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Employability Skills as a Predictor of Labour Market Outcomes of Female Graduates in Technical Fields: The Case of Ngamiland Region of Botswana.

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ABSTRACT

Background: The Botswana government identified vocational technical education as an area of education that can provide employment opportunities to citizens. There has been a significant number of women enrolling in technical institutions. However, women continue to face problems in securing employment in the technical fields and this can be attributed to lack of employability skills. However, with women being the victims of gender discrimination in the labour markets, especially in the technical field, attributing challenges that female graduates from technical institutions face to lack of employability skills might be inaccurate.
Aim: This study focused of female graduates from Ngamiland region, the study investigates whether employability skills help to, explain the labour outcomes of female graduates.
Setting: This study is located in the Republic of Botswana particularly the Ngamiland Region as a case study. The Ngamiland Region exists in the North west District of Botswana. The North West District Council, has ten villages and towns under its administrative wing. The Ngamiland Region has four technical colleges namely Maun Technical College, Maun Brigade, Ngethu Brigade and Okavango Brigade.
Methods: This study conducted an empirical review of literature from an explorative perspective focusing on the employability skills as a predicator of labour market outcomes for female graduates in technical fields.
Results: The study reveals three major findings. Firstly, that study communication skills were the skills that employers consider very important. These were followed by technology skills, problem solving skills, self-awareness skills, initiative and enterprise skills, self-management skills, time management skills and specialist skills. Secondly, the study revealed that female graduates have a high level of employability skills, implying that they believe they have employability skills necessary to gain employment. Thirdly, the study revealed that employability skills do not explain the labour outcomes of female graduates.
Conclusion: employability skills failed to explain the labour outcomes of female graduates in the technical fields does not mean that employability skills are not important. Employability skills are still important because they enable graduates to fit well in the labour markets.

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SECTION 1-INTRODUCTION

1.1. Introduction

This purpose of this section is to introduce the study. It discusses background to the study, the problem statement, the research objectives and the significance of the study. The section also summarizes the literature review related to the study and the methodology which was used to achieve the research objectives.

1.2. Background

The education of women has been a topical issue in Africa for many years. In Africa generally, women were traditionally regarded as mere child bearers and housewives, who should not have equal access to education as men. However, recent years have seen tremendous progress in as far as women access to education is concerned. The progress made towards improving women education in Africa has largely been motivated by the idea that educating African women help to eradicate poverty. This idea that women education helps to eradicate poverty is based on the fact they are the ones who normally bear the family burdens. Thus, education helps them to gain employment thereby consequently providing them with a source of income necessary to escape poverty.

For the Botswana government women empowerment through providing education opportunities to women is a priority. With employment opportunities being scarce, the government identified the technical field (vocational education) as one area of education that can provide employment opportunities to citizens. Despite technical jobs being generally perceived as men jobs, the government has made great efforts in ensuring that women have equal access to technical fields in the same manner as men. There is a significant number of women enrolling in technical institutions. Thus, to the Botswana government women education is not a vocational education has become a pivotal means of empowering women.

1.3. Context of the study

This section provides a thorough analysis of the context in which this study is conducted, utilising the political, economic, social, technological, ecological and legal factors in the business

environment (PESTEL) analysis approach. The context is imperative to this treatise for the simple reason that it, by its nature, influences the interpretation of phenomenon or issues under consideration. The inevitability of context is inspired by the philosophy of hermeneutics, particularly the views of Gadamer (**1989** cited in Lessem & Schieffer **2008**:226) who argues that context determines meaning, underscoring the notion that people have of a historically effected consciousness. He further argues that our consciousness is embedded and inclined in a particular history and culture that shaped it. Gadamer (**1989**) also argues that history does not belong to us but we belong to it. As such: 'Long before we understand ourselves through the process of self-examination, we understand ourselves in a self-evident way in the family, society and state in which we live' (p. 225). 'The focus of subjectivity is a distorting mirror. The self-awareness of the individual is only a flickering in the closed circuits of [*his or her*] historical life' (p. 230). That is why 'the prejudices of the individual, far more than his [*or her*] judgements, constitute the historical reality of his [*or her*] being' (p. 305).

The context of this study therefore is prefaced with a discussion of South Africa using the PESTEL analysis in turn. These are considered in this section, leading to a theoretical review of literature on the subject of graduate employability of females in technical fields.

The chapter first provides a contextual analysis of Botswana as a country giving (Morrison, 2021), followed by the discussion of the subject of employability skills as a predictor of labour market outcomes.

