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Factors influencing employability of Technical Education graduates in Malawi

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Thesis presented in partial fulfilment for the degree of Master of Management (in the field of Public Sector Monitoring and Evaluation) to the Faculty of Commerce, Law, and Management, University of the Witwatersrand

March 2016

DECLARATION

I declare that this thesis/dissertation titled 'Factors influencing employability of technical education graduates in Malawi is my own, unaided work. I have acknowledged and referenced all sources that I have used and quoted. I hereby submit it in partial fulfilment of the requirements of the degree of Master of Management (Public sector monitoring and evaluation) in the University of the Witwatersrand, Johannesburg. I have not submitted this report before for any other degree or examination to any other institution.

Fanny Thindwa

Johannesburg, March 2016

Kambidima Wotela (Phd)

Supervisor

Johannesburg, March 2016

ABSTRACT

Employment is a critical factor in development, general, and specifically social development. All else constant, education is an important precursor to employment. Besides university or academic learning that feeds into the white collar or office jobs; technical, entrepreneurial, and vocational training and education although feeding mostly into the pink collar or artisan jobs is an important aspect of education and, therefore, employability. Further, entrepreneurial and related training and education has the potential to create employment. However, little has been written on factors that positively influence employability of technical education graduates. Obviously, one would like to know if there is match between industrial needs and the specialisation of the graduates.

The purpose of this research was to evaluate factors influencing employability of technical education graduates in Malawi. The study attempted four research questions, three targeting employees (who are technical education graduates) and these had hypothesis. The fourth research question targeted employers and had a proposition on needs of companies. We reviewed literature to understand the research problem, develop theoretical framework and conceptualise our research. Two theories, theory of demand and supply of labour, and capability approach were employed.

Of the three strategies; qualitative, quantitative and mixed, a quantitative strategy using a cross sectional design from a sample of 81 technical education graduates and 30 companies was employed. The results show no significant relationship between employability and the explanatory variables of age, gender, education attainment and skills. A significant relationship ($p=0.018$) was found between first job of graduates in relation to the field of study, meaning with the right education and the right job match, graduates were more employable. In addition, descriptive statistics indicate a strong relationship for all variables as per the research questions. Technical skills and education attainment seem to affect the duration taken to gain employment. The majority of the graduates were employed in professions that matched their training. Companies have preferences in recruiting graduates. The findings further show that, curriculum, funding and multiple qualifications need harmonisation for effective TVET provision.

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DEDICATION

I dedicate this thesis to late Bishop Felix Mkhori, the founder of St. Lawrence Girls Secondary School in Malawi. A leader and man of vision. You always said to ‘educate a girl is to educate a nation’. Your insight and motto ‘Ad Mulieris Dignitatem’ and values cherished at St. Lawrence have shaped many of us into dignified women.

INTRODUCTION TO THE RESEARCH

1.1 Background

This chapter introduces the research. The next Section 1.1.1 introduces the setting of the study that is Malawi. Section 1.1.2 describes employment levels and trends between graduates and non graduates in Malawi. Section 1.1.3 provides a brief description of the intervention TVET in particularly technical education component. We discuss the research problem statement in Section 1.2.1, and subsequently the purpose of this research in Section 1.2.2, as well as the research questions in Section 1.2.3. In Section 1.3, we discus delimitations of the research and justification is presented in Section 1.4 followed by a preface to the whole research in Section 1.5.

1.1.1 Brief description of Malawi

Malawi is a land locked country bordering Zambia, Tanzania and Mozambique (National Statistics Office, 2012). It covers a total area of 118,484 square kilometres out of which 94,276 is land area (National Statistics Office, 2013). Malawi formerly called Nyasaland got its independence in 1964, and became a republic in 1966 (National Statistics Office, 2012). Prior to its independence in 1964, Malawi was a British protectorate from 1891, and was formerly one of the countries that formed the federation of Rhodesia and Nyasaland including Zimbabwe and Zambia in 1953 (National Statistics Office, 2012). For over 30 years Malawi was under one party rule, and embraced multiparty democracy in 1994 (Malawi Country Strategy Paper, 2012).

In terms of regions and locality, Malawi has 28 districts with six, nine and 13 in the northern, central and southern region respectively (National Statistics Office, 2012). Malawi's urban hub is concentrated in three main cities, Blantyre, Lilongwe and Mzuzu. Like many countries in the world, Malawi is faced with unemployment issues. According to National Statistics Office (2013), when segregated against regions, the southern region has the highest unemployment rate (27 percent), central region (15 percent) and northern (13 percent). Although unemployment is a burden across all age categories, the youth are most disadvantaged. Statistics indicate that in Malawi, the

youth not in education, employment or training account for 26 percent with 25 percent males and 27 percent females (National Statistics Office, 2013). According to the National Statistics Office (2013), in the labour force survey, majority of those unemployed are primary graduates, followed by secondary and tertiary graduates. In terms of securing opportunities in the labour market, Castel, Phiri and Stampini (2010) have argued that graduates are more likely to find jobs than their counterparts.

1.1.2 Employment levels and trends between graduates and non graduates in Malawi

Employment levels and trends are varied, not only in Malawi, but across the globe, based on gender, employment participation rates, unemployment rates and so on (World Employment Social Outlook Trends Report, 2015). It is therefore important to understand trends and factors that make graduates employable. To focus our study, we operationalise the terms employability, to refer to whether graduates are employed within six months of graduation. Jackson (2014) has used this definition in operationalising of their study variables. Second employability will relate to whether graduates are employed in areas of their specialisation regardless of how much time it takes to get a job. This definition relates to that of Hillage and Pollard (1998) and Bergastrom (2012) who define employability as the ability to gain initial employment and maintain it. In our research, the word graduate has been operationalised to refer to individuals with post-secondary school education, that is those with post-secondary certificates, degrees and diplomas. Our discussion is therefore biased towards educational levels and educational outcomes. However, before discussing employment levels, it is important to note that according to the Malawi Labour Force Survey (2013), the Malawi labour force comprises of 7 million people, 3.3 million males and 3.7 million females out of a population of 15.4 million.

Before discussing the trends, it is interesting to note that in Malawi, the education system follows the 8, 4, 4 system, comprising of primary, secondary and tertiary education. Formal TVET is classified under tertiary education. In looking at trends between graduates and non graduates, we realise that employment between graduates and non graduates is affected by levels of education attainment. In their study, Chirwa and Matita (2008) noted that returns on education for primary school leavers was 4.9

percent and 4.8 percent in the rural and urban areas respectively. Chirwa and Matita (2009) further noted that, returns for secondary education graduates is 14.9 percent and 15.3 percent for urban and rural areas respectively. Returns for tertiary education were 68.2 percent, 21.1 percent and 70.5 percent for the southern, northern and central regions respectively (Chirwa & Matita, 2009). This suggests that graduates in Malawi with higher education get better returns compared with those of lower education.

The trend suggested by Matita, that graduates gain a better return from education is supported by UK Labour Statistics (2013) who in their study noted that 87 percent of those surveyed who were graduates, were employed compared to 41 percent who had no qualifications. Although not conclusive, this suggests a relationship between education attainment and employability (TESDA, 2010). The UK Labour statistics (2013) showed that graduates from top universities earned more compared to other graduates from lower tiered universities. This shows that the type of institution that one graduates from may have a bearing on their progression after graduation.

In an impact evaluation study conducted in 2010 by the technical Education and Skills Development Authority (TESDA) for Fillipino TEVET graduates, the results of the study indicated that the level of education attainment contributes to employability of TEVET graduates. According to TESDA (2010), out of 28,302 TEVET graduates with college degrees, 18,251 were employed, representing 64 percent of graduates. The same study found that out of 107, 677 graduates with high school certificates, 46,530 or 43 percent of graduates were employed. Furthermore, the study found that those with a qualification less than a high school certificate had an employment rate of 29 percent. The implication of such findings show there is a need to invest in the tertiary education and open more avenues for the youth (Chirwa & Matita, 2009).

While focussing on TVET, Chirwa and Matita (2009), noted that technical and vocation education , returns on education were 23 percent, 14.5 percent and 21.4 percent for the Southern, northern and central regions respectively. Contrary, to trends that TVET trainees are not disposed to education to be employable as TVET is skills oriented (Okwelle, Chijioke, Chukwumaijem, 2015), the Labour Market Survey Report (2009), found that in the formal apprenticeship sector, education levels of graduates is a big factor in securing employment. Of those surveyed in the

apprenticeship sector, 85 percent had secondary school education. In terms of progression on the job, those with a higher education, made meaningful progression on the job and were allocated to jobs requiring more technical skills compared to their counterparts with a lower education, who were more engaged on routine oriented jobs (TEVETA Malawi, 2009). ILO (2010) noted that 10 percent of students in Malawi, who study the longest, benefit from 73 percent of public resources and they are more likely to gain employment. TESDA (2010), found that higher education attainment in TEVET affects returns in terms of wages or salary. In their study, they found that over 50 percent of graduates with TEVET college degrees, earned over ph 10,000 compared to only 18.5 percent of high school graduates. On the other hand, a study by Sakordie, Mensah, Anarfi and Bosiakohi (2014) that was conducted in Ghana looking at education and employment outcomes, noted that education was important but not in itself enough to erase inequality. This was based on the fact of different endowments within and within education brackets. This means therefore that caution needs to be taken to ensure that education opportunities and access must be spread out.

The National Statistics Office (2013), in the labour force survey, observed that, a high percentage of unemployed people in Malawi, were secondary school graduates at 21.5 percent, followed by primary education with 21.3 percent, then those with no education at 20.1 percent and tertiary education at 13 percent. This indicates that those with higher education tended to be absorbed easily in the labour market. A critical look at the statistics, indicate that primary school graduates and secondary school graduates have a small margin of difference in unemployment, (21.3 percent versus 21.5 percent), on the other hand, secondary graduates compared to tertiary graduates have a big difference in margin of unemployment (21.5 compared to 13 percent) unemployment status for secondary and tertiary graduates respectively.

It is not clear why these discrepancies exist, however, using the human capital theory, Acemoglu and Autor (2010), have argued that workers with varying types of education attainment have varying comparative advantage. One may speculate that the type of jobs that primary leavers look for differs from those with secondary education, who are mostly competing with those of a tertiary education. Findings by Chirwa and Matita (2009), that those with higher education have more returns, perhaps explain why those with tertiary education qualification are more competitive.

The National Statistics Office (2013), shows the following trends in terms of Employment by sector; the agriculture sector is leading with 64 percent, followed by wholesale and retail 16 percent, and manufacturing 4.1 percent (National Statistics Office, 2013). In terms of employment by occupation, the same survey shows that, majority of those employed are in agriculture (45 percent), followed by those in service and sales (19 percent), plant operators and assemblers (5.2 percent). However recent studies have shown that the service sector is getting more prominent with time (ILO, 2010). Furthermore, looking at the definition of TVET as presented by the Government of Malawi (2013), in the revised TVET Policy, one notices that parts of the sectors including manufacturing, service and agriculture fall under TVET. The lack of reports capturing proper data for the majority of trades, results in poor acknowledgement of the impact and the performance of TEVET in relation to employment and national development (UNESCO:UNEVOC, 2012). As most agricultural activities are under TVET, interventions that can add value in this sector would bring about the improvement in the living standards of Malawians.

1.1.3 A brief description of Technical Entrepreneurial, Vocational and Education Training

According to the Government of Malawi (2013), TVET refers to any education, training and learning activity that leads to knowledge, understanding and skills acquisition relevant for employment.

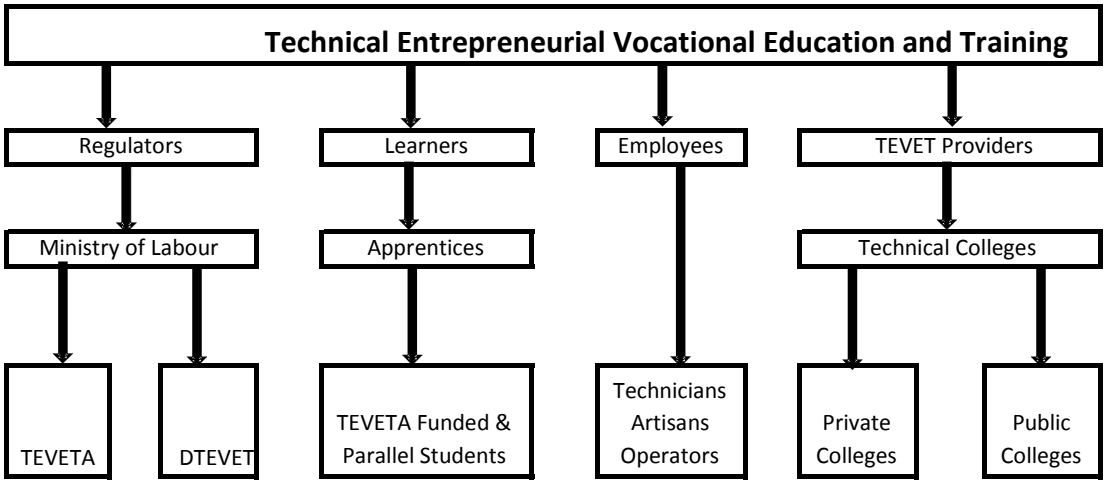


Figure 1Showing Vocational Education and Training
Source: Researcher

Fig 1 shows a brief synopsis of how TVET in the formal sector rolls out. The TVET activities are regulated by the Ministry of Labour who is also the policy holder

(UNESCO UNEVOC, 2012). TEVETA is the implementer of the TEVET policy through various programmes, as well as through powers enshrined to it by the TEVET Policy of 1998; the Revised TEVET Policy 2013 and the TEVET Act of 1999 (Government of Malawi, 2013). The Department of Vocational Educational and Training which sits under the Ministry of Education, Science and Technology provides interface in TVET and is mostly concerned with technical colleges on teachers' salaries and administration (UNESCO, UNEVOC, 2012). In terms of the apprenticeship programme, figure 1 shows the Apprentices as learners. According to Benjamin and Barry (2014), an apprenticeship refers to a learnership based on a particular trade/occupation. In Malawi, apprentices are in two groups, those that are funded by TEVETA and those that fund their own studies, also called parallel students.

Fig 1. Further shows employees from the TVET sector, thus apprentices when they finish their studies can take the status of technicians, artisans or operators. In terms of credits required and qualifications given, to be a technician one accumulates 480 credits (UNEVOC:UNESCO, 2012). According to Benjamin and Barry, an artisan is a person certified as competent and one who can effectively perform on the job. To be an artisan one requires 360 credits, and to be an operator one requires 240 credits (TEVETA Malawi, 2009). In Malawi currently, the eight public colleges that are currently offering technical education have not started providing the technician diploma programme, which is pegged at level four.

Formal TVET in Malawi is provided by technical colleges thus public technical colleges as well as private technical colleges exist. Apprenticeship training in Malawi is generally pegged at 4 years (TEVETA Malawi, 2009). With the reformed TVET, following suit from other Sub Saharan African countries; the competency based education training (CBET) was introduced. According to the TEVETA 2007-2012 Strategic Plan, the CBET system is modular, in that students can start and exit at any stage once they complete specific modules, hence giving it flexibility. CBET also is duo based, that is it has industry-based modules as well as college-based modules (TEVETA Malawi, 2009). Under CBET, industry modules are not just part of attachments but they also form part of assessments (TEVETA Malawi, 2009).

In terms of entrepreneurship, Africa Union (2013) has noted that lack of entrepreneurship in the training curriculum is a cost to employment creation. This is

why in Malawi entrepreneurship has been blended into the TVET system (Malawi Labour Market Survey, 2009). Entrepreneurship has been more preferred in self-employment situations (Jeemol Unni in Desai and Potter, eds 2014).

1.2 Towards evaluating factors that influence TVET graduates employability in Malawi

1.2.1 The research problem statement

Skills development is the engine for economic growth (Malawi Government, 2012). This importance of skills development alleviates the status of TVET as the hub for skills provision, which is crucial for employability (Okwelle, Chijioke, Chukwumaijem, 2015; Kufaine, 2014). However, according to the Malawi Labour Market Survey Report that was commissioned by TEVETA Malawi (2009), the major challenge facing TVET sector in Malawi in achieving development goals is the mismatch between skills, knowledge and attitudes of learners and what the labour market/industry demands (TEVETA Malawi, 2009). This mismatch between skills and job requirements reduces the efficiency with which the job market absorbs graduates. One reason preferred by the same survey for the excess supply of job-seekers is that majority of graduates from TVET, in particular the formal apprenticeship programme, have the formal sector as their preferred destination for employment with about 70 percent of TVET graduates ending up in the formal sector (TEVETA Malawi, 2009).

According to Masanjala & Kafakoma (2010), there are a number of reasons for the skills and jobs mismatch. First, cultural factors that give prominence to employment of TVET graduates over self-employment. Second, lack of capital or finance for TVET graduate to engage in self-employment. Third, diminutive size of the industry to absorb the graduates. Fourth, as noted by TEVETA Malawi (2009), divergence between curriculum and industrial requirements so that educated unemployment co-exists with unfilled vacancies in the industry. Therefore, knowledge of factors that influence employability of TVET graduates, would lead to strategising on what can possibly be done to bring the industry needs and graduates skills to an equilibrium. This study is therefore interesting as it may guide policy direction in making TVET graduates employable thereby fighting youth unemployment. In Malawi over 50 percent are

youth, therefore fighting youth unemployment can be a good catalyst to meeting the development goals of the nation as well as to making the youth more useful.

1.2.2 The research purpose statement

The purpose of this research is to analyse factors influencing employability of technical education graduates in Malawi. We pursue research questions (presented in Section 1.2.3). To effectively address the objectives of the study, first we will review literature to reveal and understand the setting, the context as well as the problem of the study. Second, we propose development of the broad academic field from which our study can be understood. In establishing the broad field, we propose capability approach, a theory by Amatya Sen that explains the multi-dimension and multifaceted nature of development beyond economic measures. We also incorporate the theory of labour demand and supply as an explanatory framework. We then elicit variables and attributes that are relevant to employability of graduates. Third, we conceptualise our research and thereby set a tone on how we shall proceed with our research to resolve our research problem and achieve the purpose of the research. Fourth, we propose a research strategy, design, procedure and methods that are relevant to our research. In our procedure and methods, a keen interest is versed on validity, reliability and ethical issues. Lastly, we collect and analyse data using a statistical package for social sciences, thereafter recommend and conclude.

1.2.3 The research questions

1.2.3.1. What are factors that affect duration between graduation and first employment?

1.2.3.2. Did the Technical Education graduates initially get employed in professions that matched their training?

1.2.3.3. Are graduates currently employed in areas of their training?

1.2.3.4. What do employers look for before hiring Technical Education graduates?

1.2.4 Hypothesis

Factors determining the duration of first employment after graduation
Ho: Employability does not depend on period since graduation
Hi: Employability is dependent on the period since graduation

Initial Professions and field of study
Ho: There is no relationship between initial professions and employability
H1: There is a relationship between initial professions and employability

The match between current employment and training.
H_o: There is mismatch between current employment and training
H_1:There is a match between current employment and training

Employer's considerations when hiring technical education graduates
Proposition: Employers have considerations when hiring technical education graduates

1.3 Delimitations of the research

In order to address the topic of interest, which is factors influencing employability of Technical Education graduates, the focus of the paper is twofold. First, the focus shall be on the formal apprenticeship sector. According to the labour Market survey commissioned by TEVETA Malawi (2009), the apprenticeship sector is characterised by candidates with some form of secondary education, majority of whom are young. The study is thus looking at trends for both young and old, but with particular interest to the youth where possible. This study is thus limited to TVET sector, but specifically the technical education aspect for graduates as well as companies that have employed graduates.

1.4 Justification of the research

The aim of this study is to evaluate factors influencing employability of technical education graduates in Malawi. The knowledge of factors influencing employability of technical education graduates is crucial for mapping out strategies and innovations

that allow technical education graduates to be employable. International Labour Organisation (2010), observed that in Malawi, majority of people are what we call working poor. This presents a situation where people are trapped in a cycle of vicious poverty, manifesting in low skills, low income and low productivity (ILO,2010) even though they are employed.

