the neoclassical growth equation developed by Solow (1956). Solow's approach to measuring multifactor productivity growth is to associate it with the residual amount of output growth not explained by growth in the key inputs of labour and physical capital. This approach is founded upon several argumentative assumptions. According to this model, physical capital accumulation and exogenous technological progress are the driving forces of economic growth in the long run. Diminishing returns of factor inputs like capital and labour and decreasing economies to scale of the total productive factors will induce faster growth in countries with lower stock of capital (LDCs) comparatively to countries with higher capital stock (MDCs). However, the Solow-Swan model was tested in the experimental literature but it was unable to explain the ever growing distance between the rich and poor economies.

Another assumption of this approach is that, in the long run, all countries will converge to the same steady-state income level, holding the initial conditions constant. However, absolute convergence was only found between countries with similar characteristics or between regions of the same country. A number of measurement issues also arise with this model, the most relevant of which is how to deal with technological improvements and quality changes embodied in both inputs and outputs.

In response to the limitations of the Solow model, Knowles and Owen, (1997) say a new approach to growth accounting has evolved, one that attempts to model the key determinants of growth as jointly endogenous. Through expanding the Solow model by including the accumulation of human capital as well as physical capital, while still treating technology as exogenously determined. This diminishes the importance of exogenous technological growth. The endogenous growth literature tries to explain two aspects of the impact of health on productivity: its direct impact on the production process for example, improvements in health can increase productivity due to reduced incapacity, disability and days off sick; and its spillover impact for example, an improvement in the health of seniors can result in reduced personal care time required by family caregivers who are members of the labour force.

Furthermore, research on economic growth represented by the “new growth” models according to Lucas, (1988) and Romer, (1990), has argued that investment in human capital does not just improve labour quality at a point in time, but can also lead to technological progress and innovation, i.e. positive “externalities” that increase the productivity of other factors. Romer (1986) considers a production function with increasing returns to scale due to the positive externalities arising from the physical capital accumulation. According to Lucas (1988), human capital must be seen as a cumulative variable with positive externalities, and

as the main driving force of a country's growth performance. The main idea is that more educated individuals are more efficient and more productive in their work.

The determinants of economic growth generally follows one of the two approaches: either the augmented neo-classical model or the endogenous growth framework. These show similar empirical evidence on the role of human capital on economic growth, whatever the approach adopted. Barro and Sala-i-Martin (1995) also make the same argument considering that both the neo-classical model and models of technological progress can explain empirical facts as well.

CHAPTER THREE

METHODOLOGY

3.1. INTRODUCTION.

This chapter describes the methods and details applied in carrying out the research. It describes the procedures and process involved in conducting the research study.

The contents of this chapter include the study design, study population, study area, sampling procedures, data collection methods and instruments, data analysis and processing, data quality control, ethical considerations and limitations to the study.

3.2. STUDY DESIGN.

The study is descriptive and quantitative. With Descriptive research a researcher gains more information about a phenomenon with a particular study. A quantitative approach is used in which questionnaires will be given to a sample of population in the Vision Group Company.

3.3. STUDY POPULATION.

The study population includes all cases about which the researcher would like to make generalisations. It tells the reader the people and groups that were involved in the research carried out.

The target population consisted of the human resource department of Vision Group Uganda. Vision group is chosen because it is one of the biggest profitable company in Uganda. It was therefore considered appropriate for providing information.

3.4. THE STUDY AREA.

Vision group is the largest publishing company in Uganda. It also the largest media house with more than one Radio station, television stations and newspapers. Vision group stakeholders include the government holding the largest percentage of the entity and the other owned by the private shareholders. It has several departments which include operations, editing, finance, human resource, auditing, and television, radio, marketing and sales. Its head

office is located on plot 19/21, First Street Industrial area and the Advertising offices are situated at JR Complex, Plot 101 Jinja Road.

3.5. SAMPLYING PROCEDURES.

This involves choosing samples to represent the rest of the population and the process used to select the sample must be justified and this is by means of a sampling technique.

To get a sample for my research I used Krejcian and Morgan's table whereby my population was of 50 employees in the human resource department of Vision Group Uganda from which I got a sample of 44.