1.4. Pestel analysis of Botswana

Botswana is a landlocked Southern African country bordered by South Africa to its south, Zambia to its north, Zimbabwe to its northeast and Namibia to its west and covers (Dicey 2003) an area of about 581 730 square kilometres. Botswana was granted independence by Britain in 1966 led by its first present Seretse Khama who over the Botswana Democratic Part herein (the "BDP") which has been in power ever since. The country subscribes to the principle of *trial politica* in terms of which there is a separation of powers between the executive, judiciary and legislative arms of government. At the time of independence, the country had minimal development and was regarded as being among the 20 poorest countries of the world. The discovery of diamonds (Dicey 2003) in 1967 changed Botswana into a very successful economy by all standards in troubled Africa. This success is attributed to the fact that over the years the country has had astute financial or economic management coupled with free enterprise policies that led to highest growth rate in terms of Gross National Product herein ("GNP") in the entire

globe in the initial 20 years since attaining independence (Dicey 2003). To provide the context in which labour dispute resolution takes place in Botswana, the next sections discuss the political, economic, social, technological, ecological and legal issues.

1.4.1. Political issues

Botswana is regarded as a functional, multiparty and constitutional democracy running in terms of an elected government comprising three main organs of state, namely, the legislature, the executive and the judiciary (Bojosi 2009).

The current president of Botswana is Mokgwetsi Masisi who took over from Ian Khama early 2018. In all intents and purposes Botswana is touted the shining democracy which has changed Presidents two of whom still live in the country, namely Festus Mogae and Ian Khama (Bertelsmann Stiftung (2016). Two of Botswana founding Presidents of whom have since passed on in 1980 and 2018, being Seretse Khama and Sir Ketumile Quett Masire respectively (Bertelsmann Stiftung (2016). Botswana has remained steadfast as a republic since independence in 1966 and affording its citizenry aged 18 and above (save for situations the constitution restricted) the right to vote, campaign and contest for public office at their own expense (Bertelsmann Stiftung (2016).

Botswana is credited with having elections held religiously since independence has been touted freely and fairly contested having been held on schedule at all times (Bertelsmann Stiftung, 2016). Despite having a robust electoral system which also enjoys universal recognition it is crippled by its own shortcomings common to multi-ethnic societies characterized by unequal relations that Botswana apparently is (Bertelsmann Stiftung, 2016). This has perpetuated the concomitant marginalization of minority indigenous peoples, who are not afforded representatives in the National Assembly (Bertelsmann Stiftung, 2016).

1.4.2. Economic issues

Botswana is largely regarded as a mono-cultural economy, because it is dependent on the mining and export of diamonds to a great extent. Diamonds account for 71% of export earnings, on average, followed by copper nickel. Unemployment rate remains on average above 15% (Friedrich Ebert Foundation 2004). Diamond was discovered in Botswana in 1967 changing Botswana's tag from poorest into a successful country among others in Africa at large (Friedrich Ebert Foundation 2004). Over the years Botswana's economy has been regarded as needful of

diversification. To achieve more economic development away from the mining resources, it is incumbent upon Botswana to drift to other engines of growth such as tourism, manufacturing and financial services etc (Friedrich Ebert Foundation 2004).

Essentially, Botswana has an annual growth rate of 1.8% quarter-on-quarter in Quarter One, 2016, leading to a 2.8% annual increase year-on-year (KPMG, 2016). The economic growth rate reflects a healthy economic state given that an annual growth of 2.8% is faster than Botswana's population growth rate estimated at 1.21% in 2015 (KPMG, 2016). However, Botswana still struggles to curb unemployment which stood at 20% according to a 2013 estimate and faces a population of approximately 19.3% living below national poverty line according to 2010 estimate. In terms of employment distribution 26.4% are employed in Agriculture; while 17.5% in Industry; and 56.1% services based on a 2010 estimate. Labour participation rate as a percentage of total population ages of 15+ was estimated at 76.8% in 2014 (KPMG, 2016). In terms of inflationary pressure – Botswana experienced a marginal increase of 0.1% in its consumer price index (CPI) on a month-on-month (m-o-m) in July 2014, signaling as the fifth consecutive m-o-m rise. The inflation rate per annum nonetheless remained unchanged at 2.7% year-on-year (y-o-y) also recorded in June.