A study of this nature is useful in that; first, it would contribute to knowledge that can enable the technical education graduates to position themselves in ways that are more attractive to employers and get employment, which is a crucial factor in alleviating poverty (World Bank, 2015). Second, as TVET is an important catalyst in development, this study will align TVET to respond to development needs. Thirdly, this study is using a capability approach, which is also crucial (Refer to section 2.7 for detailed analysis of this theory). In the Malawi set up, no study on TVET has attempted to use the capability approach as its explanatory framework. In that regard, while other theories for instance, the human capital theory have been fundamental in discussing the role of education and employability, the capability approach uncovers more aspects that a number of theories have not attempted (Trichkova, 2014). Although studying technical education has been instrumental, failure to unleash underling challenges that make vocational education instrumental affects the potential of TVET in contributing to economic development. The traditional approach to TVET has assumed that TVET is key to employability. This has influenced many governments to plan and fund TVET activities in the hope of expanding employment opportunities for their nationals. The consequence is that while the Malawi government has been pre occupied and pronounced that TVET is key for employability, there is no articulation on what capabilities would be expected from the system in terms of contributions from TVET graduates. This study contributes in that regard.

Finally, the rationale for a study bordering around employment is based on the significance of employment as a critical factor in development, and in particular social development. According to World Bank (2015), employment has the capacity to contribute to poverty alleviation. Overall, it has been noted that education is a

prominent variable, in that graduates with more education have better returns in salary and progression on the job.

1.5 Preface to the research report

To this end, the report has six chapters. Following this introductory chapter, Chapter 2 provides a literature review covering the problem, the past studies, the explanatory framework and the conceptual framework. Chapter 3 discusses the research strategy, design, procedures, reliability and validity measures as well as limitations. Chapter 4 presents findings, while chapter 5 discusses the findings thereby interrogating our research questions. Chapter 6 summarises and concludes the research.

2 LITERATURE REVIEW

The literature review chapter embodies three broad objectives, namely; to understand the research problem, to identify the research gap, develop a theoretical framework for interpreting the findings and to develop a conceptual framework. Specifically, Section 2.1 shall discus the research context. In Section 2.1 we focus on the setting of our research. Understanding the setting of the research, helps us to understand the context of our study. To do that, first, we present an introduction to Malawi and its demographics from independence to the present time of the study. Second, we talk about the issues of education and employment that exist.

Section 2.2 shall discuss in detail the research problem and Section 2.3 shall review literature on factors influencing employability of technical education graduates through the review of past and current studies. This shall familiarise our research on strategies, procedures, designs and methods used in similar researches. With this knowledge, we situate our research within development, as our academic broad field of study, and its key component and attributes in Sections 2.4 and 2.5. Having identified the relevant explanatory framework for this research, we discuss the theory that suits this research in Section 2.6. The last Section (2.7) provides a road map of how this research intends to analyse factors influencing employability of TVET graduates.

2.1 An introduction to Malawi: population, education, and employment

This Section focusses on population, education and employment. However, to give an accurate picture of issues affecting employment, we start by discussing employment trends in sub-Saharan Africa, as broader picture on employment issues within our Sub Saharan Africa. It looks at issues of labour force participation rates, unemployment rate, employment growth and vulnerable employment.

Table 1 Showing labour market outlook for Sub Saharan Africa (2000–16)

	2000-07	2008-13	2014	2015	2016
Labour force participation rate	69.8	69.9	70	70.2	70.3
Unemployment rate	8.1	7.6	7.3	7.4	7.5
Employment growth	3	3	3.4	3	3
Vulnerable employment	72.9	71.4	69.8	69.9	69.7
Working poverty (less than US$1.90)	49.3	39.9	35.2	34.3	33.1
Working poverty (between US1.90)	23.8	27.7	29.6	29.7	30
Productivity growth	2.9	1.8	1.5	0.5	1.2

Source: ILO research team November 2015

From Table 1, the labour force participation rate in Sub-Saharan Africa has steadily been increasing over the years from 67.8 percent in 2000 to 70.3 in 2016. The unemployment rate has steadily been going down from 2000 to 2014 only to rise up in 2015 and 2016. Employment growth has been steady since 2000 except for 2014 when it grew by 0.4. Comparing working poverty of less than US$1.90 and between US$1.90, the working poverty of those between US$1.90 has been increasing since 2000 to 2016 while those below US$1.90 it has been declining since 2000, indicating that those below US$1.90 are making much progress in getting out of the track. Productivity growth was high between 2000 to 2007 but slowed down since then to 2016 and in 2016, it picked up. With this understanding, we refer to Table 2 discussing employment issues in Malawi.

Table 2 Showing employment trends in Malawi

	Male	**Female**
Labour force (In Millions)	3.3 million	3.7 million
Unemployment by education (in percent)		
No education	14.	24.2
Primary Education	13.4	29.9
Secondary education	16	30.6
Tertiary	12	16.2
Labour force participation	90.9	88.1
Youth Unemployment (15-34 years)	16.9	28.3
Youth in Vulnerable employment (15-34 years)	24.9	26.6
Unemployment broad definition (15-64 years)	14.3	25.7

Source: Malawi Labour Force Survey, but table Computed by researcher

2.1.1 Employment and Education

From Table 2, the employment participation rates for Malawi is 90.9 males and 88.1 females, showing that there is not a marginal difference between males and females in Malawi. This is similar to reports by the World Economic Outlook Trends Report, 2016) which noted that for Sub-Saharan Africa participation rates for males is not different to that of females. It is concerning that there is a high proportion of vulnerable employment in Malawi, as can be seen in Table 2 with the youth in particular more vulnerable compared to their male counterparts. This trend is true for sub-Saharan Africa with 8 out 10 people are involved in vulnerable employment. On the other hand, in Malawi, 24.9 males and 26.6 females are involved in vulnerable employment. According to ILO (2010) majority of Malawians are what can be called the working poor, as over 80 percent of those engaged in agriculture, lack productive tools and meaningful returns from it (International Labour Organisation, 2010; National Statistics Office, 2013). This is very concerning as it appears that though majority are employed, their contribution to development is hampered.

In terms of sectors where people are employed, 64.1 percent with 58.5 percent of males and 69.9 percent of females are engaged in the agriculture sector. Agriculture has been cited the main backbone of the Malawi economy (Malawi Country Strategy Paper, 2012)**.** According to the International Labour Organisation (2010) about 40 percent of the Malawi population live below the poverty line, an improvement from the Malawi Demographic and Healthy Survey Report of the year 2004 where 52 percent lived below the poverty line. In terms of economic indicators of life expectancy, health and literacy, the Human Development Index Report for 2014, rated Malawi at 0.414 points ranking Malawi 174 out of 187 countries and territories (Human Development Report, 2014). This shows that although the poverty levels have gone down, there is still more to be done to address health issues, life expectancy and literacy. According to the National Statistics Office (2011), high prevalence of poverty is among females compared to their male counterparts (National Statistics Office, 2011). The prevalence of more females trapped in poverty for Malawi is not surprising, as this appears to be a trend in the sub-Saharan Africa region, leading to what United Nations (2010), termed that poverty in Africa has a female face. One way of escaping poverty is by empowering women, especially girls, through opening access and equity to education and employment opportunities, considering that they form majority of the population.

Fighting unemployment especially youth unemployment is also very critical, as a way of poverty alleviation (World Bank, 2015).

Subsistence farming appears to be the hub for most sub-Saharan Africa at 85-90 percent in the informal sector, while non-agriculture activities are at 45-65 percent (National Statistics office, 2012). TVET interventions are very broad and cut through a number of areas including agriculture itself. In a country like Malawi, where the majority of people, both males and females, are in agriculture, investments in TVET particularly technical education tailored to improving the agricultural sector would bring dividends. According to Africa Union (2014), TVET interventions in particular technical education should integrate agriculture to achieve meaningful gain, considering that agriculture is the backbone to the economies. In this case, TVET will inspire the nature of economic change to shape employment patterns and skill needs as well as incentives for skills development (Tabbron and Young, 1997).

According to International Labour Organisation, 2010, over 90 per cent of Malawians are engaged in informal activities. Despite the fact that Malawi has a small formal sector, about 11.3 percent are in the formal and 88.7 percent in the informal sector, Malawi economy stills experiences a skills shortage (TEVETA, 2009). This is not shocking considering that 86 percent of the population resides in rural areas while 12.8 percent resides in urban areas. Malawi therefore, still imports skills from outside to meet the demand. The Malawi Labour Market Survey, commissioned by TEVETA Malawi (2009), analysed applications for temporary permits to see demand, from the early 80's to the time of their study, they found that, 42 percent had professional certificates, 40 percent held a bachelors degree or higher, 7 percent had a masters degree, 11 percent high school certificates, and 0.17 primary school certificates.

While the welfare and healthy survey of 2005, indicated that the unemployment rate in Malawi is quite low at 1 percent, the same welfare and healthy survey found that youth unemployment stood at 16 percent in 2009. This status of youth unemployment is worrying considering that the youth form over 50 percent of those in the labour force (National Statistics Office, 2012). This means that employment issues in Malawi should not be approached following a one size fits all approach but should be tailored accordingly depending on the groups most affected. In this case, interventions

addressing youth unemployment could be paramount as they form majority of those in the labour force. It follows that a concentration on skills as TVET provides can yield dividends in the development of the nation. According to International Labour Organisation (2010) the formula used to define unemployment by National Statistics Office in Malawi is a fair method, compared to other definitions that have considered only 1 hour. Deraniyagala and Kalua (2010), advocates for the National statistics office definition and argues that, employment should not be considered based on an hour of work per week as this presents methodical discrepancies, that may bring a false picture of the actual employment or unemployment rate on the ground.

In terms of engagements with labour unions, 51 percent of those surveyed by the Malawi National Statistics Office (2013), indicate that they did not join trade unions because they did know about them. 22 percent, indicated that their organisations were not in any trade union. This is a concern as trade unions play a role in protecting people in employment.

2.1.2 Population

The official body for conducting population surveys is the national statistics office. Since independence, five population surveys have been conducted in Malawi. The 1966, 1977, 1967, 1998, 2008 population was 4 million, 5.5 million, 8.0 million, 9.9 million, 13 million respectively (National Statistics, 2008). In 2013, the population estimate was at 15.4 million (National Statistics Office, 2013), while estimates for 2019, show that the population of Malawi is expected to reach 19.1 million (Malawi Population Data Sheet, 2012). The Southern region has the highest population, followed by the central and northern regions. The population dynamics show that there are more females compared to males in the Malawi population (National Statistics Office, 2013). With only 4 percent of the Malawi population above 64 years of age, it is evident that the majority of the population consists of youth. When segregated based on location, majority of the population resides in rural areas. Based on the last census conducted in Malawi in 2008, the labour population 18-64 constituted 50.2 of the total population.

2.2 A description of Technical Education, Vocational and Entrepreneurship Training

In this Section 2.2, we present a preliminary analysis that will reveal and help us understand the research problem in its setting or context. To understand TVET, we looked at history of formal TVET in Malawi. We then described TVET and established the importance of evaluating TVET as our intervention. To carry out this task, we sought literature mainly from government of Malawi publications. Literature visited included; TEVET Policy, TEVET Act, TEVETA Strategic plans and other documents. Other strategic documents as Malawi Growth and Development Strategy, National Education Plan and Malawi Vision 2020 document were also visited.

The major challenge experienced with most Government publications except TVET Act, TEVET Policy and TEVETA Malawi is that TVET has not been explicitly mentioned in most strategic documents but rather mushed in or assumed in issues of higher learning (UNESCO:UNEVOC, 2012). For instance although the Malawi Growth and development strategy talks of youth employment or moving the economy of Malawi from predominantly importing to consuming nation which requires TEVET interventions, no clear strategies are mentioned on how TEVET will be engaged to meet these aspirations (Masanjala & Kafakoma, 2010). This agrees with Labour Market Survey 2009, that TEVET has been misaligned regardless of the fact that majority of themes in these strategic documents fall under functions, activities and skills related to TEVET.

Literature shows that the main reason why governments introduce TVET systems is for such systems to fight poverty and lead to development of its nationals. In Malawi, establishment of TVET as well as evaluating TVET interventions is justified. According to the Human Development Report (2014), Malawi ranks 174 out of 187 countries and territories in the world. With poverty rate at 50.3 indicating that almost 50 percent are below the poverty line there is alot of work to be done to improve welfare of Malawians. According to National Statistics Office (2011), high prevalence of poverty is among females compared to their male counterparts (National Statistics Office, 2011), furthermore, the youth are most disadvantaged, for instance, the youth not in education and not in employment or training account for 26 percent. Fighting

unemployment especially youth unemployment is very critical, as a way of poverty alleviation. The Human Development Index Report for 2014, rated Malawi at 0.414 points ranking Malawi 174 out of 187 countries and territories based on the indicators of life expectancy, health and literacy. This shows that there is a lot to be done to address health issues, life expectancy and literacy. The national long-term development strategy for Malawi (Vision 2020) envisaged the total elimination of poverty by the year 2020 and accorded high priority to the education sector as a means to bring about social and economic transformation. TVET is therefore a tool that can be used to curb out poverty.

The formal TEVET sector in Malawi can be traced back to the late 1950's when technical colleges were established. Since its formal inception, TEVET sector had faced daunting challenges due among others, limited support from the government. For instance while other sectors were growing as basic education, TEVET was left aside. According to the Malawi labour Market Survey, since 1956 to the present, Malawi has had seven public technical colleges (Labour Market Survey, 2009). As a consequence, the TEVET sector has faced challenges as outdated curricula, supply programmes rather than demand programmes, poor technology, lack of qualified teachers and poor infrastructure (Malawi labour Market Survey, 2009; Kufaine, 2014; UNESCO UNEVOC, 2011).

At the dawn of the 1990's, there was effort from governments, as seen in the wave of TVET reforms which happened in many African countries and even beyond Africa. The main thrust was the introduction of the Competency Based Education and Training, also referred to as Outcomes learning (Government of Malawi, 2013). Apart from learning, emphasis was placed on acquisition of competencies. The idea was to make the TEVET system more flexible to demand (TEVETA Strategic plan, 2007-2012).

In Malawi, these reforms were also ushered. With the Malawi case TEVET reform constituted a number of policy reforms as well as change in institutional frameworks. In terms of institutional frameworks this included the establishment of the Department of Technical and Vocational Training (DTVT) sitting under the ministry of Education, Assessment and Certification Unit at the Malawi National Examination Board

(MANEB) and the establishment of the Technical Entrepreneurial Vocational Education and Training Authority (TEVETA).

TEVETA was given the mandate to regulate and promote TEVET sector through TEVET act as well as TEVET Policy. Through the act, TEVETA was given mandate to collect the TEVET Levy, Certify and regulate the Competency based mode of training. Currently, the TEVET market in Malawi is offering multiple qualifications, the Malawi Craft, City and Guilds, Malawi TEVET also called The Competency Based and Education System which is under TEVETA. This means that if poverty is to be addressed, there is need to find solutions that can uplift these youths out of this trap of poverty. Employment creation is one of such strategies that can transform the lives of these youth.

Although TEVET was successfully reformed in 1999 by act of parliament, and given the TEVET act and TEVET policy, under the Authority of TEVETA, there are still challenges being faced in this sector. Critical to provision of TVET are issues of; access, equity, relevance, quality. Critical to provision of TVET are issues of; access, equity, relevance, quality. According to the TEVET Policy (2013), Malawi presents the lowest numbers in access at 30 per 100,0000 compared to other African countries such as Mauritius at 1561 and Mozambique at 130 per 100,000. Kalua and Deraniyagala (2011) note that Malawi has not only failed to meet the SADC protocol enrolment but that it suffers from high cost of TVET including absence of Monitoring and Evaluation availability of skills necessary to support the economy. In terms of quality issues, there is still a lot of work to be done.

When the TVET sector was maligned, access into technical colleges was sorted by the mushrooming of private colleges to meet demand for skills. One aspect to ensure quality in TVET, is by accrediting and registering training providers (Nkanza, 2003). According to Nkanza (2003) upholding quality ensures that trainees produced in the system are able to encounter challenges of the labour market with improved knowledge, skills and attitudes. Failure to uphold quality means, a big number of colleges, both private and public, operate without proper frameworks and standards leading to poor quality training (TEVETA Labour Market Survey, 2009).

However multiplicity of curricula, ineffective training provision, training not relevant to needs of industry all leads to lack of skilled workforce (TEVETA Strategic Plan, 2007-2012; TEVETA Malawi, 2009). As a result, although TEVET is supposed to provide graduates that are employable, both for wage employment or self employment, the challenges faced inhibit a match of graduates with skills, knowledge and attitudes towards what the industry requires or what makes one employable (TEVETA Malawi, 2009).

In our focus for TVET, we realised that although studies on TVET have been informative on a number of fronts, there are certain gaps that can be observed. In measuring TVET, we want to understand factors that influence employability of TVET graduates. Our observation is that most studies conducted in Malawi focussed on general education rather than TEVET specifically. As a complement, our study wants to look at factors in TEVET, guided by the capability approach.

We will explain factors that affect duration between graduation and first employment as these are key to understanding employability of graduates in TVET. More to this we are interested in finding out, whether TEVET graduates initially get employed in professions that match their training? This also helps us gauge employability. Further, we are interested to find out whether although employed, if these graduates are employed in areas of their training. Past studies, such as Khandu (2014), have pointed out that employers are keen with employable graduates, this study goes further to check what employers look for before hiring TEVET graduates?

2.3 Methods, data, findings, and conclusions studies on and evaluations of graduate employability

In Section 2.3, we discuss past and current studies that have attempted research similar to our research. This Section is divided into three main Section. Section 2.3.1 discusses past and current quantitative studies on employability and TVET. Section 2.3.2 discusses past and current qualitative studies on employability and TVET. Section 2.3.3 discusses past and current impact evaluation studies on TVET and employability. In so doing, we articulate the methods employed, data used, findings and conclusions of these studies.

2.3.1 Past and current quantitative studies on employability and TVET

Chandrakumara (2015) conducted a research focussing on modelling employability in Sri Lanka using Binary logistic regression. The aim of the study was to establish the determinants of employability of new graduates in Sri Lanka. The study employed quantitative methods, using binary regression to arrive at the main objective. For analytical purposes the study used primary data while secondary data helped in deriving research questions as well as research design. The questionnaire asked for demographics and for the level of soft skills graduates possess when they were awarded their degrees.

A survey using questionnaire was employed targeting 184 randomly selected employed and unemployed graduates using binary logistic regression. Level of employment was recorded as either employed or not employed and this was the dependent variable, and the explanatory variables were such as gender, degree type, hard skills and soft skills. Key findings and conclusions were that gender and sector had no relationship with employability, that is, was not important in obtaining a job. They also noted that different types of soft skills as well as different types of degrees had different influences on employability. In conclusion the study noted that the findings were important for higher education providers, students as well as industry. Demographic factors were also seen as crucial in attaining full time jobs. The study recommended for enthusiasm un the graduates as well as, noted that soft skills, hard skills and social capital are not equally important for all jobs, and hence depending on the field one is going, there is need to emphasise on what is applicable. The theory employed in this study was that when skills are embedded in an individual, the demand for them in the competitive labour market increases.

Trichkova (2014) conducted a study on capability perspective on employability of higher education graduates in Bulgaria. The study used a cross national survey. Analysis focussed on people from 25 to 64 years who had tertiary education or who were employed. This study interpreted its findings using the capability approach by Amatya Sen. The study tested the following hypothesis: Graduates from different degree programmes and fields have different employability, and another hypothesis

was that employability varies across different industries and countries. Data was measured using the Ganzeboom and Triemens 1996 international social economic index which measured occupation index. Vertical job mismatch was also computed. Data was analysed using OLS Regression and Binary regressions, where the researcher computed four models. The first model had different fields of study as dependent variable and age, sex and social economic status as control variables. The second model had different types of tertiary education as dependent variable explained by gender, age and socio economic background. Model 3 and 4 used binary logistic regression to find out whether graduates were vertically mismatched or not.

The conclusions of the study were that there were differences in occupational status by fields of study. The odds for graduates with higher education were such that they were less likely to be vertically mismatched compared to those who finished shorter tertiary programmes. Vertical job mismatch was common between graduates 25-34 years of age in all countries studied. The study also found that there were inequalities in the six countries based on socio economic status. Higher economic status also added advantage for graduates employability. In conclusion the study noted the importance of conceptualising employability as a capability as it captures such as social injustice, quality and context.