3.6. DATA COLLECTION METHODS AND INSTRUMENTS.

Both primary data and secondary data were collected.

3.6.1. Primary data will be collected from the study population by use of a questionnaires.

This is data that has been collected for the first time.

3.6.2. Secondary data will be collected from books written by people, articles written, former research carried out, the internet websites, libraries to mention but a few. Data will also be gotten from the website of Vision Group Uganda.

In this research will use a self-administered questionnaire. The advantage with this is that response rate was high and clarification were need be. A Questionnaire will be convenient given the long journey between my places of residence to the study area. Questionnaires are highly versatile therefore can be used by a variety of people in different environments, at different times, targeting a variety of topics for analysis. It will be cheap to undertake, both in terms of time and material resources. Data collected will be easy to process as the questionnaire is straight forward.

3.7. DATA ANALYSIS AND PROCESSING.

3.7.1. Data processing:

Data processing is simply the conversion of raw data to meaningful information through a process. Data is manipulated to produce results that lead to a resolution of a problem or improvement of an existing situation. The following took place: The collected data will be edited to discard the inappropriate data and retain relevant data accumulated from the source. Coding of data were it will be arranged in a comprehensible format. Finally, all the accumulated data will be double checked in order to ensure that it contains no inconsistencies and is utterly relevant.

3.7.2. Data analysis: SPSS statistical package was used to analyse data.

3.8. DATA QUALITY CONTROL.

3.8.1. Validity: will be established using an expert such as my supervisor and many pre-test were carried out to ensure that the questionnaire answers the questions the research needed. Unwanted questions were removed and replaced with the applicable ones.

3.8.2. Reliability: will be established using a pilot test by collecting data from 20 subjects not included in the sample. Data collected from pilot test was analyzed using SPSS (Statistical Package for Social Sciences) allowing the respondents to express themselves bias from the respondents.

3.9. ETHICAL CONSIDERATIONS.

The principle of voluntary participation will be attained by people not being coerced into participating in research. Informed consent will be promoted through prospective research participants being fully informed about the procedures and risks involved in research and must give their consent to participate. To ensure confidentiality and anonymity, participants will not be asked any identifying information such as names, job to mention but a few. Thus,

the participant will remain anonymous throughout the study even to the researchers themselves. Therefore a guarantee of privacy.

3.10. LIMITATIONS OF THE STUDY.

- i. The distance between my area of residence and the study area is large making it hard for me to easily get what I need from the study population.
- ii. Time available to investigate the research problem and to measure change or stability over time was pretty much constrained by the due date of your assignment.
- iii. The research is conducted in one organization.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS.

4.1. INTRODUCTION.

This study investigated the role of human capital on the productivity of a firm. In the presentation phase, data collected was interpreted and discussed in relation to the objectives of the study as stated in chapter one and in comparison with the literature review. The data was analysed from 46 of the 52 questionnaires. Tables and percentages were used. Analysis of the findings was done using SPSS and excel in order to address the role of human capital on productivity of a firm case study Vision Group Uganda. This chapter presents the results of these analyses.

4.2. BACKGROUND CHARACTERISTICS.

The results of personal information on gender, age group, school level completed and working experience are given in the table below;

Table 4.0: Showing the background characteristics

Variables	Items	Frequency	Percentage (%)
Gender	Male	19	51.4
	female	18	48.6
	Total	37	100.0
Age group	34 years and below	12	32.4
	35-49 years	21	56.8
	50 years and above	4	10.8
	Total	37	100.0
Highest education	Undergraduate	19	51.4
	Master	13	35.1
	Postgraduate	5	13.5
	Total	37	100.0
Working experience	0-5 years	12	32.4
	6-10 years	19	51.4
	11-15 years	2	5.4
	16 and more	4	10.8
	Total	37	100.0

Source: primary data, 2016

Table 4.0 shows a summary of the responses from the question about the gender, age group, school level completed and working experience of the respondents. From the total number of correspondents, there were 19(51.4%) male and 18(48.6%) female of the total participants.

This implies that the highest proportion of the sample population are male.

The table 4.0 also reveals that among the participants, 21(56.8%)are at 35-49 years and 4(10.8%)at 50 years and above years therefore implying the largest proportion of the sample lies in 35-49 years group.