Jackson (2014) conducted a study on factors influencing job attainment in recent bachelor graduates: Evidence from Australia. The objective of the study was to test a model for full time job attainment. A quantitative strategy using a course experience questionnaire was used. The dependent variable was job attainment within the first six month on full time basis. The independent variable for the study was skill development, graduate identity, course quality, work experience, degree related factors, demographic characteristics and other factors, job search strategies. 28, 146 graduates for 2012 year and 28,246 from 2011 Australian national data were chosen.

Data was analysed using binary logistic regression which was conducted in Statistical Package for Social Sciences (SPSS) software. Findings from the study indicate that skills development presented high odds for full employment up to 19 percent. Positive graduate identity increased odds of being employed on full time by 10 percent. Age

mattered with mature graduates having higher chances for full employment. Job strategy searches had the odds of employment up to 45 percent to full employment.

Sarkodie, Mensah, Anarfi and Bosiakohi (2014), conducted a study on education and employment outcomes in Ghana using the capability approach. The aim of the study was to estimate differences in opportunities to achieve jobs within and between education endowments (where between endowments referred to differences in education attainment and within endowments referred to people with same education brackets but different context, households and conversion factors. Education endowments was the dependent variable that was dichotomous, and was regressed with context (ethnicity, religion as its variables), Household (type of dwelling, use of ICT) and individual conversion factors (gender, age and marital status). The research strategy was quantitative and the design cross national. The study used a nationally representative sample of 8, 687 households containing 37, 128 members. Data was analysed using Multinomial Logistic Regression analysis. Findings of the study indicated that education is not enough to erase inequality. The study also noted that there are different endowments based on the same education brackets.

Kazilan, Fitrisehara, Hamzah, Ramlah and Bakar, Rahim (2013) carried out an assessment to identify employability skills for Vocational and Technical Education Institutions in Malaysia. The study employed random sampling. Data was collected using a 40 item questionnaire that was adapted from the Secretary's Commission on Achieving Necessary Skills report. The findings indicate that overall, the trainees had moderate level of employability skills (M=3.88: S.D=.49). The study put the following as necessary skills for employability: Basic skills, Informational skills, source skills, thinking skills, technical and systems skills, self qualities.

The first hypothesis checked whether employability skills of trainees from the two institutions did not differ, the results were that they did not [t (848) =.515, p>0.05], and that the employability skills were moderately high. Second, the hypothesis tested whether employability skills of trainees did not differ as a function of gender, the findings [t (848) =-.138, p>0.05] showed that they do not differ. The third hypothesis tested whether employability differed based on programme enrolled in, and the results showed that employability skills of trainees differed as a function of program enrolled [F (4, 845) =2.51, p=.04]. For instance, trainees enrolled in the electrical programme

had lower mean compared with those in the automotive program who had the highest mean score. The fourth hypothesis tested whether, employability skills of trainees differed as a function of work experience and results indicate that their employability skills were almost similar [t(845) = -.536, p>0.05]). The study recommended that TVET institutions must enhance students' employability skills to meet the demand by employers if development goals are to be met. They recommended the importance of tailoring Curricula to meet needs of the nation.

Cho, Kalomba, Mobarak and Orozco (2012), conducted an evaluation of the impact of apprenticeship training to promote self employment on the social and economic wellbeing of HIV/AIDS vulnerable youth in Malawi. The study was quantitative in nature, and used a randomized controlled trial on 1900 youth school drop outs who participated in selected occupations. The results showed that training had no impact on general employment or business start-up. Training however improved the knowledge, skills and attitudes of the apprentices who participated compared to those of the control group. The training further, improved their psychosocial wellbeing and delayed marriage and childbirth on the part of the females. The findings further showed that men were more entrepreneurial compared to their female counterparts.
Among reasons for failure to achieve successful labour outcomes included, quality of the training, the delivery of the programme (master craft persons were not well equipped to transfer skills required for one to be self employed and no start up kits).

Paranjape (2007) conducted a study on the determinants of employability of graduates, a case study of University of Mumbai. The aim of the study was to create an index of determinants of employability. The study utilised quantitative strategy, using binary logistic model. Employability was a dependent variable while gender, region, faculty, social economic backwardness and total cost of education were explanatory variables. Both parametric and non-parametric tests were ultilised. A survey targeting a stratified sample of 763 graduates drawn from 16 colleges was used. The key findings were that employability was significantly different across region, faculties, social and economic divisions and cost of education. Levels of education attainment corresponded well with indicators of substantive employment. The odds of high employability decrease with jobs that require lower academic qualifications. Gender difference has an insignificant influence on odds of high employability.

Moreau and Leathwood (2006), conducted a study on graduates' employment and the discourse of employability: a critical analysis. The method employed a longitudinal study. Data was collected through a telephone survey and semi-structured interviews. The findings of the study indicate that factors influencing employability include gender, social class, ethnicity, disability, age, and institution/ university attended. Apart from factors discussed, the study found gender as a determining factor. The proportion of men on a graduate-level job was much higher than that of women (six men out of 15 compared with only one woman out of 17). Occupation biases were also observed, for instance, more information technology male students were absorbed compared to females.

Paleocrassas, Rousseas & Vretakou (2002) conducted a study to explore the importance of vocational education and aswell understand which of the four streams of upper secondary curriculum. The survey used a cross-sectional design and was conducted 9 years after graduation. The results of this study showed that employment outcomes in occupation specific were not equal between males (4-6 percent unemployment) and females (14-18 percent), meaning that men tended to be well matched in most of the occupations related subjects compared to their female counterparts. On the other hand, the study found that employment rate for graduates was 23 percent compared to non graduates at 9 percent.

2.3.2 Past and current qualitative studies on employability and TVET

Raimi and Akhuemonkhan (2014) carried a study aimed at finding whether TVET impacts on employability and national development in Nigeria. The study employed a qualitative research method, through a survey using purposive sampling techniques. Results from the interviews indicated that 50 percent of TVET graduates are not better placed compared to their non TVET counterparts. In terms of overall impressions on TVET, 85 percent had positive impressions while 15 percent had negative impressions on TVET. Overall, the findings of the study were that TVET has limited impact on employability. Second, that TVET effectiveness has been hindered by a number of

environmental factors including funding, synergy with industry, expertise, perception of TVET, policy implementation and harmonization of curricula. The study advocated the human capital theory as a requisite theory for TVET. However, for this particular study, in interpreting its findings the study used the transformation learning theory, where individuals through a process of problem solving learning experience, transform their view points and acquire new views points. The study advocated the instrumental, impressionistic, normative and communicative approach as a way that can stimulate TVET to effectively inform employability.

The findings of this study show that although TVET is a tool for employability, it has failed to do so and recommends the need for policy makers to improve the level of funding, harmonise curricula, improve expertise and perception of TVET. This is in line with literature from the Malawi setting, which show the need for more investment, funding and harmonization of curricula as ways of boosting TVET. However, the findings in this study show similar challenges as faced elsewhere, these results cannot be generalized to other settings and apply to the context under study.

Khandu (2014) conducted a study on TVET generic employability skills. The study employed a non-probability, purposive and quota sampling. A questionnaire piloted in 2001 on a sample of TVET teachers and students. Data analysis that consisted of rating scales included frequency tabulations, percentages and mean and mode ratings. Open-ended qualitative questions responses were content-coded. Ethical considerations such as, anonymity privacy and the right to withdraw were taken into account. The study showed that most respondents (more than 80 percent) agreed that industries require TVET graduates who possess a broad range of employability skills rather than only specialized or technical skills, and proposed that employability skills should be imparted in TVET institutions.

According to employers the following are considered critical factors; problem solving, understanding how systems are linked, ability to work in teams, customer focus and motivation. Training providers listed the following: problem solving, communication, creative and innovative thinking, ethical behavior, self confidence, practical focus, motivation and adaptability to change. Trainees listed the following: study and work skills, self confidence, practical focus and motivation. Of these skills, the study noted

that the following skills were rated as being taught poorly; communication, conflict solving, collecting, analyzing and organizing information, skills in information technology and time management. This points to the need of not only realising factors that influence employability, but that they should also be delivered to the students well, in order to bring impact.

Pongo, Effah, Owusu, Obidinnim, Sam (2014), conducted an evaluation study on the impact of TVET on Ghana's Socio-Economic Development: A Case Study of the Integrated Community Centre for Employable Skills (ICCES). The study used qualitative and inferential data. Quantitative aspects included other parameters like age, sex and gender. The study used the case study design. Two regions Ashanti and Brong Ahofo participated. All thirteen centres where the ICCES project are operational participated, and a total of 296 respondents of which 34 percent were staff and 66 were students participated. Data was collected using three tools, questionnaires, interviews and observations. The results indicated that the economic situation of the community before the start of the ICCES programme was bad (M= 1.61), while situation after the training programme was good (M=4.20), a follow up question also showed that the livelihood status of the neighbour was bad before the intervention (M=1.62) and it improved after the intervention (M=4.20).

2.3.3 Past and current impact evaluations and labour market surveys

TEVETA Malawi (2009), commissioned a labour Market survey that was conducted in 2009. The aim of the research was to establish the external efficiency of TVET from graduates and employers, as well as establish the demand for TVET and how TEVETA can promote TVET. The study used both qualitative and quantitative approaches. Under quantitative aspects, four sub studies were conducted; formal graduate tracer study, formal sector employer skills demand survey, informal sector employer survey and informal sector employees survey. The formal sector employer demand survey, targeted 300 companies and reached 258 organisations representing 86 percent response rate. The sampling frame was obtained from the National statistics Office in Zomba. The sample was derived using multi stage random sampling. Under the

graduate tracer study, 450 graduates were targeted, with 425 responding, representing a 94 percent responded. The sampling method used was the snowball technique.

To measure external efficiency, which in this study refers to the period TVET graduates take to get employment compared to their counterparts, a number of parameters were used. The first was relevance of training, where a high correlation was established (r= 0.927, p=0.00). The second parameter looked at duration to get employment, 76 percent were in wage employment, 5.1 percent were in self employment and 8 percent were unemployed. Of those in wage employment, 50 percent of them indicated that they got employment immediately while the remaining 50 percent got employment within the first six months of looking for it. In terms of vertical mobility, 32 of the 195 had been promoted on the job. In terms of job stability, 60 percent had not changed their jobs. In recommendation, the study recommended harmonization of qualifications, encouragement of entrepreneurship, review of funding, teachers orientation on the competency based education and training. It was envisaged that if these parameters are correct, employability of graduates will be enhanced.

The technical education and skills development authority (TESDA), conducted an evaluation on the impact of TVET programmes on employability of graduates. The study covered 216,940 students. The TESDA study used a simple random method to select participants. Personal interviews using structured questionnaires were used.
The results indicated that education attainment influences employment. The study also found a statistical significant relationship between certification rate and employment rate. Furthermore, the study noted that 80 percent of graduates who were employed were in wage employment. High wages for TVET graduates (php 8,885) compared to their counterparts in other fields (php 6,136) on average per month.

2.3.4 Summary for the past and present quantitative, qualitative and evaluation studies

In summary, from quantitative studies, literature suggests that there are varied factors that influence employability of TVET graduates. In most studies reviewed

employability was viewed as the dependent variable, and the following were viewed as explanatory variables; age, sex, education attainment, fields of study, social economic status just to mention a few. In terms of the returns from education, literature suggests that university education brings more returns followed by vocational education and then primary and secondary education.

The summary from the qualitative studies is that the provision of TVET in particular technical education is a necessary in empowering and improving workforce capacity and livelihoods. TVET is seen to increase access to skills acquisition and empowerment for productive employment. Furthermore, most studies visited indicated better returns for males compared to females, in terms of employment, wages and occupations (Kazilan *et al*, 2013; Cho et al, 2012; Moreau & Leathwood, 2006). This literature suggests the need to develop strategies that will encourage access into TVET for women as well as enable them get better returns from TVET. The summary from evaluation studies indicate that TVET has potential to contribute to development, however, there is need to address underlying challenges as curricula, no harmonisation of qualifications and funding challenges. The gap observed in our past and current studies is that most of the work cited was not conducted in Africa, and so the context may be different in terms of the analytical aspect.

2.4 An Introduction to the study of development

Here we situate our research in its broad field of study, development. TVET and especially technical education are interventions established by governments to create employment towards achieving overall mandates of governments, development of their people and institutions. We describe development in Section 2.4.1. In Section 2.4.2, we discuss the purpose of development, followed by Section 2.4.3., which discusses the components of development. In Section 2.4.5, we discuss the processes in development and 2.4.6 discusses established facts, while 2.4.7 discusses key issues and debates in development.

2.4.1 Describing Development

While development is a term widely used, there is no agreed definition for it. Todaro (1997) and Mandenge (2013) define development as a multidimensional process involving changes in social and economic structures. On the other hand, Gorun and Gorun (2013) expands the term development as an opportunity to realise human options in economic, political, social and cultural aspects. Although these definitions vary in scope, a consensus exists that development involves a process of change in peoples lives in its various facets (Sumner and Tribe, 2008). This understanding is aligned with the view of Emmett 2009; Robeny, 2007 and Amatya Sen who argue that development involves capabilities to do and to be what people want and to be free from any sort of deprivation.

As a concept, development is a multi, inter and cross-disciplinary field. While it involves social, political, economic, cultural and environmental aspects, Potter (2014), notes that development involves such disciplines as economics, international relations, politics, urban and regional planning, geography and sociology, which then come to such as development economics, politics of development, development geography and sociology of development.

Development covers both theory and practice (Potter, 2008), thus ideas about how development might or should happen, as well as real efforts to put development into practice. Sumner and Tribe (2008), have described the practical aspect of development as imminent, here, intentional efforts to change the world are implemented. While the practical side of development is key, so is the theoretical side. In terms of theories, development is either normative or positive, that is, development theories can generalise what ought to happen. Development theories can be in the case in the past. The normative cap of development argues that development should not only aim at analysing the world but rather change the world in the political, social, economical, environmental and cultural spheres (Potter, 2008). Development strategies deal with practical paths where governments and international organisations develop ways of changing the world. Development ideologies reflect in goals and objectives aiming at reaching the development agenda.

TVET in particular technical education in this regard, reflects an imminent development strategy where governments wishing to raise levels of their citizens, and increase employability have introduced TVET. These policies take in various forms, UNECA 2012 has discussed the following policies, basic minimal policies, structural policies, targeted policies and innovation policies. Technical vocational education is under structural policies (UNECA, 2012). Public policy therefore, plays a big role in determining success or failure of interventions (Wotela, 2016). Evidence, suggests that if well implemented, TVET coupled with good policies that are well implemented, has the capacity to contribute to decent and productive work that promotes growth and transformation leading to socio-economic development.

2.4.2 The purpose of Development

Based on this understanding, the purpose of development is multifaceted. Martins (2007) argued that the purpose of development is to eradicate poverty. Herath (2009) argued that the purpose of development is to provide peoples material needs, that is, food, shelter, water, sanitation, and non material needs, freedom of expression, movement and human security. Mandenge (2013) argues that the purpose of development is to enable a liveable life for community members and the possibility of societal regeneration. Robenys (2007) to enhance quality of life and remove obstacles in people's lives so that they have more freedom to live the kind of life that, upon reflection they have a reason to value. Looking at these arguments on purpose of development, it is clear that development must be looked at as not only as an end to attain improved quality of life, but rather as a means to it, in all aspects social, political, economic, cultural and environmental.

According to the World Bank Group (2015) through the global monitoring report, about 14.5 million people were in extreme poverty in 2011. The same report indicates that sub-Saharan Africa has 47 percent of its population in extreme poverty. According to the Demographic and Healthy Survey (2009), 40 percent of the population in Malawi live below the poverty line. According to the World Bank (2015) the poverty alleviation target is to reduce poverty to 3 percent by 2030. The World Bank (2015) has noted that Malawi including five other countries from Southern Africa and South Asia, are earmarked not to meet this target and are

estimated to have poverty levels of not less than 30 percent by the year 2030. With predictions that show that Malawi is not doing well, development interventions are at a critical aspect.

The focus on poverty alleviation is called for, as poverty affects the welfare and wellbeing of the society (Muradzikwa *et al*, 2007). Development interventions are very crucial, as at its core is to improve the welfare of people and their living conditions. Poverty is multidimensional, as it is not just about levels of income but has political, social, psychological and moral elements. Seers (1979) in Haslam, Schafer & Beaudet (2012) presented a more comprehensive list on the purpose of development: adequate income, employment, income distribution, education, political participation and national autonomy.

2.4.3 Major Components of development

As noted in Section 2.4.1 development is multidimensional, inter disciplinary and cross Sectional. For development to be complete, various components including social, political, economic, and cultural need to be considered. For a long time, in measuring development, focus was on economic development but over time, political, social, cultural and ecological aspects have become included (Acemoglu and Robinson, 2012; Roseland, 2000, Watson, 2012; Sachs, 2005). Sen (2001) argues that there is an interplay in these components of development, that is, politics may influence economics and so on.

Political: According to Hagopian (2000), political development entails growth in the capacity of society to organise for political action and for states to govern. Political development entails good democracy, accountability, legitimacy. According to Moore (2013) the role of politics at a micro level is to bring about, public value, legitimacy and accountability. At a macro level, Fukuyama (2011) points to the need of a functioning state, rule of law as well as accountability. Their argument is that a lack of these contributes to development failure. For Africa to attain development there is need for the state to be effective.

Social- this concerns itself with welfare. Countries should invest in education, research and infrastructure (UNECA, 2013). According to UNECA (2013), social development entails improvement in welfare of the citizens.

Environmental-UNECA (2013) that matters of the environment are very important, and so are cultural matters. Sustainable development- posits that development should not be seen only from an economic viewpoint but through other aspects as well. Economical- was initially used to define only economic measures as gross domestic product, national income, and related. Many countries achieved growth but issues of poverty and inequality were not resolved so the meaning was broadened. Right now the definition of development is much broader.

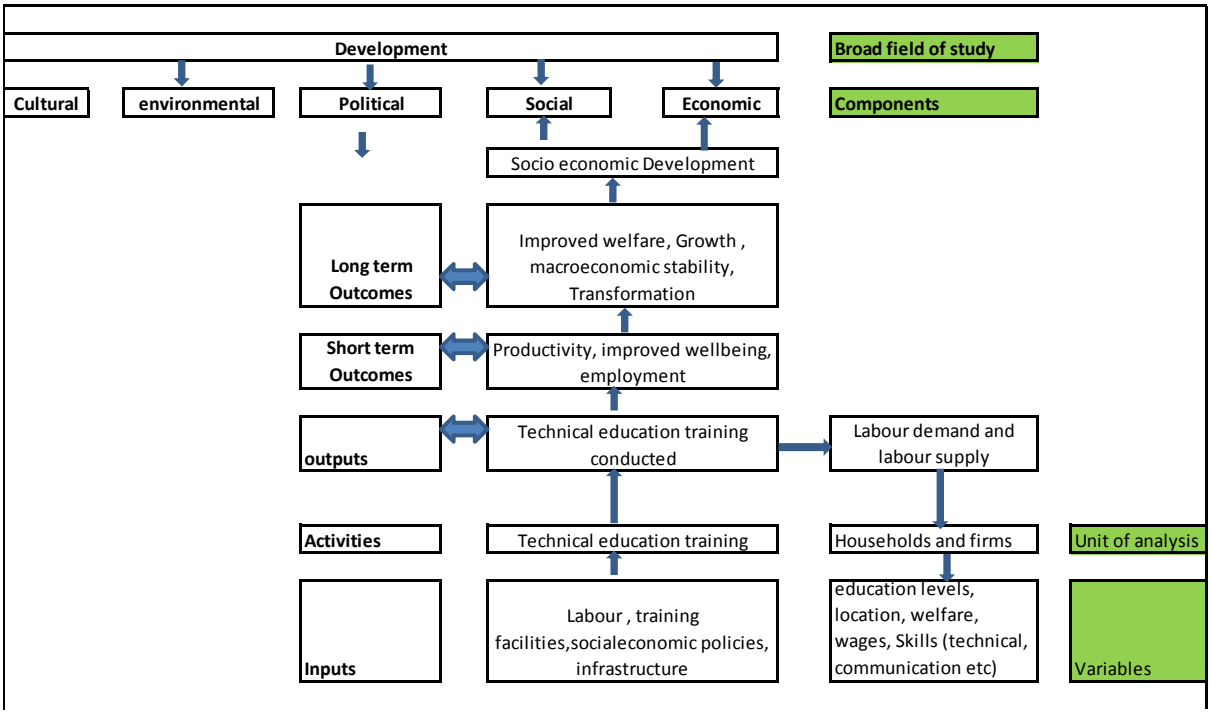


Figure 2 Showing processes in development in relation to Technical Education
Source: Author

Figure 2 shows the interplay between development which is the broad field of study and its components. As inputs in the system, labour, infrastructure, and trainers are put in the system. As outputs, training in TVET is conducted, which bring about short term outcomes of improved skills, knowledge and attitudes. In the long term, the TVET trainers and graduates, gain into employment, self or wage employment. Through employment, they are able to meet their needs, and their welfare is improved. Through

employment, UNECA (2013) argues that the workers contribute to growth, welfare and growth contributes to socio and economic development.