In addition, the table 4.0 indicate that the highest number of the sample population has an undergraduate degree with 19(51.4%) participants and only 5(13.5%) have Post Graduate degree. Therefore there are few people who have attained higher education but man have acquired the minimum level of education for professional practice in there various fields of education.

Lastly the table 4.0 indicates that the largest proportion 19(51.4%) of the sample have been working for between 6 – 10 years and the smallest proportion 2(5.4%) of the sample has been working for 11-15 years. Therefore there are many people with great working experience.

4.3. EDUCATION BACKGROUND.

The table below represents the education background looking at type of schools considered, the applicability of knowledge of potential employees and grades of the respondents.

Table 4.1: showing the education background

Variables	Items	Frequency	Percentage (%)
Schools considered	Private schools	16	43.2
	Public schools	6	16.3
	International schools	15	40.5
	Total	37	100.0
Applicability of knowledge	through the interviews	15	40.5
	With assessments	22	59.5
	Total	37	100.0
Academic results considered	First Class	20	54.1
	Second Class Upper	17	45.9
	Total	37	100.0

Source: primary data, 2016

According to the table 4.1 above, 16(43.2 %) considered private schools when choosing a new employee for the company and 6(16.3%) considered public schools. This proves that there is quality education of the potential new employees.

Table 4.1 show that 22(59.5%) respondents tell knowledge applicability of potential employees by using assessments and 15(40.5%) respondents tell knowledge applicability of

potential employees using interviews. Therefore there is quality education of new employees in the company.

The table 4.1 also shows that when hiring new recruits 20(54.1%) respondents considered first class and 17(45.9%) considered second class upper. These first class mostly considered are proof of good quality of education of new recruits.

4.3. ON – JOB – TRAINING.

The table 4.2 below represents on job training results on the correlation between spending and training, type of on job training used and which training experts give the greatest return in training;

Table 4.2: showing data collected on on-job-training

Variables	Items	Frequency	Percentage (%)
Correlation between spending on training	Yes	37	100
	Total	37	100.0
Type of on-job-training	Un-structured	15	40.5
	Structured	22	59.5
	Total	37	100.0
Greatest return	Trainers within	17	45.9
	Experts from out	20	54.1
	Total	37	100.0

Source: primary data, 2016

Table 4.2 shows that there is a correlation between the spending and training at 37(100%).

Therefore there is a relationship between spending and training given to the individuals.

There are 15(40.5%) respondents who said un-structured on-job-training is used and the highest is 22(59.5%) said structured on-job-training is used. Therefore according to Hamilton and Hamilton, (1997) it is true that unstructured on job training is less effective and least beneficial.

The table 4.2 shows that 20(54.1%) greatest return from experts from outside the company and 17(45.9%) return from trainers within the organisation. This concludes that quality on job training is offered since experts are used to train the employees.

4.4. HEALTH

The table below represents the data collected on health using work status, days absent due to sickness in the past 4 weeks and cost impact of short- and long-term disability absences and claims ;

Table 4.3: Showing data collected on health

Variables	Items	Frequency	Percentage (%)
Work status	Full time	30	81.1
	Part time	7	18.9
	Total	37	100
Days absent due to sickness in past 4 weeks	30%	18	48.6
	40%	16	43.2
	50%	3	8.2
	Total	37	100

Cost impact of disability absences and claims	15-25%	18	48.6
	26-35%	9	24.4
	36-50%	10	27.0
	Total	37	100

Source: primary data, 2016

The table 4.3 above shows that 30(81.1%) employees are full time employees and 7(18.9%) employees are part time. Therefore the highest number of employees are full time proving good quality of services they provide to the company.

In addition, the table 4.3 shows that the highest number of respondents 18(48.6%) were absent 30% of the last four weeks and 3(8.2%) said they were absent 50% of the last four weeks. Therefore a great number of respondents were absent for little time in past four weeks indicating better quality of the services they produce and offer.

Table 4.3 also shows that 18(48.6%) respondents said there are 15-25% cost impact of short and long term disability absences and claims and 9(24.4%) respondents said there are 36-50% cost impact of short and long term disability absences and claims. This shows that there is a minimal cost impact of short term and long term disability absences and claims and this promotes good quality of services provided by the employees.

4.5 PRODUCTIVITY

4.5.1 Head count per unit of production

The table below represents

Table 4.4: Representing head count per unit of production

Variables	Items	Frequency	Percentage (%)
Compared to Competitors	above average	17	45.9

	Average	13	35.1
	Below average	3	8.2
	Poor	4	10.8
	Total	37	100
Vary across lines of business	above average	3	8.1
	Average	24	64.9
	Below average	10	27.0
	Total	37	100
Revenue per employee compared to competitors	the same	17	45.9
	increased	20	54.1
	Total	37	100

Source: primary data, 2016

The table 4.4 above shows that the company's head count per unit of production is above average at 17(45.9%) and 3(8.2%) below average compared to other companies in the same industry. This implies that the number of employees in the company is average compared to the competitors.

In addition, the table 4.4 shows that at 24(64.9%) the company's head count per unit production across lines of business is at average and at 3(8.1%) is above average. Thus the number of employees in the company varying across lines of business is at average.

The table 4.4 also shows that the revenue per employee compared to competitors is above average at 20(54.1%) and below average at 17(45.9%). Therefore the revenue per employee compared to the competitors is higher.

4.5.2. ROI on human capital.

Table 4.5: Showing results obtained for ROI on human capital

Variables	Items	Frequency	Percentage (%)
Over past two years	increased	30	81.1
	the same	7	18.9
	Total	37	100
Competitors	Above average	8	21.6
	average	29	78.4
	Total	37	100
Compared to ROI or working capital		32	86.5
		5	13.5
	Total	37	100

Source: primary data, 2016

The table 4.5 above shows that 30(81.1%) of the respondents said that the return on investment in human capital over the past two years increased and 7(18.9%) said it remained the same. Therefore there was an increase in ROI in human capital over the past two years.

Table 4.5 also shows that 29(78.4%) of the respondents said the ROI on human capital compared to competitors is average and 8(21.6%) said that the company is above average compared to competitors in terms of ROI on human capital. This implies that return on human capital investment against competitors is at average.

Lastly, the table 4.5 shows that 32(86.5)% of the respondents said the ROI on human capital is higher than ROI on working capital and 5(13.5%) of the respondents said the ROI on human capital is lower than the ROI on working Therefore, the ROI on human capital is less than ROI on working capital.

4.5.3 Total working hours

Profit was the other variable used to measure productivity of the firm and the results were as follows;

Table 4.6: Showing working hours

Variables	Items	Frequency	Percentage (%)
Individual productivity compared to work time	average	7	21.6
	Above average	29	78.4
	Total	37	100
Average time to full productivity for new hires	0-6 months	32	86.5
	7-12 months	5	13.5
	Total	37	100
Work force productivity over the past two years	increased	30	81.1
	equal	7	18.9
	Total	37	100

Source: primary data, 2016

The table 4.6 above shows that there are 29(78.4%) of the respondents who said individual productivity compared to work time is above average and 7(21.6%) said individual productivity compared to work time is at average. Therefore individual productivity compared to work time is good.

It further shows that 32(86.5%) of the respondents said that average time to full time productivity for new hires is 0-6 months and 5(13.5%) said that average time to full time productivity for new hires is 7-12 months. This shows that average time to full time productivity of new hires is short and good.

Finally the table 4.6 shows that 30(81.1%) of the respondents said that the work force productivity increased over the past two years and 7(18.9%) said that the workforce productivity over the past two years is the equal. This concludes that there is an increase in the productivity of the company in the past two years.

4.6. CHI-SQUARE TESTS.

Table 4.7: showing chi-square tests on variables of human capital and productivity

Pearson Chi-Square	Education background and productivity.	On- job- training and Productivity	Health and Productivity
Value	25.025 ^a	23.706 ^a	20.547 ^a
df	16	14	12
Asymp. Sig. (2-sided)	0.069	0.050	0.057

Source: primary data, 2016

Interpreting the results from the chi-square tests, it shows that education background plays a big role in the head count per unit production of a firm as shown by the 0.069 low significance thus addressing the first objective of this research. Therefore this indicates that education background plays a big role in productivity of a firm.

The second objective was to determine the role of on job training on the return on investment in human capital of a firm. The table above shows 0.050 low significance therefore on-job-training plays a big role on the productivity of a firm.