2.4.4 Established facts in development

It is an established fact that development uses ideologies, strategy and theories (Potter, 2014). As a strategy, development looks at ways which states move nations from poverty to prosperity. It is an established fact that indicators of development were for a long time, economical, such as gross domestic product. Right now, there has been expansion to include ones like the Human Development Index.

Development has moved from economical to include social, political, environmental and cultural indicators. As a process it is established that development requires all of these components in order to be complete. It has also been established that development is multidimensional and inter disciplinary economics that relies on scientific methods (Muradzikwa *et al,* 2007). Economists try to understand the social world through use of theories, principles, models, indicators, graphical expressions and assumptions (Rensburg *et al*, 2008).

2.4.5 Key issues and debates in the study of development

As a term, development is contextual and dependent on the epistemological, ideological and methodical orientation. This presents various angles upon which people view and understand development. This would be why there are various theories including modernisation, dependency, Marxism, neoliberalism and developmental states (Da Beer and Swanepoel, 2000).

While others view development as immanent and imminent process, others have insisted that development involves people in the decision making processes (Clark, 1991). The two types of development are curative and preventative development. Preventative development is to remove impediments to just development and curative development is the conventional work done in developmental initiatives. It follows therefore that development processes are mostly for poverty alleviation.

There are debates on what should constitute measures for indicators of development, such as the Gross Domestic Product (GDP), Human Development Index, Happiness Index, Governance Ratings etc. Nathan and Andrews (2009) have argued that development is much bigger than issues concerning GDP alone. They have quarried that focus on development, should be on the participatory approach to development and pro poor (Northover, 2012). In this approach, it is acknowledged that the top down approach to development does not yield success, participation from the people themselves, that is a bottom up process is favoured (Neil and Binns, 2003).

2.4.6 Key Issues

According to Da Beer and Swanepoel (2000) key issues include rural and urban poverty. According to Nel and Binns (2003) the key issues to focus on when looking at development are the official unemployment rate, the infant mortality rate, life expectancy rate, capacity building and food security. The challenges lay in the fact that funds are not enough to achieve the desired results. There must be implementation of integrated and sustained programs for development to work.

2.5 Key development variables for measuring employability of graduates

In this Section 2.5, we present and discuss key attributes and variables in development that are of interest to our study. This Section is closely linked to 2.4, the broad field of study. We thus link our presentation in figure 2, and expand it with figure 3 to show interrelationships between discussing our dependent and independent variables. Figure 3, shows our conceptualisation from TVET training, to employability, to achievement of capabilities all the way to social and economic development.

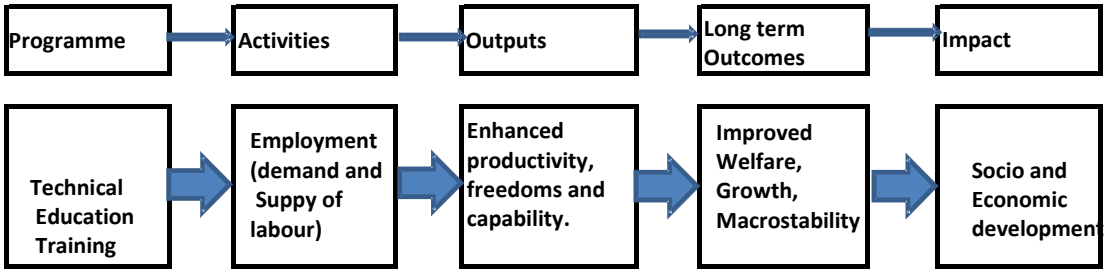


Figure 3 Showing variable oriented programme
Source: Author

Using two observation units, companies that demand labour as inputs in the production system, and technical graduates who supply labour, data on suggested variables will be sought. Using two different questionnaires containing attributes as demographics, as well as labour demand and labour supply variables, we will be able to address our research questions.

2.5.1 Discussing the Dependent Variable

The dependent variable in this study is employability. For binary logistic regression, this variable employability has been defined as a dichotomous variable based on duration to employment. The graduates that were employed within the first six months would be coded 0 and will be viewed employable. The graduates recruited after 6 months will be coded 1 and will be viewed not employable. This variable will be used to discuss the first research question covering the first hypothesis; employment is not dependent on duration after graduation.

However, the second definition in the study is that graduates will be deemed employable if regardless of time taken to get employed, they get employed in fields that match their training. This will address second and third research questions that look at initial and current employment trends and match of training.

The choice for employability, stems for development indicators that have been developed for Africa. Under Socio economic development, UNECA has placed focus on welfare, human capital development and entrepreneurship (UNECA, 2012). Under the economic aspect, UNECA has placed emphasis on transformation, growth and macroeconomic stability. To achieve these development goals, UNECA (2012) discusses key areas that are liable, and among them is employment. As our study is focussing on factors that influence employability, employment has been selected as the key in deriving our attributes and variables.

The use of employability as dependent variable in a study similar to ours, is not suprising. Jackson (2015) conducted a study on factors influencing job attainment in recent bachelor graduates and employability was a dependent variable measured by the ability of graduates to secure a job within the first six months after graduation.

Chandrakumara (2015) in his study of modelling employability in Sri lanka used employability as a dependent variable. Paranjabe (2007) also conducted a study in determinants of employability and employability was the dependent variable.

2.5.2 Discussing the Independent variables

There are a number of independent variables that have explained employability of graduates. Among them including demographic characteristics and other attributes. Some of the independent variables that have been used in explaining employability include; gender, age, ethnicity, skills development, salaries, field of study, education attainment, education outcomes, location, context, work experience (Chandramara, 2015; Paranjape, 2007; Jackson, 2014). In our study our focus is on the following variables; age, gender, skills (Technical, vocational, basic skills, leadership, entrepreneurial and education attainment).

Skills: It is highly acknowledged that skills in technical education are important contributor to economic growth (Malawi Government, 2013). According to Aguinas and Kraiger (2009), lack of skills affect employees morale and organisations profitability and productivity. According to Farjad (2012) and Dessler (2005) skills provide increased performance and effectiveness on those that are employed and on their jobs.

Demographic factors (age and gender): Among demographic factors, age and gender are being discussed in this research. There are varying outcomes on the role of this factors in influencing employability. In a study by Jackson (2015) and Moreau & Leathwood (2006), age variable was seen to have influenced outcomes, with more mature graduates getting more noticed in the labour market compared to the younger ones. In terms of gender, a study by Chandrakumara (2015) and Kazilan *et al* (2013) gender had no relationship with employability. On the other hand in a study by Paleocrassas *et al* (2002) effects on gender were perceived with males displaying a better match in the labour market compared to females.

2.6 Frameworks for interpreting employability of graduates

In this Section, we introduce the explanatory framework for our research.
Using literature reviewed in Section 2.3 on past and current studies and (Section 2.4) the broad field of study and attributes, we describe and summarise the development, purpose, advantages and disadvantages of these theoretical or explanatory frameworks. Each development theory addresses various components of development- political, economic, social, cultural and environmental. Based on this, not one development theory can comprehensively cover the area of development and development interventions comprehensively. Section 2.6.1 to section 2.6.5 discusses various theories in development. Section 2.6.7 and 2.6.8 discusses the theories that have been employed as explanatory theory for our research.

Theories of development and employability

2.6.1 Linear Stages of Growth Model

The linear stages of the growth model are attributed to Rostow and Harold Domar (Todaro, 1994) and were propounded in the 1960's. Both Domar and Rostow postulated the need for savings and investment as catalysts for moving the economy in various stages towards development. This theory contributes towards the importance of saving and investing which is a requisite for economic growth. The drawback with these theories is that although investment is necessary, by itself it is not sufficient. This is more apparent in developing countries like Malawi, which lack institutional, structural and innovative capacity to be able to convert their capital into growth, which presents challenges in applying the theory.

2.6.2 Structural Change Model

This theory was presented in 1955 by W. Aurthur Lewis. Also referred to as the two sector model, this theory argued for a structural change in an economy from agriculture sector to manufacturing sector. This theory argues that the marginal productivity of labour in agriculture is almost zero. It also assumes surplus labour in rural areas and argued that this labour would be fully employed in urban areas. The main flaw with this theory is its assumption that rate of employment is equal to the rate of capital

accumulation. In Malawi, where Agriculture provides employment for majority of the population, it is important to find ways that would bring economic gains.

2.6.3 International Dependency Models

The international dependence revolution includes; neo colonial dependence model, false paradigm model and the dualistic development thesis. Neo Colonial Dependence argues that unequal power relations between the developed and developing countries have made it difficult for developing countries to blossom. The multinational corporations and aid groups have also been seen to serve their own interests. On the other hand, the False Paradigm theory ties the failure of development efforts in developing countries, to use of models and approaches that are suitable and workable to the west and not meaningful to developing countries. Dualistic Development theory looks at coexistence of various groups in the society. It argues that inter-relations of these groups most of the time widens the gap rather than reducing it.

2.6.4 Neo Liberist Free Market

This This theory argues that free trade is critical for economic growth. It champions for privatisation and limited government involvement in the economy. The drawback with this theory is that the Structural Adjustment Programmes did not work for most developing countries. This theory disproves Keynesian theory, which argued that governments should intervene in the economy to bring about full employment. (Muradzikwa et al, 2007). According to Keynes, the government can boost demand by increasing its spending, and in economic booms, the government can reduce its spending, in so doing managing the level of demand (Muradzikwa et al, 2007).

2.6.5 New Growth theories

This theories favours public policy as key in driving policies that encourage private investment that drives economic development (Todaro, 1994). This theory is critical of the neo classical theory and their free markets. This argues for investment in human capital, which includes education.

Explanatory frameworks relevant to our study

2.6.7 Capability Approach

The capability approach is a development theory that is attributed to the 1988 Nobel Lauret, Amatya Sen. It was conceived in the 1970s but gained momentum in the 1980's and ascribes to describe development from a multi dimension angle rather than an economic one (Kremakova, 2014). The main thesis in Sens argument is that development should be seen as real freedom people enjoy and reason to value (Sen, 1988). While acknowledging that economic growth is important, Sen argues that it should be seen as means to expanding freedom for people to live a life they reason to value (Alkire, 2002). Sens theory is thus an alternative to overemphasis on economic measures of poverty (Fogues, 2014).

Sen's work cuts through theoretical, practical and philosophical dimensions. Rather than focussing on utility and commodity, Sen had his focus on characteristics in peoples lives (Robenys, 2005). This has necessitated some important terminology in relation to this theory. The issue of capability, freedom, function, agency, conversion factors and deprivations are all terms associated with capability approach. In Sens word, capability refers to various options in which a person can choose so as to achieve a life they reason to value (Sen, 1999). Functioning relates to the being's and doings that a person values (Robenys, 2005). Agency relates to people participating in development agenda and be part of their own solutions. Conversion factors relate to ability to transform resources into variable outcomes. They can be personal, social and environmental.

To Sen, the main purpose of development is to remove barriers and bring about instrumental freedom including political freedom, economic facilities, transparency guarantees and protective security (Sen, 1999). Sen's thesis therefore departs from such approaches as utilitarian and Marxist which looks at subjective fulfilment of desires (Northover, 2014 in Desai and Potter, eds).

The approach therefore has been ultilised in a number of fields including the labour market, education, gender life expectancy, literacy levels (Todaro, 1994; Kremakova,

2014). This can be seen from such measures as the equality measurement framework as well as the human development framework which look beyond economic indicators.

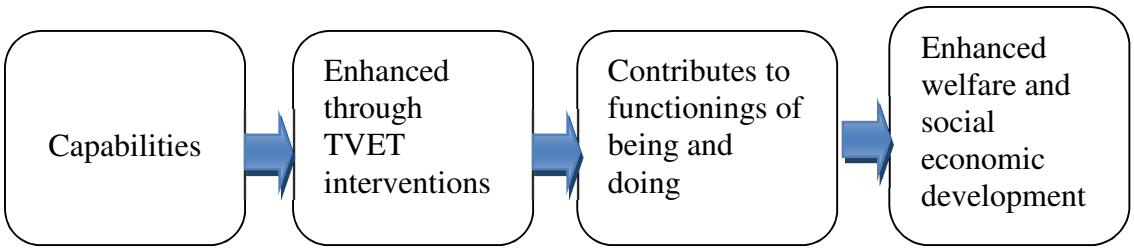


Figure 4 Showing TVET in the capability approach
Source: Author

Fig 4 indicates why capability approach is suitable for interpreting this study. From figure 4, based on Sen (2001) thesis, individuals are born with capabilities. In our research, technical education enhances these capabilities. Through employment be it wage or self employment, individuals are able to function to be and do what they value. TVET then contributes to welfare attainment and social and economic development. The choice of Sens theory in this study is also based on contributions that the capability approach has yielded. Sen has influenced new development indicators like the Human Development index and the Gender Empowerment index. His work has contributed to current protocols like the Washington consensus, which agreed to look at development as a pro-poor and participatory process.

Sen theory has been expanded by Martha Nausbaum, based on philosophical and Aristotelian ideas (Saigaran, Karupiah and Gopal, 2015). In terms of how Sen and Nausbaum theories relate, they both agree that human beings have the capacity to improve their lives. They differ in that while Nausbaum has stated the capabilities, Sen only indicated that poverty was multidimension (Saigaran, Karupiah and Gopal, 2015). Sen's theory has been criticised by many including Northover (2012), Alkire (2002) and Cobbridge (2002). Their main arguments rest on such things as failure for Sen to rank the capabilities, which posits challenges for decision makers to select options, as well as practicality of the freedom concept looking at violence and power struggles. Overall Sens theory remain one of the best in our time.

2.6.8 Theory of demand and supply

The theory of demand and supply is rooted in economics. Although economics has been there for a long time, the work of Adam Smith in his seminal paper,
An inquiry into the nature and cause of the wealth of nations and in 1776 established the classical school of thought (Muradzikwa *et al,* 2007). The beliefs of the classical theorists was later challenged by Keynesian economics gained momentum in the late 1920's to early 1930's, the period of great depression. Specific to the theory of demand and supply is the work of Marshal in 1890, in his book principles of economics. Marshall propounded the thinking that supply and demand work together and intersect at an equilibrium price. Marshal thus coined the notion of price elasticity and consumer and producer surplus. He divided time into three periods, market period where price is fixed, short period where supply can be increased by increasing labour and long period where capital employed can be altered. Marshalls ideas helped move english economy from agrarian to industrial economy on the positive front while with rapid industrialisation, many people were made poor. Among such people who experienced such poverty was Karl Max, who later came with his work on capitalism.

2.7 Evaluating factors that influence employability of Technical Education graduates in Malawi, a Conceptual Framework

This chapter began by setting the context and description of the intervention in Section 2.1 and 2.2. Like most countries technical education is introduced by governments to contribute to employment, this feeds into socio and economic development. In conceptualising our study, we singled out symptoms and root causes of our research problem. Secondly, we reviewed Section 2.3 and picked out symptom and root causes that have already been resolved by past studies. Thirdly, we reviewed 2.4 and 2.5 to elicit key attributes and variables to be pursued in this research. Fourthly, we reviewed 2.6 to discuss a suitable framework and established variables and attributes for our study. Finally, we presented a diagrammatic explanation describing how research questions in tandem with literature addresses the research problem.

Based on the literature reviewed in Section 2.1 and 2.2., literature shows that employment and employability are crucial factors for poverty alleviation. The World Bank (2015), indicates that employment is a tool for poverty reduction. This explains why governments promote employment creation by presenting an enabling environment for private sector growth, as well as being an employer by itself (Government of Malawi, 2013). According to Malawi Labour Force Survey (2013), Malawi is one of the countries grappling with problems of unemployment among the youth. TVET sector is one sector that provides hope for employment for youths in Malawi. Despite involvement of TVET, there are still challenges in employment opportunities for the youth in Malawi.

Among the advanced reasons for this, employment problems include, mismatch between skills, attitudes and knowledge of learners versus industry requirements. Some advanced causes of this include cultural factors that give prominence to formal employment; lack of capital/finance for graduates to engage in self-employment; diminutive size of the industry to absorb graduates; divergence in curricula and industry requirements and the lack of investment in TVET (Masanjala and Kafakoma, 2010).

A further look at the literature shows that, the main challenges currently faced by TVET relate to; access, equity, relevance, funding, financing and management (Nkanza, 2003; TEVETA Malawi Strategic Plan 2013-2018). This study will focus on issues of relevance, specifically looking at mismatch between skills, knowledge, attitudes of learners versus industry requirements. Other studies have highlighted that access to TVET is a challenge in Malawi compared to other countries; with very few people enrolled into TVET. This study will also touch on factors that give prominence to the formal sector, issues on investment in TVET and the diminutive size of the industry.

Literature based on past studies, as discussed in Section 2.3, presented an understanding on similar studies and research, that has been done before. Our findings included research and interventions in relation to TVET, employability and industry requirements. The findings from these studies indicate a number of trends such as; employment outcomes for males are different to those of females (Paleocrassas *et al*.,

2002; Moreau & Leathwood, 2006). The studies further elicited certain factors for employability as thinking skills, technical skills, study and work skills, basic skills (Khandu, 2014; Kazilan *et al,* 2013). The past studies further pointed out that issues like social class, gender, university/college attended also affect employability of graduates (Moreau & Leathwood, 2006). While Pongo *et al* (2014) argued that TVET has the capacity to improve employability, Raimi and Akhuemonkhan (2014) argued that the influence of TVET on employability is limited except if issues of TVET synergy with industry, funding, curricula among others are resolved. Education attainment and the type of occupation, is a crucial factor in securing good employment especially for college apprentices (Moreau & Leathwood, 2006).