The third objective was to determine the role health plays a big role in the total working hours of the employees in a firm. The significance 0.057 of the chi-square is low and this suggests that there is a big role played by health in productivity of a firm.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter provides a summary and conclusion of the major findings drawn from the previous chapter and recommendations made to ensure the human capital development and promote productivity of the firm so as to improve economic growth on a large scale as a country.

The study was carried out to examine the role of human capital on the productivity of a firm using Vision Group Uganda as a case study.

5.1 Summary of Finding

This part presents the summarized results and interpretation (findings) based on the study objectives as established at the beginning of the study. The study findings are summarized in the following sections, as follows;

5.1.1 Education Background

In this case the results suggest the company considers private schools, assessments to define applicability of knowledge and first class academic results to determine the quality of education of a potential employee of the company. This means the quality of education improve human capital given education is a main measure of human capital. These results show that education enhances productivity.

5.1.2 On- Job- Training

The data collected gave results to show that on job training is a strong determinant of human capital in a firm and Uganda as a whole. The results indicate that to attain good quality human capital, a firm must consider; structured on job training (Barron, 1997) and use of outside experts to train the employees of the firm. These results also show that on job training plays a big role in the productivity of a firm and Uganda at large.

5.1.3 Health

The results prove that health is a determinant of human capital. They also prove that to attain quality human capital a firm should ensure a small cost impact of short term and long term disability absences and claims (Bloom and Canning,2000); full time workers and less or minimal absenteeism of the employees. All this proves that health plays an important role in productivity of a firm and Uganda as a whole.

5.2 Conclusion.

The findings revealed that education, on-job training and health are factors of human capital. These findings were similar to the findings obtained by (Becker, 1993), (Harris 1999), Bartel (1994) and productivity (Currie and Madrian 1999). In their studies, they concluded that education, on-the-job training and health as components of human capital, all having consequences for earnings and economic productivity.

Therefore these findings support the application of good quality of human capital to complement the available labour force quantity to attain high productivity of a firm and country. They also reinforce the importance of quality of human capital on the productivity of a firm or a country.

5.3 Recommendations

Human capital is essential in the promotion of both corporation and economic productivity. The Ugandan government should consider improving the quality of education for its citizens in order to supplement the labour force quantity since education is the main driving force of human capital. Many organisations should consider investing in it because it gives positive implications to productivity giving them a greater chance at competition in there various industries if properly managed. Organizations should consider hiring experts and learn how to train their employees if they are to improve the productivities of their firms. Lastly, both

the government and organisations should ensure good health of their citizens and employees if they are to improve productivity. Otherwise considering human capital is essential in economic growth, there should be more investments to promote human capital if a country is to develop.

5.4 Suggestions for further research.

1. Human Resource Management and its effect on performance of employees.
2. Economic Growth and Labour Force supply.

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APPENDICES

Appendix 1: introductory letter

making a difference

OFFICE OF THE DEAN FACULTY OF SCIENCE
Email: deanscience@umu.ac.ug
Date: 26/04/16

To: HUMAN RESOURCE,
VISION GROUP UGANDA,
P.O BOX 9615
KAMPALA.

Dear Sir/Madam,

Re: Assistance for Research

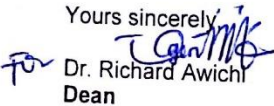
Greetings from Uganda Martyrs University.

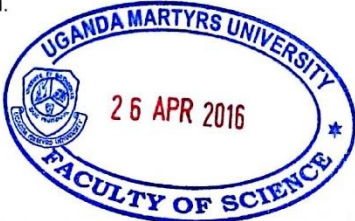
This is to introduce to you MISS KATUSHIME MARTHA MUGENZI
Registration Number; 2013-8061-10007, a third
year student pursuing a Bachelor of Science degree in
FINANCIAL MATHEMATICS of this University. She is carrying out a
research on the topic " THE ROLE OF HUMAN CAPITAL IN THE
PRODUCTIVITY OF A FIRM.

as part of the curriculum requirements for the award of Bachelor of Science Degree
of this University.

I, kindly, request you to render her such assistance as may be necessary for the
research.