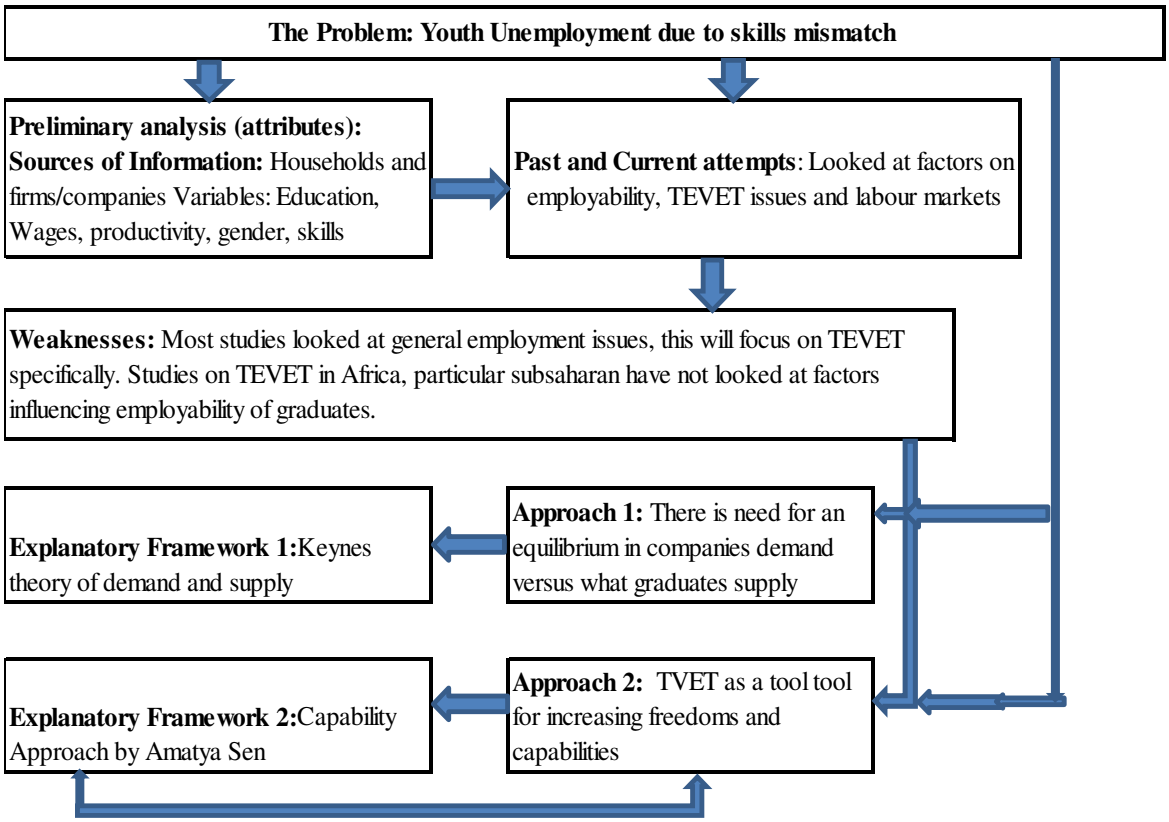


Figure 5 Showing Conceptual Framework

In fig 5, we present the conceptual framework. At this point, we state our research question as what are factors that influence employability of TVET graduates in Malawi. We highlight unemployment, in particular youth unemployment as a major challenge, and go on to show past and current studies that have looked at the problem of employment, and the weaknesses in these studies. We present variables that help us

understand the problem. We develop an approach, to interpret our study, and present all chapters including the conceptual framework. According to Trichkova (2014) capability approach allows discussion of such issues as social justice, quality and context. In the Malawi set up, inclusion of such is paramount and is backed by literature showing that the technical entrepreneurial and vocational set up has challenges in terms of access, relevance, quality and governance (TEVET Policy, 2013; National Education Sector Plan, 2008; Malawi Labour Market Survey, 2009). The capability approach allows to address underlying issues in the Malawi context in ways that will make TVET more meaningful and responsive to development needs.

Whilst the reviewed studies have been informative on a number of fronts, there are certain gaps that can be observed. Although these studies have talked of factors that may influence employability, most of these focussed on general education rather than technical education specifically. As a complement, our study wants to look at factors in TVET specifically technical education and explain factors that affect duration between graduation and first employment, these are key to understanding employability of technical education graduates. More to this, we are interested in finding out, whether technical education graduates initially gain employment in professions that match their training. This also helps us gauge employability. Past studies, such as Khandu (2014), have pointed out that employers are keen to hire employable graduates; this study goes further to check what employers look for before hiring technical education graduates?

The main sources of information are households and firms/industry. In terms of households, focus was on graduates who represent labour demand, while the focus on firms was on companies/industry and representing supply. Households are therefore providers of information on labour, while firms provide information on supply. Based on households, the information collected included variables like education, wages, geographical location, gender and skills (technical, basic, communication). Based on firms, the major variables will be productivity and wages and employable factors of graduates will be variable from company to company. To collect this data, which is more of numbers than words, a quantitative research strategy will be employed, as it is the best strategy for the purpose of the research (Wagner *et al*, 2012). The data for our research, was collected at one point in time, and hence it being a cross Sectional

design. Data was collected using a fully structured interview guide (two questionnaires were used), one questionnaire for companies to elicit the supply side of labour and one for apprenticeship graduates as representation of labour. Data on questionnaires was inspired by research questions and guided by the variables studied. To get respondents, quota sampling was done for graduate employees and convenience sampling for company questionnaires, the proper procedure for data collection was implemented including adherence to ethical considerations.

Once the data was collected, it was analysed using the statistical package for Social Sciences (SPSS). The data was interpreted using the research questions; applying the Amatya Sen Capability Approach and the theory of demand and supply. In concluding Section 2.7, we note that the conceptual framework is a critical component; it sums up the whole Section of the literature review and guides us on how to proceed to method Section, findings, discussion and conclusions including the recommendations from our study.

3 RESEARCH TECHNIQUES, PROCEDURE AND METHODS

In Chapter three, we present the techniques, procedure and methods for the study. The chapter is partitioned into five level one Sections and six level three Sections. To address this chapter, we start presenting a way of meeting our objectives, also called research strategy (McNabb, 2013). We do this by looking at literature reviewed in Sections 2.1, 2.2 and 2.3 guided by journals supporting the choice of research strategy suitable for our research. Having addressed that, Section 3.2, puts up a plan of addressing research objectives as stated in Section 3.1. This plan is also referred to as guided by the research strategy research design. The research design is based on literature reviewed in Section 2.1, 2.2 and 2.3 complimented by appropriate journal articles with similar design.

In Section 3.3 we interrogate the procedure and methods, and under this Section, we present level three Sub-Sections. In Section 3.4 we present reliability and validity to come up with conclusions that are true and correct reflection of the study (McBurney and White, 2004). Section 3.5 we present the limitations that describe the context and extent to which our study can be applied. To be meaningful our interrogation incorporates a definition of terms, committing to the relevant terms, detailing the terms used, and tested case studies to authenticate our research. In interrogating the research procedure and methods, we provide various categories. We start with Section 3.3.1 which presents the data collection instrument and its structure. In Section 3.3.2, we present the target population and sampling. Section 3.3.3, presents ethical considerations when collecting data, while Section 3.3.4 discusses data collection and storage. In Section 3.3.5 we discus data collection and analysis. In Section 3.3.6, we present the description of the respondents.

3.1 Research strategy

To accomplish research objectives, researchers are required to make decisions on the most effective way of data collection, processing, analysis and dissemination (McNabb, 2013). Research strategy presents an orientation to methods, laws theories, and applications in the conduct of social research (Bryman, 2011).

Wagner, Kawulich and Gardner (2012) have described qualitative, quantitative and mixed methods as ways of approaching a research study. This study employed a quantitative research strategy. Quantitative research strategy deals with quantification, cause and effect relationships (Wagner, Kawulich and Gardner, 2012). It is also concerned with a deductive approach to theory testing and takes on the positivist approach (Wagner *et al*, 2012; Neuman, 2006). This study has committed to the quantitative research strategy.

Literature indicates that strategy of a research should be guided by the purpose, research questions, objectives, method and philosophical underpinnings (McNabb, 2013; Neuman, 2006; Bryman, 2012). Our hypothesis, research questions, objectives and philosophical underpinings are of quantifying and finding relationships between and among variables. With all these factors in mind, the researcher is persuaded that the quantitative strategy is the best model for the needs of this research compared to the other strategies.

The use of a quantitative research strategy in a study like ours is not surprising. In Srilanka, in a study that looked at determinants of employability of new graduates, Chandrakumara (2015) used quantitative research strategy. This technique was particularly useful in helping the researcher model graduates employability using binary logistic regressions and descriptive statistics. In so doing, following this strategy, the researcher was able to find determinants of employability. This article has been chosen in this research as it adds to the purpose of this research, which is unveiling factors that affect employability of graduates. It provides techniques that provides guidance to our research as we seek to achieve the objectives of our study.

Calmand, Giret and Guegnard (2014), conducted a study on vocational bachelor graduates in France, focussing on labour market integration and social mobility. The study used the quantitative design and compared the employment situation of bachelor graduates in their first years of employment versus other tertiary graduates. This study contributes to our current research specifically to our second research question which looks at whether graduates got initial employment in fields of their specialisation. Garrouste & Rodrigues (2014) conducted a study on employability of young graduates in Europe. The data used a quantitative strategy. The findings of the study found that

at an individual level, social economic determinants are crucial to employability and at a macro level, labour market regulations; structure and overall economic situations influence employability.

Paranjape (2007*)* conducted a study on determinants of employability of graduates in Mumbai. The study used the quantitative research strategy and reached out to 763 graduates. The research strategy that this study used, allowed them to conduct binary logistic regressions, parametric and nonparametric tests, as well as construct index on determinants of employability. This study, addresses needs similar those of this research. It gives a platform of sharing conformability and best practices.

3.2 Research design

Zikmund *et al* (2013), note that when the researcher formulates a research problem, the next step is to put in place the research design. A research design simply refers to a plan of procedures and methods a researcher follows to collect data for the study (Zikmund *et al,* 2013). In this study, the researcher used a cross sectional survey design. This is one of the five types of research designs namely; longitudinal, experimental, case study, comparative (Bryman, 2012). The decision to arrive at an appropriate research design was influenced by the objectives of the study, sources of information, techniques and sampling methodology (Zikmund *et al,* 2013).

The research was undertaken at a point in time. Cross sectional design therefore was not only best fit in this circumstance, as it collects data at a single point in time, but also because it allows structuring of a study in ways that relationships between variables can be analysed (Bryman, 2011). In analysing factors influencing employability of technical education graduates, the study enquired about relationships and descriptions.

There is support for the use of cross sectional survey designs. Conducted a study on capability perspective on employability of higher education graduates in Bulgaria. The study used a cross national survey design. Sarkodie, Mensah, Anarfi and Bosiakohi (2014), conducted a study on education and employment outcomes in Ghana using the capability approach. The aim of the study was to estimate differences in opportunities

to achieve jobs within and between education endowments, and it was done using a cross sectional survey. Paleocrassas, Rousseas & Vretakou (2002) conducted a study on upper secondary curriculum options. This study also used a cross Sectional survey design. Khandu (2014), conducted a study on the TVET generic employability skills. The study indicates that they used a cross sectional design. Kazilan *et al* (2013) conducted a study to identify employability skills for vocational education and training. The study used a 40 item questionnaire and used the survey research, also called a cross sectional design by Bryman (2012).

3.3 Research procedure and methods

3.3.1 Data collection instrument

Data collection is a very important phase of any research (Bryman, 2012). Creswell (2014) points out that data collection is achieved by the use of an instrument. In our study, data collection was achieved using an interview schedule, with a fully structured questionnaire. Zikmund *et al* (2013), observed that data can be collected through a set of questions by an interviewer using an interview schedule or through using an observation schedule. Bryman (2012) has defined an interview schedule as a collection of lists of questions collected together in a questionnaire (Bryman, 2012).

The use of an interview schedule is beneficial to this research, Bryman (2012) argues that an interview schedule works well in cross section design studies in eliciting information. Bryman & Bell (2015) justifies this argument when they note that, in using an observation schedule, direct observation of behaviour is recorded (Bryman & Bell, 2015) while when using interview schedule, an interview is administered through questioning participants in the same order with purpose of aggregating the responses. In our research, participants were asked the same questions in the same order and the results were aggregated in descriptive statistics. This fits well with our choice of using an interview schedule.

While the interview schedule was appropriate for the needs of this study, the study employed a fully structured instrument. Respondents were asked the exact questions in the same order, a fully structured instrument was used. In this instance, a fully

structured instrument was important in guiding the data collection process (Cresswell, 2013) Apart from a fully structured instrument, the other two types of data collection instrument structures are semi structured and unstructured (Bryman, 2012).

Based on the nature of the data (quantitative), and the type of data (numeric data), a fully structured instrument presented itself as useful instrument and was selected (Bryman & Bell, 2015). Standardisation of answers was possible and the ability to gauge variations. Bryman has favoured this type of approach, as he argues that standardisation in asking and recording responses reduces error and promotes accuracy thereby increasing construct reliability as well as validity of the whole study (Bryman, 2012).

The questions in the questionnaire were designed by the researcher, based on past studies that looked at this topic. As the study sought to understand factors influencing employability of graduates, on what companies demand and what employees supply to countries and vice versa, two questionnaires were utilised, the graduate survey and the company survey. The graduate survey (See appendix 2.1) included two Sections. Section A presented Demographic questions constituting four questions and Section B addressed the research questions and had 23 items. From the first research question, "what are the factors that affect the duration between graduation and first employment" five items were asked. The second question, "did the TVET graduates initially get employed in professions that matched their training" asked three items. The third question, "are graduates currently employed in areas of their training" asked eight items. The second questionnaire, which was designed for companies (See Appendix 2.2) addressed the research question "what do employers look for before hiring TVET graduates." It had two Sections, Section A, elicited company profile information and had two items. Section B addressed the research question and had nine items.

The main supply of the research questions was the labour market survey, that was commissioned by the TEVETA Malawi in 2009 and conducted by JIMAT consultants. Other items were also adopted from the Malawi Labour Force Survey of 2013 and adapted to the research. However items in the questionnaire, were solicited from the researcher as well as from other studies for example, the TESDA impact evaluation study.

There have been a number of studies that have utilised the data collection instrument that is being used in our research. Such studies include Paleocrassas *et al* (2002) who conducted a study on the impact of apprenticeship training. Data was collected using an interview schedule that was fully structured. Cho *et al* (2012), conducted a study on the impact of apprenticeship training. Data for the study was collected using a fully structured guide. Kazilan *et al* (2013) conducted a study on employability skills for Vocational Education and Training. Data was collected using an interview schedule guided by a fully structured guide.

3.3.2 Target population and sampling

Bryman (2012), defines a population as the universe from which a sample for the research is drawn from. A target population consists of those elements from the population the researcher is interested in studying. Our research targeted two population groups. These included a sample of 70 employees who are former technical education graduates that underwent the formal apprenticeship training programme from various technical colleges in Malawi, (of which the study ended up with 81 former apprentices, as well as 30 companies representing employers. Records from TEVETA show that at level three, 2114 at level 3 (TEVETA Unpunlished Report, 2015). While from trade trade specific numbers of those in labour market were not given, but are in excess of those from TVET. In Malawi, within technical colleges, there are multiple qualifications being offered for technical graduates, Malawi TEVET, Malawi Craft, City and guilds and Trade Test. Although the initial target sample was to be drawn from technical education graduates with the Malawi TEVET certificate stream, as the study looked at employability of technical education graduates, reality on the ground showed that the study would be beneficial if it considered technical education graduates in their entirety without focussing on qualification offered.

Bryman & Bell, 2015 have described sampling as a segment of the population that is chosen for research. There are two types of sampling methods, probability and non probability sampling (Wagner *et al,* 2012). Types of non-probability sampling include; convenience, snowball, quota and purposive sampling (Zikmund et al, 2013). Types

of quantitative sampling include simple random, systematic, stratified and cluster sampling (Wagner et al, 2012).

Although a quantitative study, we used a non probability sample using the snowball technique for employees and purposeful sampling for companies. Snowball sampling was ideal for this study, as it was more of a tracer study, employees gave contacts for their counterparts. The snowball technique highlighted is not new to studies of a similar nature. In 2009, JIMAT Consultants commissioned by TEVETA conducted a labour market survey which had a component of formal sector apprentices as well as companies in Malawi. The sampling methodology used was also a snowball sampling technique. The decision to sample 30 companies was guided by the central limit theorem; it indicates that distribution of a sample tends to be normally distributed with a sample of about 30, as well as the rule of thumb guiding sampling (McNabb, 2013). According to McNabb (2013), normal distribution helps us to have confidence that the measurement of the sample mean, reflects the measurement of the population mean. In our research, our sampling frame would ideally have been collected from colleges, however, the Labour Market Survey (2009), noted that most colleges did not have a list of graduates. The sampling frame for companies was collected from TEVET Authority, Blantyre, Lilongwe and Mzuzu service centres. An initial sample for TVET graduates was also given and the graduates provided contacts of their peers.

Bryman (2012), presents the snow ball technique as part of a convenience sampling which is non probability in nature. Other studies as Zikmund (2013) and Wagner *et al* (2012) have considered convenience sampling separate from snowball sampling. Furthermore, studies as Bryman, 2012 and Wagner *et al* (2012) have treated the snowball sampling as a purely non probability type of sampling, while Zikmund *et al,* (2013), indicates that the initial sample in snowball sampling, is obtained by probability methods.

Literature on the exact number of graduates in the TVET system is hard to come by. However, according to TEVETA, since the TVET reform in Malawi, approximately 2114 apprentices have graduated in the TVET system with level 3 TEVET qualification. Based on this, the study decided on a target of 70 apprentices, as a big enough sample but 81 were actually surveyed. Literature recommends getting 360 degrees of feedback by

asking those who work directly with the participants, their peers, supervisors etc, to describe the change they see in participants (Day, 2001). However, due to time constraints, we believe that data by apprentices will be triangulated by that of companies.

On the other hand, to understand what companies look for in hiring graduates, 30 companies were targeted in order to elicit information about the demand side, in terms of what companies expect. There have been studies that have targeted apprentices, Cho *et al* targeted apprentices in Malawi, the only difference being they were apprentices from the informal sector, where as the current study is biased towards the formal sector.

3.3.3 Ethical considerations when collecting data

According to Oldman (2004), ethics can be understood to mean principles and standards that guide and govern behaviour. In Bryman (2012 words, ethics is important as it relates to the integrity of the research, and must not be ignored. In this study, the researcher approached the ethical issues following principles outlined by Bryman (2012) and Creswell (2013). The principles included; informed consent, privacy/confidentiality, anonymity, voluntary participation and protection from harm.

In this research, the first point of ensuring ethical adherence was approval to conduct the study from University of Witwatersrand, the University examined the research proposal and the outlined processes to be followed and approved the study to be ethical. Furthermore, the researcher disclosed their status and interest in the study, in a way of promoting integrity of the research. McNabb (2013), compliments Bryman's points by indicating that the researcher needs to explain all procedures to be undertaken in the study, when the procedures will be undertaken and explain why they will be undertaken. This was adhered to through the introductory letter and consent forms that were administered with the questionnaire.

According to Wiles, Crow, Heath & Vikki (2006), informed consent is achieved when the interviewee fully understands what is expected of them. McNabb (2013), pointed

out the need to consider ethical issues, from planning, data collection, processing, interpretation and the reporting phase. In our study, at the research design stage, we incorporated ethical considerations through an informed consent form to the interviewee before the data collection process. Guided by Bryman (2012) the informed consent form asked whether the participants will attest whether they have understood the study, allow to be ask questions, voluntarily accept to participate, are allowed to withdraw if they wish to, and allow the use of the data they provide for the research. To show consent participants signed off on the research on the form (attached in appendix 1.1).

Bryman (2012), argues that research that is capable of harming participants is considered unacceptable by many people. Harm can take many forms, be it physical or mental. The researcher considered two things outlined by Bryman (2012) that consider ethical issues as of paramount importance. These are how to treat people in research and second, what activities to should or should not be engaged with the respondents.

To avoid harming participants, the language used, the questions asked and the manner of asking should not lead to stress and avoid loss of self-esteem and or related harm (McNabb, 2013). McNabb (2013), points out that anonymity is closely related to privacy. It is the responsibility of the researcher/s to protect the privacy of their respondents. To ensure this, McNabb points out that, in the sample selection, data collection and reporting, no one except the primary researcher must keep the details and addresses of respondents. In this research, the researcher pledges to keep data privately. The data was only accessed by the researcher.

Bryman (2012) argues that deception happens when researchers report something other than what their research is. McNabb (2013), further points out that, researchers have the responsibility to tell the entire story, and not change it to suit their thoughts. According to McNabb (2013), researchers are discouraged from reporting incomplete results as well as misleading or biased reports. In this research, the researcher pledged to report on research questions that were asked by the research. Furthermore, the researcher disclosed that her interest in the research was for academic purposes, and that although an officer in a training related institute, the data collected would not be

used to the respondents disadvantage but rather it would be used to build the body of knowledge in research. McNabb points to the need of reporting on the limitations of the study, limitations for this study are outlined in Chapter 3 Section 3.6.

3.3.4 Data collection and storage

3.3.4.1 Data Collection for Graduate Survey

According to Bryman (2012), researchers collect quantitative methods using two approaches; observation or questionnaires. McNabb (2013), presents three ways of collecting data using questionnaires: in person, also called face to face by Bryman (2011), second method is telephone interviews also called voice to voice by McNabb (2013), and mailed surveys which are self-administered. McNabb has argued for another data collection procedure, where data is collected via computer networks.

In our study, data capturing of the technical education graduates was collected using face to face interviews also called personal interviews. According to McNabb (2013), the advantages were that we were able to gather large amounts of data within a short period, as well utilised the opportunity to clarify questions to the respondent. This was true for our study. Before data capturing, respondents were contacted and an appropriate time to conduct interviews was agreed upon. As this employed the snowball technique, respondents who had contacts for their school friends, provided their numbers after each interview. At the beginning of the interview, the researcher went through the consent form. Obtaining consent is very important and is a way of adhering to the ethical requirements. The respondents were explained the purpose of the research and provided with credible reasons for participating in the study, therefore majority felt that their time was not wasted (Bryman, 2012).

3.3.4.2 Data Collection Company Questionnaire

In the case of the company survey, the researcher firstly dropped the forms into the companies and requested the human resource personnel to complete them. After two weeks of a poor response rate (only 5 responses) the researcher obtained telephone

details for the companies from TEVETA Malawi. The companies were contacted and those interested in participating, provided their email addresses. They also made preferences whether they wanted the survey emailed as a word document or they preferred google forms. 7 questionnaires were obtained via google forms, 5 (initial forms were collected by hand), and 18 were emailed using a Microsoft word based questionnaire.

Once the interviews were finalised after a period of one month and two weeks, data was entered into the SPSS in a secure computer. The questionnaires that were used were sealed in envelops and the data stored in there. Creswel (2013), has lamented that in most research, data storage is not given the paramount attention it deserves, yet it is a very important aspect. Flick (2014), in looking at data storage, has argued that data must be kept safe, as well as the need to back up data to ensure its safety. The data was backed up in a private email by the researcher.

3.3.5 Data processing and analysis

3.3.5.1 Data Processing

McNabb (2013), explains that raw data in itself, represents no meaning. According to McNabb, data has meaning when it is processed from its raw state and transformed to explain or address research objectives and research questions. Data processing therefore goes hand in hand with data analysis. Zikmund (2013), points out that the data analysis process transforms raw data into intelligence. Bryman (2012), has argued that it is important to think about data analysis in advance of collecting data. Being aware of data needs and the data analysis approach helps in designing a data collection tool that captures the needs of the study. Bryman argues that the researcher is aware of the kinds of data as well as variables and how to manipulate them.

The first step in our data processing, was presenting the measurement process.
Paying attention to McNabb's (2013) advice, our study was interested in data processing issues in the early stages of the research including in the questionnaire development. Consideration was taken to build an instrument that would capture the most relevant and meaningful data in relation to the objectives of the study. Most of

the variables on our instrument were numerical and descriptive in nature, and other items, especially on questions denoting the 'other specify' category were captured using string. The measurement process as identified by McNabb is a very important step.

Second phase in our research involved the collection of raw data (As discussed in Section 3.3.4). Third, once the data was collected, the process of entering it into SPSS began. This process involved organising and structuring data (McNabb, 2013). As we had two instruments, graduate questionnaire survey, as well as company survey, each was sorted into a separate SPSS sheet and given a different name. Once the data was entered, it was cleaned and among other things, frequencies were run to ensure that there were no errors. Nominal data (salaries of the graduates) and numerical data (age) were entered into various categories just to make more sense and check for variations within the groups.

Data was also transformed, for instance in establishing how many males and females have technical skills, data was transformed.It was also important to prepare frequency distributions. This involved preparation of frequency counts and percentage distributions of all responses, such as data on demographics as well as data on the research questions. According to McNabb, the fifth stage involves preparing summary statistics. This involves the calculation of the summary statistics needed to describe subjects and their responses. In this study, we carried out correlations to establish the relationships between the variables.

3.3.5.2 Data Analysis

In using a package like SPSS, literature has supported data analysis using a computer, as it is the easiest way of manipulating data. Even when analysis is done on the computer, it is important to keep track of each questionnaire, in case you need to cross check information, it can be accessed easily. Bryman (2012), argues that, for data entry process, data needs to be coded as it is entered into SPSS. In our study, each questionnaire was coded as it was being entered into SPSS for easy tracking, in the case it was needed crosschecking.

Guided by the logistic model that has been used by (Lyold, 1999; McCullagh, 1980; Greene, 2000; Paranjape, 2007 and Chandrakumara, 2015), a logistic model was imputed in SPSS.

3.3.6 Description of the respondents

Section 3.3.6 describes respondents to the research. In Section 3.3.6.1 we describe technical education graduates representing the supply side of skills, while in Section 3.3.6.2 we describe companies that employ Technical Education Graduates representing demand side of skills.

3.3.6.1 Technical Education Graduates

The researcher was interested to find out what proportion of respondents, that finished school before 1999 before TVET reforms as well done as after 1999. Table 3, indicates that over half of the respondents finished their studies between 2000-2010 when TVET was reformed in Malawi, and 32.9 percent finished between 2011 to present time of the study while 14.5 percent finished before 1999.

Table 3 Showing when graduates finished their studies

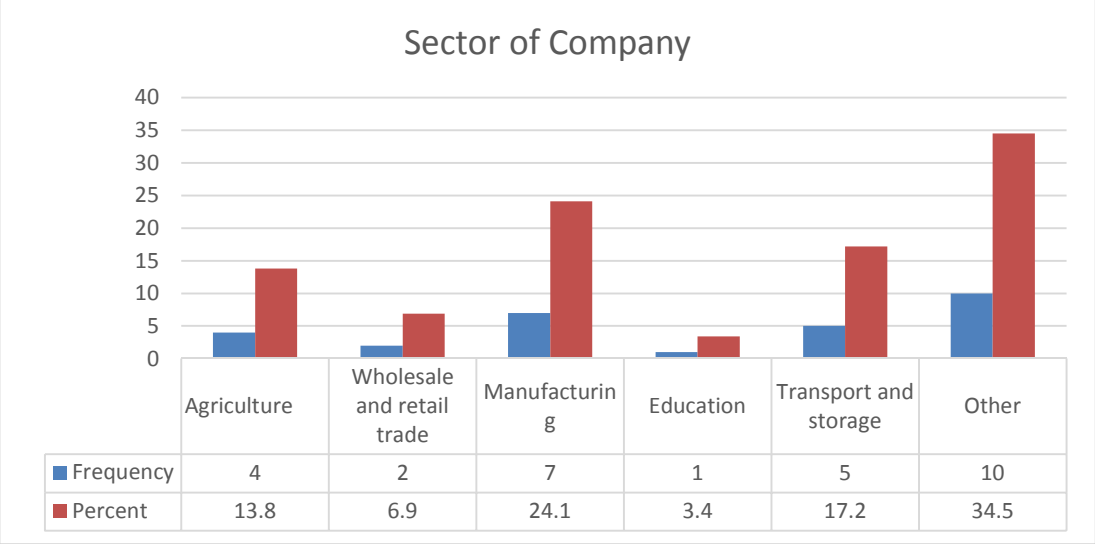
Period	Frequency	%
< 1999	11	14.5
2000-2010	40	52.6
2011>	25	32.9

The study was looking for graduates from the formal apprenticeship programme. The minimum age for the graduates was 20 years age, while the maximum was 57 years of age. The respondents incorporated both males and females who graduated from technical colleges. 93 percent of the respondents were male and 7 percent were females. The mean age of the respondents was 32 and the standard deviation was 7.795. The respondents had post secondary education . They were former technical education graduates from the seven public technical colleges and others. They comprised 22.8 percent from Nasawa, 12.7 percent from Soche, 2.5 percent represented Mzuzu technical, 11.4 percent were from Salima, 25.3 percent from

Lilongwe Technical, 2.5 from Livingstonia technical and 22.8 percent from other technical colleges. The other technical colleges, mostly privately owned technical colleges. Blantyre Technical College, Don Bosco Technical College, Dreams Electrical and Electronics College, ECOM Vocational Institute Phwezi Rural Polytechnic Continuing centre, Self. They were drawn from the current TVET qualifications on the market, including; National Trade Test Certificate, Malaŵi Craft Certificate, Malawi TEVET commonly referred to as Competency Based Education and Training (CBET) and City and Guilds.

3.3.6.2 Description of Companies in the Survey

Purposeful sampling was included, to pick out companies that had employed former Technical Education graduates as their employees. Figure 6, presents the sectors from which these companies were drawn from. From the category of 'other' companies included energy, health, mining and processing. The category codes that were used in this question were adopted from the categories that were used by the Malawi Labour Force Survey of 2013, which is the most recent labour force survey.



	Agriculture	Wholesale and retail trade	Manufacturing	Education	Transport and storage	Other
Frequency	4	2	7	1	5	10
Percent	13.8	6.9	24.1	3.4	17.2	34.5

Figure 6 Showing Sector of Company

Size of Company

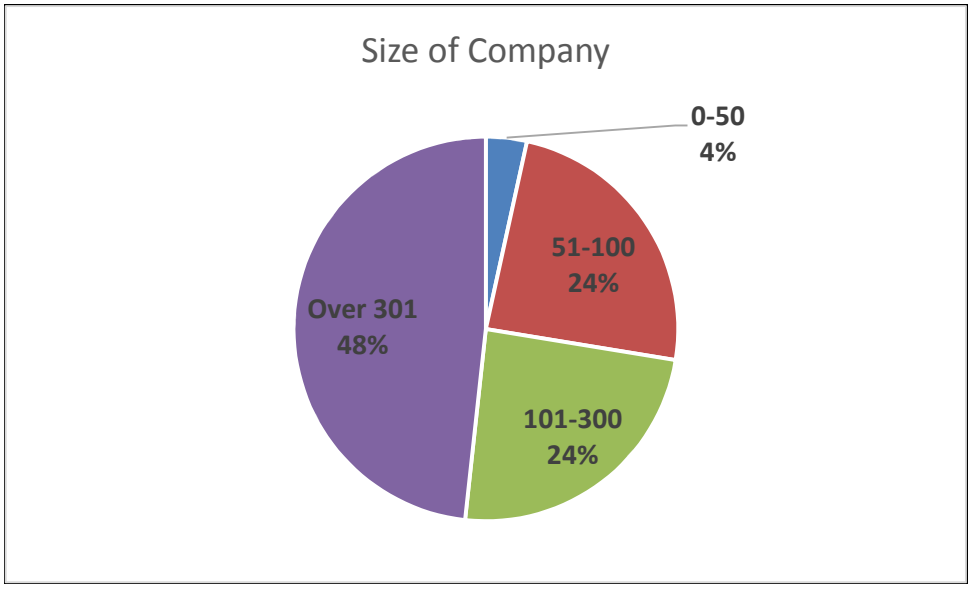


Figure 7 Showing size of Company

Figure 7 indicates that close to 50 percent of the surveyed companies, had over 301 employees, representing large companies. There was an equal representation from companies recruiting 51-100 employees as well as those recruiting between 101 to 300. The lowest represented was companies recruiting between 0-50 employees. To ensure reliable classification of employees, these categories were obtained from the categories outlined by the Malawi Labour Force Survey (2013).

3.4 Research reliability and validity measures

According to Bryman (2012), reliability concerns itself with consistency in measurement. McNabb points out that validity, concerns itself with whether a measure really measures the concept it sets out to measure. According to Mcburney and White (2004), validity and reliability allows for researchers conclusions to be a true and correct reflection of the actual state of the world. The importance of validity and reliability are not only for quantitative research. The only difference being that in qualitative research, validity is referred to using the words trustworthiness and credibility. On the other hand, reliability is referred to using the words applicability, dependability and conformability.

Bryman (2012) presents four key interests of validity and reliability in quantitative research, namely; measurement, replication, generalisation and causality. In this research, validity and reliability were assured in these ways; reliability: to ensure reliability of the scale, all questions were on a 5 point likert scale, for both the technical education graduate survey and the company survey. The value of Cronbasch Alpha for respective scales was; 0.914 for the company questionnaire and 0.704 and 0.64, showing reliability for two scales and no reliability for one of the scales. For scales with 0.7 above, internal consistency was reached. Another way of safeguarding reliability is through the use of replication. To ensure replication of the study, the researcher outlined all the steps that were followed in the study. Yin (2009) argues that it is important to state all the steps explicitly when we carry out research, in a manner that can allow other researchers to reproduce our research.

Generalisation is another principle presented by Bryman (2012). Another strength especially, in quantitative research is the ability to generalise the findings of a study to a broader population. In this study however, due to the use of non probability sampling, the study will be context specific and cannot be generalised. According to McBurney and White (2004), measurement refers to the process of assigning numbers to objects or events or according to rules. Measurement is usually done on variables, and there are four major types of variables; nominal, ordinal, ratio and interval. The use of measurement in our questionnaire and approach, was very outstanding. In terms of causality, Bryman (2012) indicates that causality depends more on design. According to Bryman (2012), research design affects the following, causal connection between variables, generalisations and understanding of behaviour.

In terms of strict validity measures, this research is going to measure face validity, which simply defined looks at what a scale is measuring at face value. Bryman presents four types of validity: internal validity, external validity, statistical validity and construct validity. Bryman (2012) defines construct validity measures whether constructs under study are measuring what they are supposed to measure. External validity looks at the generalisation of the research findings. Bryman (2012) defines, internal validity measures as the relationship between independent and dependent variable. Statistical validity looks at the extent to which the data shown, is the result of a cause and effect relationship.

3.5 Research limitations

The findings of this research must be interpreted in view of certain limitations. Methodically, there were limitations on sampling, where a non probability sample was chosen. This was a result of the tracer study nature of the sample, where participants gave names of their former classmates, and thus made it difficult to randomly select participants. The non random selection of participants affected generalisability to other populations and contexts which greatly relates to external validity of a study.

It was designed to explain employability of technical education graduates using multivariate analysis. The results of linear and logistic regressions were not significant at 5 percent level of significance except for initial employment and field of study. The power of the study was thus affected, however, descriptive statistics were ultilised. Literature indicates that insignificant results are sometimes due to smaller sample sizes (Berenson, Levine, Krehbiel, 2009) which was the case in our study where only 82 graduates were interviewed in the graduate survey. This meant therefore that the findings could not attribute any causal inferences due to lack of significance nor recommend to a higher degree what factors affect employability of technical education graduates beyond the use of descriptive statistics.

4 PRESENTATION OF FINDINGS

In this chapter, we make presentation of the research findings. In Section 4.1 we present research findings on the first research question "what are factors that affect duration between graduation and first employment?" In Section, 4.2 we present findings on the second research question "did the technical education graduates initially get employed in professions that matched their training". In Section 4.3, we present findings on the third research question "are graduates currently employed in areas of their training". In Section 4.4, we present findings on fourth research question "what do employers look for before hiring technical education graduates?"

4.1 Factors determining the duration of first employment after graduation

To respond to the first research question, what factors determine the duration of first employment? the researcher tested the following hypothesis:

Ho: Employability does not depend on period since graduation
H_1: Employability is dependent on the period since graduation

To address the above hypothesis, regression analysis was conducted. The analysis looks at the relationship between dependent variable and a set of independent variable(s). Two types of regressions, binary logistic and linear regressions, were computed. For linear regression, the dependent variable employability was regressed with age and gender (refer to Model 1 in table 4). For logistic regression, the dependent variable was first, coded as a dichotomous variable. Those who were employed within the first 6 months were coded 0 while those who were employed after six months of graduating were coded 1. The independent variables under logistic regression were current level of education attainment and various skills set (refer to table 5). According to Berenson, Levine, Krehbiel (2009), probability of a categorical variable such as employability in our case, is best addressed using logistic regression. Berenson et al (2009) argues that using simple or multiple regression in categorical responses violates the normality assumption. This is why, where values for employability were coded as

dichotomous values, we used logistic regression, while for numerical or nominal data used linear regression.

4.1.1 Interpreting factors determining duration of first employment after graduation using Regressions

The regression models was presented as follows:

Model 1: Linear Regression

$$\text{Employability} = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \mu$$

Where X_1 is the age of respondent and X_2 is the gender of respondent and μ= represents the error term.
$\beta 0$ is the constant term, and $\beta 1$and $\beta 2$ are slope coefficients

Model 2: Binary logistic regression

$$\text{Employability} = \beta 0 + \beta_1 X_1 + \beta_2 X_2 + \mu$$

For Model 2: Where X_1 is Education attainment, and X_2 is Skills that influence employability, and μ=Error term

$\beta 0$ is the constant term, and $\beta 1$and $\beta 2$ are slope coefficients

Table 4 and 5, presents a linear and logistic regression output respectively that were run in SPSS. Of importance to us, is the sig. column symbolising level of significance, which allows us to ascertain relationships between variables. The sig. column represents whether there is a significant relationship between employability and other independent variables as captured in the questionnaire. According to Bryman (2012), testing level of significance allows the researcher to establish whether there is genuine relationship between variables. That is crucial in ensuring that conclusions in a study are valid and representative.

Table 4 Showing linear regression

Model	Unstandardised Coefficients		Standardised coefficients		
	B	Std.Error	Beta	T	P value
Constant	1.058	.470		2.251	.028
Age	-.011	.010	-.161	-1.152	.254
Gender	-.091	.244	-.052	-.372	.711

From table 4, both variables, age and gender are not significant at 1%, or 5% of even 10% level of significance. As both gender and age have p values above 0.05, which are not significant, we fail to reject the null hypothesis, and thus accept that employability does not depend on duration since graduation. This finding is similar to Chandramara (2015) and Puranjape (2007) who using 5 percent level of significance using regression analysis found that gender was not significant to employability. However, the findings differ from that of Leathwood and Moreau (2006) who found gender and age to be significant to employability.

Table 5 Showing logistic regression

Question	B	SE	Wald	df	P value	Exp (B)
Highest Education	-.363	.810	.202	1	.653	.695
Employment status	-.044	.266	.028	1	.867	.957
Basic Skills	-1.379	.828	2.778	1	.096	.252
Communication Skills	1.135	1.126	1.016	1	.313	3.110
Leadership	.823	.941	.766	1	.381	2.778
Entrepreneurship Skills	.043	.273	.024	1	.876	1.043
Technical Skills	1.567	.919	2.903	1	.088	4.790
Education Attainment	-1.055	.711	2.202	1	.138	.348
Vocational Skills	-.149	.351	.180	1	.671	.862

Table 5 shows logistic regression. Using 5 percent level of significance, the regression output as presented table 3 is not significant for all variables that were regressed. Based on this, a more appropriate way of establishing relationships would be using descriptive statistics by computing cross tabulations and contingency tables.

4.1.2 Interpreting factors determining duration of first employmentafter graduation using Descriptive Statistics

To understand factors that affect duration between graduation and first employment, the researcher enquired from the respondents, what factors they perceived were crucial to them getting a job. Table 6, captures skills that were reported by participants to have enhanced their ability to get a job within the first six months.

Table 6 Showing skills that enhance employability

Duration and skill area	To what extent do following likely to enhance employability				
< 6 months	Not at all likely	Not likely	Neutral	Likely	Most likely
Basic Skills		3(42.9%)	1(33.3%)	1(25%)	6(85.7%)
Technical Skills				3 (37.5%)	22(44%)
Communication	1(50%)		4(57.1%)	11 (39.3%)	7(43.8%)
Leadership		4(50%)	6(30%)	4 (44.4%)	9(60%)
	Entrepreneurship influenced my employability skills				
	Strongly disagree	Somehow disagree	Neutral	Somehow agree	Strongly agree
Entrepreneurship	4(50%)	2 (66.7%)	6(33.3%)	3(50%)	5(38.5%)
Technical Skills	1(100%)		2(50%)	2(28.6%)	20(40.8%)
Education attainment	1(25%)	2(100%)	2(40%)		19(50%)
Vocational Skills	1(33.3%)	1(33.3%)	4(50%)	3(33.3%)	12(46.2%)
	Of the four which skill greatly influenced your employability skills				
	Not at all	To a small extent	To a great extent		
Entrepreneurship	6(46.2%)	10(33.3%)	4(44.4%)		
Technical Skills		1(16.7%)	24(45.3%)		
Education attainment		4(33.3%)	17(42.5%)		
Vocational Skills	3(50%)	2(15.4%)	12(42.9%)		

On a 5 point likert scale, majority of those who responded to this question, and who had been employed within the first 6 months indicated that technical skills was more likely to enhance employability, followed by leadership and then communication.

Within the tenets of TVET that is: entrepreneurship, technical skills, education attainment and vocational skills, majority of those who were employed within the first six months strongly agreed that technical skills greatly influenced their employability skills, followed by education attainment, vocational skills and entrepreneurship. These results were also supported when graduates ranked their preferences and showed that technical skills followed by education attainment, were factors that enhanced their

employability. This question was analysed based on responses from those who had been employed within six months to pick out what they perceived helped them gain employment within short duration.