Thanking you in anticipation.

Yours sincerely,

Dr. Richard Awich
Dean



Appendix 2: QUESTIONNAIRE.

My name is Katusiime Martha and am completing a research study from Uganda Martyrs University. The purpose of this study is to enhance your productivity as a publishing company. Your responses will be confidential and will not be linked to you personally. Thank you very much for your time and participation.

SECTION A: BACKGROUND CHARACTERISTICS.

Please circle the most appropriate response.

a. Gender: 1. Male 2. Female

b. Age group

1. 25 years and below 3. 36-45 years

2. 26-35 years 4. 46 and above

c. Level of education

1. Undergraduate 2. Master 3. Postgraduate

d. Working experience

1. 0-5 years 3. 11-15 years

2. 6-10 years 4. 16 and more

SECTION B: EDUCATION BACKGROUND.

For many companies, they have understood the Importance of the education background and curriculum of their employees in order to promote productivity in their companies.

a. School type attended

1. Private schools 2. Public schools 3. International schools

b. How do you taste ones applicability of knowledge?

1. With assessments 2. Through interviews.

c. What academic results do you consider when choosing new employees?

1. First class 2. Second class upper 3. Other

SECTION C: ON-JOB-TRAINING AND DEVELOPMENT.

a. Is there a correlation in your organization between spending on training to your organisation?

1. Yes 2. No

b. What type of on-job-training do you use?

1. Structured 2. Unstructured

c. What percentage of poor performers become good or better performers within a year as a result of your individual development efforts?

1. 0-15% 2. 16-25% 3. 26-50% 4. 51% and

more

d. What percent of trained individuals are observed to use specific skill or knowledge on the job?

1. 0-15% 2. 16-25% 3. 26-40% 4. 51% and more

e. The greatest return on human capital investment in on job training is attained through;

1. Experts from outside the company 2. Experts from within the company

SECTION D: WORKFORCE HEALTH AND SAFETY.

a. Work Status

1. Full time 2. Part time

b. Using the 0-to-10 scale, how would you rate your absenteeism during the past 4 weeks (28 days)?

Not

Absent

Worst

- 0 1 2 3 4 5 6 7 8 9 10

c. What is the cost impact of short- and long-term disability absences and claims?

1. 15-25% 2. 26-35% 3. 36-50% 4. 50% and more

SECTION E: WORKFORCE PRODUCTIVITY

HEAD COUNT PER UNIT OF PRODUCTION.

a. Is your head count per unit production higher than your competitors'?

1. above average 2. Average 3. Below average 4.

Poor

- b. How does your head count per unit production vary across lines of business or geographies?

1. above average 2. Average 3. Below average 4.

Poor

- c. How does your company revenue per employee vary to direct competitors'?

1. above average 2. Average 3. Below average 4.

Poor

RETURN ON HUMAN CAPITAL INVESTMENT.

- d. How has your ROI on human capital varied in the past two years?

1. Increased 2. Decreased 3. Equal

- e. What is your ROI on human capital against competitors'?

1. above average 2. Average 3. Below average 4.

Poor

- f. How does your ROI on human capital compare to ROI on working capital?

1. Higher 2. Lower 3. Equal

TOTAL WORKING HOURS.

- g. How does the individual productivity compare to work time?

1. above average 2. Average 3. Below average 4.

Poor

h. What is the average time to full return on human capital investment for new hires?

1. 0-6months 2. 7-12 months

i. What is the workforce productivity comparison over the last two years?

1. Increased 2. Reduced 3. Equal

Appendix 3: BUDGET.

Table 4.8: showing the budget

Item	Quantity	Unit Cost	Total Cost
Subsistence Allowance	1	100,000	100,000
Honorarium	1	20,000	20,000
Travel	1	50,000	50,000
Data Analysis	2	50,000	100,000
Secretarial Services (Processing the research instruments and reports)	1	20,000	20,000
Photocopying	1	5000	5000
Report Production (Printing and Binding)	3	15,000	45,000
Other Expenses		100,000	100,000

Appendix 4: KREJCIE AND MORGAN'S TABLE.

<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>	<i>N</i>	<i>S</i>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note.—*N* is population size. *S* is sample size.

Source: Krejcie & Morgan, 1970