Although the results in our study were not statistically significant, the results from descriptive analysis indicate that technical skills and education attainment are key factors in employability, meaning that there is need to focus on these two areas. This is not suprising as there is a lot of literature that has supported education attainment as well as technical skills as fundamental in employability of graduates (Chirwa and Matita, 2009: Kazilan, Fitrisehara, Hamzah, Ramlah *et al,* 2013; Khandu, 2014; International Labour Organisation, 2010). However, caution has been raised that the relationship between education and employability is quite complex. Education for instance needs to go hand in hand with courses that are demanded by the labour market. The research went further to analyse the education the education attainment before the graduates had enrolled for TVET and after they had enrolled.

Table 7 Showing Education levels and employment status

	What is the highest education level		
Duration to first employment	Secondary	Technical	University
< 6 months	33.3 %	38.9%	75%
> 6 months	66.7%	61.1%	25%
	Before TVET which was your highest qualification		
	Secondary	Technical	University
< 6 months	20 (40%)	5 (45.5%)	1 (100%)
> 6 months	30 (60%)	6 (54.5%)	
	What is your current employment status		
	Wage employed	Self employed	Unemployed looking for a job
< 6 months	25 (40.3)	1 (100%)	
Total	62 (100)	1 (100%)	

The participants had varying levels of education attainment. Highest percentage of those who were recruited within the first six months had university education qualification (75 percent), followed by those with technical education at 38.9 percent and secondary education at 33.3 percent. Majority of those who were employed within

the first six months, indicated before enrolling for TVET, secondary education was their highest qualification. Apart from various levels of education attainment, participants had completed various qualifications. These qualifications were Malawi TVET, Advanced Craft, Trade Test and CBET. While others completed only one qualification, a number of them had completed several qualifications. Out of those who were employed within the first 6 months after graduation, 6 out of 15 had completed Malawi TEVET, while 14 out of 33 had completed trade test. The rest of the respondents had completed a combination of Malawi TEVET with trade test, or Trade test with advanced craft and or trade test with city and Guilds. Of those who were on wage employment 25 out of 62 were employed within the first 6 months.

It is important to note that participants had various technical education qualifications, these included trade test, Malawi TEVET, Advanced craft and city and guilds. Interestingly, a number of them had more than one qualification, they had a combination of these certificates. When data was analysed regardless of duration to employability, that is those employed within and after 6 months, 94 percent were in wage employment category while the remaining 6 percent were shared by self employed persons and un employed persons, looking for a job and those that were not looking for a job. JIMAT Consultants (2009) noted that in attempt to secure employment, graduates have tended to acquire more than one qualification as there is no harmonisation of qualifications due to the lack of a National Qualifications Framework. This is echoed by Masanjala (2010), who argues that lack of a national Qualification has brought with it serious quality assurance issues in the TVET Sector. Nkanza (2003) notes that quality assurance can transform TVET and technical education to be a tool that yields productivity, effectiveness and efficiency.

The mean age of the respondents was 32 and results indicate that half the respondents finished their studies after 1999 when TVET system was being reformed in Malawi (Refer to table 1). Considering that the mean age and that over half of them finished their studies after 1999, and only 14 percent finished before then, we can argue that the respondents were youthful. One also notes that majority of the respondents were males, 93 percent of the sample and only 7 percent were females.

The high proportion of males in the sample of up to 90 percent, may be an indication that technical education trades in Malawi is male dominated. According to Government of Malawi (2013), Malawi is party to the SADC protocol, where it was agreed that access of female participation, in matters such as training be accelerated to 30 percent and or beyond. Swamy, knack, Lee & Azfar (2001) have argued on the importance of including views by females, this study would have been more enriched with more females participating. As it was a convenient sample, and the ratio between males and females is so wide spaced, it is evident that there is a lot of work to be done to mainstream gender in technical education at TVET at large.

4.2 Initial professions of technical education graduates

4.2.1 Interpreting initial professions of technical graduates using linear regression

To respond to this question, the research tested the following hypothesis:

Ho: There is no relationship between initial professions and employability
H1: There is a relationship between initial professions and employability

This hypothesis set out to test the second definition of employability which stated that employability was defined as whether even after six months, graduates get employed, but within the fields that matched their training, they would be deemed employable. The hypothesis was tested using linear regression.The model was presented as follows:

Employability = β_0 + B1X1 + β_2X2 + μ

Where X_1 is Course studed at college and X_2 is relationship of field of study to the course and μ= represents the error term. $\beta 0$ is the constant term, and $\beta 1$and $\beta 2$ are slope coefficients

Table 8 Showing initial professions of graduates

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std.Error	Beta	t	Sig
(Constant)	-4.626	8.846		-.523	.603
Was your first job related to field of study at college	17.299	7.091	.313	2.440	.018
What did you study at technical college	.068	.542	.016	.125	.901

Table 8 shows regression of courses studied at technical colleges and whether first job was related to the courses. The results of the regression shows that there was significant relationship. Using 5% level of significance We have evidence of a difference, and conclude that there is a relationship between initial professions and employment at 5 percent level of significance.

4.2.1 Interpreting initial professions of technical graduates using descriptive statistics

Majority of graduates were employable as per our second definition of employability, which was that, as long as graduates get their first job in field of their study regardless of time taken, they are employable. The responses from participants show that 67 participants representing 90.5 percent of the participants were employed in areas that matched their training regardless of how much time it took.

Table 9 shows a summary of initial qualifications fields of employment, regardless of the employment variables. Majority were in motor vehicle mechanics, followed by General fitting and automobile mechanics.

Table 9 Showing initial courses for graduates

Course	Frequency	Percent
Motor Vehicle Mechanics	15	21.4
Electrical Installation	5	7.1
Carpentry and Joinery	2	2.9
Plumbing	2	2.9
Automobile Mechanics	8	11.4
Auto Electrical	4	5.7
Welding and Fabrication	9	12.9
General Fitting	13	18.6
Electrical and electronics engineering	3	4.3
Electrical Engineering	3	4.3
Other	1	1.4
Painting and decoration	1	1.4
Mechanical Engineering	1	1.4
Electrical	2	2.9
Motorcycle Mechanics	1	1.4
Total	70	100.0

Participants indicated that they studies different courses, and our sample shows a bias on more engineering fields. The fact that the graduates in the technical colleges had studied either Malawi TEVET, Trade Test, City and Guilds and Malawi Craft and that all these qualifications had various snames, based on the authority issuing the certificates. This can partly be explained due to multiplicity of qualifications. At present, there is no harmonisation in terms of names of courses, qualifications, curriculum as well as time one takes to acquire a qualification and this is very concerning. In our study, majority of the respondents were graduates of Motor vehicle mechanics, followed by general fitting and welding and fabrication. Majority of graduates, over 90 percent indicated that their first job was related to field of study at college while less than 10 percent indicated that their first job was not related to field of study at college.

4.3 The match between current employment and training

4.3.1 Presentation of findings on match between current employment and training using regressions

This Section presents findings on whether there is a match between current employment and training. To establish this, researcher asked a number of questions aiming at eliciting whether they were currently in jobs that matched skills they acquired from college but also whether they found such jobs aided by connections or affiliations. The hypothesis was:

H_o: There is mismatch between current employment and training
H_1:There is a match between current employment and training

The regression model was presented as follows:

The model was presented as follows:

$$\text{Employability} = \beta_0 + \beta_1 X_1 + \beta_2 C X_2 + \mu$$

Where X_1 is Connections to get a job, and X_2 is current employment match with training

Table 10 Showing match between employment and professions

	B	S.E.	Wald	df	Sig.	Exp(B)
Connections	.388	1.043	.138	1	.710	1.474
Job match to qualification	-.388	.869	.199	1	.655	.679
Constant	.000	2.160	.000	1	1.000	1.000

4.3.2 Presentation of findings on match between current employment and training using Descriptive statistics

Table 11, presents findings , where participant that were employed within six months and after clearly articulate their responses.

Table 11 Showing match of training

	Did you have any connections that helped you get a job		
	Yes	No	Total
< 6 months	2 (33.3%)	24 (45.1%)	26 (41.3%)
> 6 months	4 (66.7%)	33 (57.9%)	37 (588.7%)
	Are you employed in a job that matches your training		
	Yes	No	Total
< 6 months	21 (41.2)	3 (50%)	24 (42.1%)
> 6 months	30 (58.8%)	3 (50%)	33 (57%)

Table 11 shows that majority of participants who got a job, within the first six months and after that, found the jobs without any connections. The data further shows that majority of participants are still employed in jobs that match their field of study. Those who changed their professions (results not indicated on table 11) reported that they changed because they did not find a suitable job (28.6 percent) as well as because they wanted change (71.4 percent).

Over half of the respondents indicated that they want to be in their current careers forever while 43.2 percent indicated that they do not plan to remain in their current careers forever. When asked the reason why they want to change their career, 3.1

percent indicated that they do not like their career. 96.9 percent indicated that it does not pay much.

Based on the fact that majority that plan to quit the sector are saying so because they perceive the sector not to pay much, there is need to consider this concern on the part of policy makers. Up to now, it not clearly gazetted nor certifications harmonised to ensure that those artisans that have gone to school feel more rewarded for their efforts.

4.4 Employers considerations when hiring technical education graduates

This Section presents findings from the company questionnaire. The aim was to understand factors that influence employers in deciding who to recruit. Knowing what employers look for is requisite in shaping graduates for the labour market.

In our research, 82 percent of companies indicated that they have preferences in choosing what graduates to recruit. Trade test was cited as the most preferred qualification, followed by City and Guids and Malawi TEVET. Malawi TVET was cited as somehow preferred qualification by most companies who responded to this category. Literature indicates that not many companies are aware of Malawi TEVET and its contribution (Masanjala, 2010; Kufaine, 2014). There is hope that more awareness to companies on Malawi TEVET can bring dividends in employers starting to prefer the qualification.

Table 12 Showing level of preference of Qualifications

Preference	City and Guilds		Malawi TEVET		Trade Test	
	F	%	F	%	F	%
Most Preferred	15	68.2%	6	31.6%	19	76%
Somehow Preferred	5	22.7%	12	63.2%	6	24%
Not at all	2	9.1%	1	5.3%		

Having established their preferences on qualifications in the technical education sector, it was very important to establish what generic skills companies look for, of problem solving, team work and communication skills, the surveyed companies rated problem solving (M=4.62; SD=.903) followed by team work (M=4.45; SD=.870) and communication skills (M=4.28; SD=.882). On a five point likert scale from strongly

disagree to strongly agree, this indicates strong agreement that companies consider these skills but most importantly that problem solving is considered to a higher degree. This consideration of these skills is supported by work that was conducted by Kazilan *et al* (2013) and Khandu (2014).

On average, majority look for problem solving problems, and then team work and the communication.

Table 13 Showing skills and influence on employability

	To a great extent		To a little extent		To no extent	
	F	**%**	**F**	**%**	**F**	**%**
Soft skills	7	26.9	16	61.5	3	11.5
Work experience	14	50	12	42.9	2	7.1
Technical competence	29	96.7	1	3.3		
Practical aspect of TVET	22	75.9	6	20.7	1	3.4
Theoretical aspect of TVET	12	41.4	15	51.7	2	6.9
Gender	2	6.7	10	35.7	16	57.1
Location			8	29.6	19	70.4
Level of education attainment	26	86.7	4	13.3		
College attended	12	42.9	14	50	2	7.1
Trade/occupation	24	80	4	13.3	2	6.7
Self qualities	23	76.7	6	20.7		

From table 13, technical competence (96.7), followed by level of education attainment (86.7) and trade or occupation (80) percent of the graduate are three top things considered to a great extent. Soft skills (61.5) percent, theoretical aspects covered at college (51.7) and college attended are considered to a little extent. Among the things that are not considered are location (70.4), Gender (57.1) and soft skills (11.5). High support of technical education being preferred is supported by Matita and Chirwa (2009). In this study, employers indicated that they do not consider gender in recruiting graduates, this is supported by studies as Chandrakumara (2015) who found no significant relationship between gender and employability. On the other hand, authors as Moreau and Leathwood (2002) and Paleocrassas et al (2002) have argued for such as gender.

Table 14 shows that majority of companies consider technical skills to a great extent, followed by education attainment. This is similar to what graduates reported as factors that influence their employability (in Section 4.1). This finding therefore illustrates the need for the technical education system to provide technical skills and rigorous education informed by curriculum that is responsive to needs of the industry.

Table 14 Level you consider the following when hiring graduates

	Entrepreneurship skills		Technical skills		Educational attainment		Vocational skills	
	F	%	F	%	F	%	F	%
Not at all	5	17.2					1	3.4
To a small extent	18	62.1	1	3.4	3	10.3	12	41.4
To a great extent	6	20.7	28	96.6	26	89.7	16	55.2

When asked further on what issues have affected the quality of technical education graduates the employers indicated that curricula had greatly affected the quality of graduates, of the 29 companies that responded to this question, 17 representing 61 percent cited curricula as a challenge. Limited funding was also mentioned as a challenge in ensuring that quality of TVET is up to scratch with 14 companies representing 48.3 percent mentioning it. This is similar to King'ombe (2014) who noted that funding of TVET in particular technical education is critical and that TVET has been underfunded. However, the question on funding for TVET remains salient, that is, who should provide such funding to the system? Arguments have been made that those that benefit from it must pay as governments are constrained (Canagarajah *et al*, 2002) while others have argued that those with means must pay for those without financial means (King'ombe, 2014). It appears though that for TVET funding, context of each country is paramount in deciding funding mechanisms.

The companies were asked to rank the extent to which they consider various skills in hiring graduates. Overall, participants indicated technical skills, followed by Education attainment. Participants indicated that they consider entrepreneurship to a small extent and 17.2 indicated that they do not consider it at all. Aspect of entrepreneurship for the companies, majority of whom are wage employed was not sought after much, however, where focus is on self employment, literature indicates support for the need of entrepreneurship training (Jeemol Unni). Entrepreneurship features more in self employment, it may affect economic growth but in that regard,

its affected by percapita income (Caree *et al*, 2005). The absence of Entrepreneurship as a subject in the school curricula has impeded on employability of graduates. Specific to curriculum, Africa Union (2007) notes that poor or lack of inputs from employers who are the sole demanders of technical education graduates is the accountable for skills mismatch.

4.5 Conclusions

The aim of this chapter was presentation of research findings. Findings on the linear, logistic regressions as well as descriptive statistics for each research question were presented. Employability was viewed as whether graduates got employed within six months after graduation. Employability was seen as whether graduates despite duration after graduation got employed in fields that matched their training.

The following trends were observed based on the findings:
There is no statistical significance between employability and explanatory variables as age, gender, education attainment, connections, salary, and skills set. We thus rejected the null hypothesis and accepted that there were no significant differences between the dependent and explanatory variables.

There is considerable relationship between employability and explanatory variables based on descriptive analysis, despite that the chi square computations were not significant, and hence as regressions were not significant either, the chi squares values were not presented except for contingency tables.

- Technical skills and education attainment were rated by graduates as skills that enhanced their employability.
- Majority of graduates got initial employment in areas that matched their training at college. There was significant relationship p=0.018.
- Majority of participants are currently in jobs that match their training
- Employers have various considerations in recruiting graduates
- Within the TVET tenet of qualification, technical skills and education attainment were highly rated as employable skills by both graduates and employers.

5 DISCUSSION OF RESEARCH FINDINGS

This chapter focuses on discussion of findings as presented in Chapter 4 using theoretical framework presented in Chapter 2. In Section 5.1, we present the capability approach as our theoretical framework. Section 5.2 presents the theory of demand and supply as our second explanatory theory. Using the theoretical frameworks, this chapter will discuss the following research questions. First, factors determining the duration of first employment after graduation. Second, initial professions of technical education graduates. Third, the match between current employment and training. Finally, employers considerations when hiring technical education graduates.

5.1 Understanding Employability using Capability Approach

In Chapter 2, we situated our research within development as broad field of study. Development has been explained by many theories, but based on our current research, the capability approach is a pertinent theory. Trichkova (2014) using capability approach interrogated issues that affect employability in ways that tackled social injustices, quality and context, which other theories explaining employability did not tackle. Sen (1999) argues that development needs to focus not only on income creation but rather, be an approach that allows people to lead an informed and a full life (Sen, 1999). This is supported by Dorigo, Guzman, Noguera (2014) who argue that the capability approach relates to social wellbeing of individuals and society at large, and is a tool for achieving sustainable development. In looking at factors influencing employability of graduates, our focus goes beyond what the graduates need to be useful to employers, but rather, whether they are satisfied.

In linking with the capability approach, we conceptualise employability as a capability achieved through technical education qualification attainment. The knowledge of factors influencing employability, would contribute to functioning graduates that are instrumental in being and doing what makes them useful in the labour market (Saigaran, Premalatha & Karupiah, 2015).

According to Hillage and Pollard (1998) and Bergastrom (2012) employability should be looked at as whether graduates initially get employed, maintain their employment and obtain new employment where need be. This definition closely relates to research questions in our study that typically want to look at the following:

- Factors determining the duration of first employment after graduation
- Initial professions of technical education graduates
- The match between current employment and training
- Employers considerations when hiring technical education graduates

5.1.1 Factors determining duration of first employment after graduation

In this research question we had set out to determine factors influencing duration to first employment after graduation. We found no significant relationship between duration in employment to factors such as: skills, education attainment, gender and age. From literature presented in chapter 2 and echoed in chapter 4 (during presentation of results), we expected variations in relationships, significant and others not, yet to our surprise none was significant. Results from the descriptive analysis however showed relationships between duration to first employment. Majority of those employed within the first six months indicated that technical skills and education attainment enhanced their employability.

The evidence from descriptive statistics strengthens the argument of capability theory that functionality, in our case viewed as abilities and skills such as technical skills and education attainment are able to bring about capability to employment. Although the relationship between education and development is complicated (Sen, 2000), these results show education and technical skills provides capabilities. It is also well agreed that education is a catalyst for socio economic development as well as an instrument for empowering people (MOEST and Malawi National Commission for UNESCO, 2008; King'ombe, 2012). This conquers with Jeemol Unni in Desai and Potter, eds (2014) 'who argues that in developing countries large proportion of workforce is in wage labour'. Education and skills are seen as means for exiting poverty and increase

productivity. The implication with the theory in this regard is that skills that are deemed employable must be strengthened.

The results of the study show that majority of participants were young and the sample had very few females. International labour organisation (2010) lamented that majority of youth in Malawi are in employment that is not gainful. The TVET policy of 2013, has also shown that female enrolment in TVET and in particular technical education in Malawi, is among the lowest in the region, and concentrated not in the sciences. As our sample was biased towards the engineering fields, this could partly explain the issue that in Malawi, engineering fields are male dominated (TEVETA Malawi, 2009). Even so across all fields in technical education training regardless, there were few females. According to Pelenc (2010) a persons ability to achieve and convert capabilities depends on their physical characteristics and social institutions. To achieve development and hence allow women and youth exercise their capabilities, the youth that are marginalised need to be empowered through opportunities like TVET training which are accessible by use of bursaries. As well, women need to be encouraged to pursue technical education which opens doors to employability to function, to be and do what they reason to value in so doing contribute to development.

The issue of gender is very concerning. Our study found that there are still very few females at industry compared to men. Failure to recognise contribution of women leads to inequality. Inclusion of gender is very important especially now as the role of women in decision making is increasingly acknowledged (Swamy, Knack, Lee & Azfar, 2001). Inclusion of women ensures that women views are incorporated and this can feed policy that is representative of both males and females, especially considering that outcomes for males in TVET have been considered favourable compared to that of females.

5.1.2 Initial professions of technical education graduates

In this research question, we wanted to establish if initial professions matched technical education using both descriptive and regression analysis. The regression result indicate significant statistical relationship. The descriptive statistics also show the same. Based on our theoretical framework, this provides evidence that with right

kind of skills and matching jobs, graduates have the capacity to get employed. The essence of the capability approach is whether one is being what they surely want to be and doing what they want to.

Sen (1999), argues that people need to enjoy freedoms, to be and to do what they reason to value. Our assumption is that if these employees have chosen to remain in this fields of their specialisation by choice, with significant results, its implies that these specialisations have given them reasons to value and be what they want. In this regard expansion of freedom is viewed as both a principal means as well as principal end to development. It presents freedoms from potential and achieved choices (Robeny's, 2007). The graduates through technical education achieved their potential and chose to remain in a field they specialised with from college. With graduates remaining in fields of their specialization, Whiteside (2006) and Salais (2005) argue that labour policies are not enough if they do not take people out of vicious poverty. This means that to achieve capability, technical education graduates must not just remain in fields that match their training, but they must be satisfied to remain in areas of their training, and this requires healthy and rewarding environments.

5.1.3 The match between current employment and training

In this research question, we wanted to investigate the match between current employment and training using both descriptive statistics and regressions. Based on a 5 percent level of significance, there was no evidence of a match between current employment and training. Based on descriptive statistics however, over three quarters of the participants indicated that they are in professions that match their training. This finding is very important considering notions that have argued that TVET has been viewed as second best qualification. This proves contrary to that assertion. However as the study targeted those who were working, it might have missed those that dropped out from the system and who had contrary views.

The remaining ones who had changed qualifications indicated that they did so because they wanted change but also because they had not found a suitable job. Based on capability theory, having others leave their field, shows the choices people make, but

at what cost? Some at the cost of loosing careers because they can not make ends meet. There is need for the sector to be rewarding, so that people should enjoy full freedom. Saigaran, Premalatha and Karupiah (2015) argue that humans have the capacity to improve their impoverished lives. This is achieved through suitable jobs that add value in the peoples lives. It also follows that people can contribute if they are capable, and this capability is achieved through acquisition of competence, acquired through training. It follows that people who have the opportunity to go to technical skills have both the technical means as well as the principal end. In this case policy needs to look at enabling as many people as possible that aspire to obtain skills and be employable (Saigaran *et al*, 2015).

Majority of the participants got their jobs without the help of connections. There has been parts of literature that has argued for patrimonialism or corruption, where people gain favours to enter labour market by virtue of knowing someone. Khan (1998) and Rose Ackerman (1996) states that corruption has been the fundamental reason that has derailed progress of our nations. Using capability approach, corruption would be seen as social injustice that takes away capability of those who deserve the jobs, to those who are given the jobs by virtue of having certain connections.

5.1.4 Employers considerations when hiring technical education graduates

This section set out to investigate whether employers have considerations in hiring graduates. We found that yes, employers have considerations in hiring employees. Literature is consistent that in a competitive world, skills are crucial (Farjad, 2012). These considerations range from type of qualifications to skills that they deem suitable to personal characteristics. This behaviour by firms confirms to the capability approach where entities have free choice. The findings further show that there are barriers that employers lamented about, which have compromised the TVET system; Such barriers as curriculum that is not reviewed and not relevant to needs of industry, have affected the quality of graduates. Limited funding to TVET sector, multiple qualifications and then skills mismatch were all lamented on. For companies to freely choose, there is need for more options, that is need for a system that provides diversity in skills. Wearing the capability approach cap, these are some of the issues that would regress

the ability for technical education to optimally contribute to employability. Our study has found similar views on what skills enhance employability between graduates and employers.

Majority of employers have preferences on qualifications that they deem suitable. Most of the companies cited Trade Test as most preferred qualification, followed by City and Guilds and Malawi TEVET. Malawi TEVET was cited as somehow preferred qualification. Considering that Malawi TVET came with the reformed TVET system, and that it is not most preferred qualification, there is need to engage industry and lobby for this qualification. The capability approach applies in the agency of government, standing up and declaring the desirable qualification in the labour market, that will inform employers of which qualifications are relevant. Results showed that employers have preferences in terms of skills that they require from graduates.

5.2 Understanding employability using theory of demand and supply

Theory of demand and supply argue that equilibrium occurs at the intersection of demand and supply (Muradzikwa *et al,* 2008). Households supply labour to the market while firms demand labour from households. In this study, the whole essence of ultilising two tools, company survey and graduate survey was to understand the supply and demand side of skills from employers and graduates point of view.

To answer this research, the researcher made a proposition that, companies have considerations in hiring technical education graduates. Looking at the Technical, Entrepreneurial Vocational and Education tenet of skills, there was a match in what employers reported they look for in graduates compared with what graduates indicated made them employable, especially on technical skills seconded by education attainment. This confirms the theory of supply and demand, which looks for equilibrium.

Mohr & Associates (2005), define demand as quantity of goods and services prospective buyers are willing and are able to purchase during a certain period.

Quantity of labour depends on the size of the population and proportion of population willing and able to work. In understanding theory of demand and supply, it is important to understand labour. In our case, graduates supply labour and companies demand that labour. Parkin *et al* (2008) defines labour as the work time and work effort that people commit to produce goods and services. The quality of labour depends on human capital, which is the knowledge, skills and attitudes that people obtain from education, through work experience and on the job training (Rensburg *et al*, 2011; Jespersen, 2009). This skills, attitudes and competence in general are demanded by companies to achieve productivity. It follows therefore that options and choices individuals and businesses make and the way these choices interact in markets and the influence governments have are very paramount (Rensburg *et al*, 2011). For the labour market to have skills that employers need, there need to match demand and supply of skills.

Theory of demand and supply therefore is key in ensuring that there is a match in what companies want versus what graduates possess. This is why this theory was put as an explanatory theory in this study. It is envisaged that understanding factors influencing employability of graduates, is crucial. It can inform what skills, knowledge, and what gaps need to be filled in the labour market to match what the labour market wants which enhances employability.

According to Mohr and Associates (2005), in terms of employment, it has been observed that employment does not react immediately to changes in production. When demand increases, required increase in production is achieved using existing workers in a more efficient manner. When demand or production decreases, employers retain them and only removes them when production cannot recover. Other things that make it difficult include contracts that false employers to retain employees. However this theory points to the importance of a skilled workforce to match needs of industry.

5.3 CONCLUSION

In this chapter we discussed findings of our research using the capability approach, as well as theory of demand and supply. Our discussion noted that employability is a capability that is enhanced by technical education. Technical education itself was deemed to provide technical skills and education, that were rated by graduates as skills

that enhanced their employability. Most of the graduates were reportedly in fields that matched their training. If the choice to remain in those fields is made out of free will, we can assume that the graduates are practicing their rights to do and be what they reason to value. The fact that majority of graduates got initial employment in areas that matched their training and that there was significant relationship in that, and that currently were in jobs that match their training, meant that the definition of employability being graduates in areas of their specialisation was met. Our discussion of chapter 5, further showed that employers have various considerations in recruiting graduates, Within the TVET tenet of skills and qualifications, technical skills and education attainment were highly rated as employable skills by both graduates and employers.

6 SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This study set out to determine factors influencing employability of technical education graduates in Malawi. Understanding these factors is very important for employment creation and advancement of the private, public and development sectors which are engines for economic growth. In this chapter, we provide a summary in Section 6.1. Section 6.2 provides conclusions and Section 6.3 provides recommendations for the study.

6.1 Summary

In summary, the research had 6 chapters in total. The first chapter provided for the context of the study, with a brief description of Malawi and an analysis of trends between graduates and non-graduates in Malawi, as well as a description of TVET with bias towards technical education. Overall, the purpose of the research was to analyse factors influencing employability of technical education graduates in Malawi.

As skills development is crucial and technical education a key strategy, understanding factors influencing employability of technical education graduates is very crucial (Okwelle, Chijioke, Chukwumaijem, 2015; Kufaine, 2014). Without knowing factors influencing employability, it is difficult to match curriculum with industry requirements that then affects relevance in what industry needs versus what graduates possess. This brings about mismatch and inefficiency that affects productivity, growth and social and economic development, there by defeating the sore purpose of TVET. This study is therefore important as it may guide policy direction in making TVET graduates employable, but also using the capability approach, going beyond employability to understand social and economic development.

Chapter 2 set out with three objectives, to understand the research problem and research gap, develop an explanatory or theoretical framework to assist in interpreting research findings and to conceptualise the approach taken by the research. Past and current studies were reviewed in terms of their methods, data, findings and conclusions. This chapter also presented the research within development, as the broad academic field of study. Key attributes of the study were also presented. The capability

approach as well as the theory of demand and supply were presented as a relevant explanatory framework for this research together with conceptual framework for the study.

In chapter 3, presented the methodology for the study. Our discussion incorporates research strategy, research design, research procedure and methods, validity and reliability and limitations. Chapter 4 focuses on presentation of findings. We present research findings guided by the research questions. There are four research questions; what are factors that affect duration between graduation and first employment? did the Technical Education graduates initially get employed in professions that matched their training? Are graduates currently employed in areas of their training? What do employers look for before hiring technical education graduates. In chapter 5, focus is on discussion of findings using the capability approach. The research findings are discussed according to the research questions and hypothesis.

6.2 Conclusions

Malawi is a developing nation. In its quest to achieve development, it has implemented various policies as a strategy to meet its development objectives. Among the policies, include vision 2020 as well as Malawi growth and development strategy (Government of Malawi, 2013). Within these strategies, the issue of employment creation and wellbeing are paramount as these are precursors to social and economic development. In this research, we looked at factors influencing employability of TVET graduates in Malawi. Accruing to its benefits in discussing a study of our nature, the capability approach as well as the theory of demand and supply were used. In the capability lens, we viewed TVET in particular technical education as a social and economic strategy.

It was envisaged that understanding factors influencing employability of Technical Education graduates in Malawi would bear dividends to the technical education graduates, industry, technical colleges, TEVET Authority, Ministry of labour and the society at large. In their study, Powell & Mcgrath (2014) in Carbonnier & Gilles, (Ed.). advocated for the use of capability approach in evaluation technical education. They noted that most interventions by instutions such as TVET were done without considering the interests of the graduates in terms of what they perceived as important.

A study of our nature allows for graduates to contribute in the area of graduate employability and industry. On the part of Industry, the study allows a reflective process from industry and brings to equilibrium the key critical skills that are required by industry. Technical colleges are also given an opportunity to think through the skills development process of technical education. As Sen (1999) put it, the capability framework allows for a reflective process and beyond employment seeks to allow for achievement of social goals.

Although statistically there was no significant relationship in all the hypothesis that were tested except one, the descriptive statistics using cross tabulations presented strong support to the research questions. There was strong agreement that majority of technical education graduates initially get employed in professions that matched their training. The studies indicated strong agreement that graduates currently employed in areas of their training. Furthermore, it was established that employers have considerations in hiring technical graduates. Significant results were foud between course studied at college and initial employment.

6.3 Recommendations

This section provides recommendations for the study in section 6.3.1 we present practical recommendations. In Section 6.4.2 the researcher provides recommendations for future research.

6.3.1 Recommendations for the current study

In order to enhance employability of Technical Education Graduates, these practical recommendations are worth considering and applying. First, in a system, with multiple qualifications, certification and curricula as currently is, aspects of quality and harmonisation of skills are greatly compromised. Based on the fact that multiplicity of certificates and qualifications were rated as areas of concern by the industry, there is need for Malawi to come up with National qualifications Framework. This will prescribe the qualification levels, the proficiency required in each qualification as well as a link to other national qualification frameworks. In phasing this, there is need to create recognition to prior learning where all other skills will be integrated into a

framework. That must be followed with proper awareness campaigns to industry and to all stakeholders involved.

Second, having harmonised the curricula, there is need for constant curricula reviews once every three years as is the requirement with technical skills. This is crucial considering that we are living in a constantly changing environment. Furthermore the results indicated that within the TVET tenet, aspects of technical skills and education attainment were highly regarded by the graduates as well as employers, it is important to ensure that these aspects are strengthened to benefit the graduates as well as industry.

Third recommendation concerns the issue of gender. While Malawi is signatory of various national and international forums, where different protocol on gender were signed, there is need to move beyond the policies to implementation. This implementation of policy should be both short term and long term. In the long term the policy should target the girl child. In the short term, there should be career guidance and direction that will appeal to many females choosing career in TVET. That will improve capabilities and has potential for women economic empowerment.

Finally, there is need to Improve Monitoring and Evaluation of TVET programmes, as well as tracking of graduates by colleges to establish evidence programming and response to issues. There is also need to improved funding for the sector, so as to attract as many people as possible.

6.3.2 Recommendations for future research

The study recommends that future research would look at the same topic, but with a much bigger and representative sample. Other variables that would be of interest would be variables as location, looking at employability of rural versus urban graduates. It would also be interesting to find the role of employability for such as self employed graduates and also test determinants for self employment. Other capability components such as social injustice, would be interesting to explore in the Malawi set up, this would include issues of access, quality and context, The study was also dominated by participants from public technical colleges, future research might do a

comparative analysis of factors influencing employability of public technical colleges compared to those from private technical colleges.

6.4 Limitations

The study must be viewed in light of certain limitations. The results of the study may not be applied to other contexts and settings due to lack of poor external validity. The study thus only ultlised face validity as a way of ensuring validity. Second, with regards to our study, financial and time constraints were also a challenge, to collection of data. In terms of the company survey, poor response rate was a major challenge that was encountered. This resulted in the researcher devising multiple ways of collecting the same data, these included use of google forms, mailed questionnaires, and face to face. In many instances companies responded after a number of reminder phone calls from the researcher and this had implications on costs as well as information gathering.

The other limitations is that the researcher, has worked for the Technical Entrepreneurial Vocational Education and Training Authority. Literature indicates that such may bring a bias, of social desirability, however, the researcher was well aware and all participants who were involved in the study were made to understand that the research was purely for academic research purpos

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APPENDICES

Appendix 1.1: Consent Form

I the undersigned, have read and understood the study information sheet provided...

I have been allowed an opportunity to ask questions regarding the study

I understand that I will be interviewed for the purpose of the study

I have been offered adequate time to think through my participation in the study

I understand that my personal details such as my name and my employer address will not be revealed to people outside the project

I understand that my words may be quoted in, reports, publications and other research outputs but my name will be withheld.

I agree to assign the copyright I hold in my material related to this project to Fanny Thindwa.

I understand that I can withdraw from the study at any time if I wish, and I will not be forced to participate

Name of Participant:.....Date:.....

Researcher Signature:.....Date:.....

Consent Form: Adopted from Bryman and adapted by the Researcher

Appendix 2.1: Graduate Questionnaire

SECTION A: DEMOGRAPHICS

1. Gender of the respondent [ ] Male [ ] Female
2. Age _____
3. Location [ ] Urban [ ] Rural
4. Which Technical college did you go to _____

1	Nasawa	5	Salima Technical
2	Soche Technical	6	Lilongwe Technical
3	Mzuzu Technical	7	Livingstonia Technical
4	Namitete Technical	8	Other: Specify

SECTION B: RESEARCH QUESTIONS

What are factors that affect duration between graduation and first employment

5. When did you finish your studies:_____
6. Before TEVET, what is the highest level of education you completed?
   [ ] Primary [ ] Secondary
   [ ] Completed technical education [ ] University
7. Currently, what is the highest level of education that you have completed
   [ ] Primary [ ] Secondary
   [ ] Completed technical education [ ] University
8. Which level of TVET qualification did you complete?
   Artisan [ ] Operators [ ] Technician [ ]
9. What is your current employment status
   [ ] Wage Employed [ ] Unemployed, looking for a job
   [ ] Self employed [ ] Unemployed, not looking for a job

   If wage employed or unemployed > to question 11
10. If self employed, how much do you make in a month (Kwacha)_____

    Did graduates initially get employed in professions that matched their training

11. What did you study at technical college [___] [Codes on next page]

12. How long did it take you to get a job after your graduation_____

13. Was your first job, related to your field of study at college?

[ ] Yes [ ] No

Are graduates currently employed in professions that matched their training,

14. Did you have any connections (relative) that helped you get a job
[ ] yes [ ] No

15. Are you still employed in a job that matches your field of study
[ ] Yes [ ] No

16. If no, why did you change to your current profession
[ ] I did not find a suitable job
[ ] I did not like my profession
[ ] I wanted change

17. What was your starting salary (in Malawi Kwacha)?_____

18. What is your current salary_____

19. Rank the following skills in order which you feel enhances employability on a scale 1 to 5, where 1 is not likely to increase employability, and 5 most likely to increase employability

	Not at all likely	**Not likely**	**neutral**	**Likely**	**Most likely**
Basic Skills	**1**	**2**	**3**	**4**	**5**
Technical Skills					
Communication skills					
Leadership					

20. The following influenced my employability skills

	Strongly agree	Somehow agree	Neutral	Somehow disagree	Strongly disagree
Entrepreneurship skills					
Technical skills					
Educational attainment					
Vocational skills					

21. Of the four, rank the extent which greatly influenced your employability skills

	1=To a great extent	2=To a small extent	3=Not at all
Entrepreneurship skills			
Technical skills			
Educational attainment			
Vocational skills			

22. Do you plan to be in this career for ever?
[ ]Yes [ ] No

23. If no, why do you plan to quit.
[ ] I don't like it **[ ]** it doesn't pay much **[ ]** I am not interested

APPENDIX 2.2: COMPANY SURVEY

COMPANY PROFILE

1. Sector of company

[a] Agriculture [b] Wholesale and retail trade [c] Manufacturing

[d] Construction [e] Education [f] Health [g] Transport and storage [h] Other

2. Size of Company

[ ] 0-50 [ ] 51-100 [ ] 101-300 [ ] over 301

SECTION B: WHAT DO EMPLOYERS LOOK FOR BEFORE HIRING TVET GRADUATES

3. Do you have any preference in terms of what TVET graduates to recruit.

[ ] Yes [ ] No if no skip to Q.5

4. Which of these is your preferred qualification [put an X in the relevant box]

	Most Preferred	Somehow Preferred	Not at all Preferred
Trade test			
Malawi TEVET/CBET			
City and Guilds			
Malawi Craft			

5. We look for the following skills before hiring TEVET graduates

	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Communication					
Team work					
Problem Solving					

6. To what extent do you consider the following when employing TVET graduates

	To a great extent	To a little extent	To no extent
Soft skills			
Work experience			
Technical competence			
Practical aspect of TVET			
Theoretical aspect of TVET			
Gender			
Location			
Level of education attainment			
College attended			
Trade/occupation			
Self qualities			

7. Of the TEVET skills set, to what extent do you consider the following when hiring graduates.

	1=To a great extent	2=To a small extent	3=Not at all
Entrepreneurship skills			
Technical skills			
Educational attainment			
Vocational skills			

8. In your view, to what extent have the following affected quality of graduates

	1=To a great extent	2=To a small extent	3=Not at all
Multiple qualifications			
Limited funding for TVET			
Curriculum			

Skills mismatch			

9. How many of your employees have technical experience in TEVET?

   Males_____ Females_____

Appendix 3.2: Profile of the researcher and declaration of research interest

Fanny Thindwa is an Evaluator, Researcher and Trainer. Currently she is a student at the University of Witswatersrand School of Governance. In June 2016, she will graduate with a Masters Degree in Management: Monitoring and Evaluation. This research is being done in partial fulfilment of that degree. Fanny has worked for the Technical Entrepreneurial, Vocational Education and Training Authority (TEVETA) in Malawi for 8 years, as a Planning; Monitoring and Evaluation Specialist. Fanny Thindwa is passionate about making an impact in people's lives, in both big and small ways, hence the choice of a Monitoring and Evaluation Career.

Fanny has been awarded three scholarships in the course of her tertiary studies for her undergraduate, BCOM Honors; Post Graduate Diploma and Masters degree from various agencies, one of these being the Malawi Government. She has a wide range of interests but is currently focused on Youth, Training, Economics, Education and Development Interventions. This is the reason why a research project that is looking at employability of Technical Education graduates in Malawi has been formulated. Fanny is a member of South Africa Monitoring and Evaluation Association. She has held various leadership positions as publicity Secretary for All Malawians living in Kenya during her studies in Kenya. She is currently the group leader of the Masters cohort. Fanny has contributed to the body of Knowledge, publishing academic and non papers with such institutions as UNESCO, IVETA and Commonwealth Association of Polytechnics in Africa and this year has submitted an abstract to South African Association of Public Administration and Management *(*SAAPAM*).* Outside academia, Fanny loves people, loves to dance and is married. One of her wishes is to have twins someday. Fanny sees herself as a charismatic person, who prides herself on her ability to communicate effectively. She values simplicity and is viewed as a sharp, God fearing and determined person.

Fanny would like to declare that she has worked for TEVETA, a regulatory body of Technical Vocational Education and Training. Fanny hence duly, declares that the findings from this research are purely for academic research purposes, and that information in this research, is gathered for academic purposes.