1.4.3. Social issues

Botswana occupies a geographical space of about 581 730 square kilometres (Dicey 2003) occupied by a population of 2.2 million people and a population growth of 2.0% per annum (Bertelsmann Stiftung, 2016). Roughly about 78% of the Botswana population speaks Setswana as their first language as per the 2001 census findings (Jefferis and Nemaorani, 2014). However, the business languages of the country are English, Setswana and Kalanga (KPMG, 2016). The BaTswana ethnic group comprises eight (8) sub-groups, followed by the BaKalanga, accounting for as much as 8% of the Botswana population. The remainder are BaKgalagadi, BaHambukushu, BaHerero, BaSarwa tribal groupings as well as expatriate (other African, Indian and European) ethic groupings commanding as much as 14% of the country's population (Jefferis and Nemaorani, 2014). The bigger chunk of the population is concentrated in Gaborone, Serowe, Palapye, Francistown and Selebi-Pikwe cities which are the key strongholds of the country (Jefferis and Nemaorani, 2014). The Ngamiland Region (also known as the Okavango Delta area) (Maun) and in the South of the country (Lobatse, Mahalapye, Kanye and Molepolole) are also important locations with collecting large collections of the population. Approximately 50% of the population however lives within 100 km environs of Gaborone (Jefferis and Nemaorani, 2014). Botswana is experiencing the challenge of dual

increase in urbanisation and rural depopulation at the same time, with the result that roughly as much as 60% of its population currently lives in the cities. This is owing to the fact that economic development is concentrated in the cities while the hardships common to rural population who survive on the agricultural sector are victims to perpetual droughts (Jefferis and Nemaorani, 2014). Botswana's urban population is projected to stand at 57.2% while its Human Development Index (HDI) is 0.683 effectively ranked at 109 out of 187 countries. The life expectancy in Botswana is estimated at 47.4 years according to a 2015 report (Bertelsmann Stiftung, 2016). The literacy rates of those that can read and write for the Botswana population stands at 88.2% for adults over 15 years of age; spread between 87.2% male and 89.2% female for the year 2015 as estimated (KPMG, 2016). The Ngamiland region is the place where this study is located.

The almost insurmountable challenge Botswana is faced with is the HIV/AIDS pandemic which has overwhelmed the country starting as early as the 1990s (Bertelsmann Stiftung, 2016). It is currently surmised that as many as 18.5% of are HIV positive, making Botswana classified as the hardest-hit among the countries of the world reeling from it. As a matter of fact people living with HIV/AIDS is estimated at 350,000 (2015 est.) (KPMG, 2016). The fact that the economically active demographic group is the most affected by HIV/AIDS makes the challenge increasingly worrisome (Bertelsmann Stiftung, 2016). The high rate of HIV infection presents a thorny constraint of the country's governance given the HIV prevalence of 18.5% in 2013, increasing from 17.6% in 2008 (Bertelsmann Stiftung, 2016). The government has embarked on several initiatives such as an extensive antiretroviral drug (ARV) program) waged against the disease making Botswana to be accorded several international awards (Bertelsmann Stiftung, 2016). These initiatives have already garnered positive initial results as ARVs are now free and part and parcel of the public health system accessible to all citizens which has resulted in an increase in life expectancy at birth. Botswana is ranked at 0.619 in terms of the UN Education Index and 0.486 in terms of gender inequality while its GDP per capita is $16099.3. The country also has a Gini Index of 60.5, poverty rating of 35.7% and aid per capita of $49.8 (Bertelsmann Stiftung, 2016).

Arguably, Botswana is perceived as regrettably lacking civic engagement as part and parcel of established cultural and historical heritage. Botswana's civic society is considered relatively weak when matched against sister countries like South Africa (Bertelsmann Stiftung, 2016). The country, however, has pockets of civic organizations somewhat active though enjoying latitude to the degree that they are not a perceived as a threat to government. Trade unions and the private media among others are perceived by government as posing a threat to its hegemony.

These few civic organisations such as trade unions and private media remain thorn for the government which is a threat to industrial democracy given the heavy handedness with which they are treated by the same government (Bertelsmann Stiftung, 2016). The socio-cultural analysis is important to this study as it influences the status of various gender groupings in the economic space especially women in technical career fields.

1.4.4. Technological issues

In terms of technological readiness, Botswana is ranked slightly below the average score with an overall number 102 in terms of innovation and 76th in terms of technological readiness in world rankings respectively (Jefferis and Nemaorani, 2014). Technology as the know-how for doing or accomplishing a task or something, be-it an age-old technology for wine making or latest cellphone high tech manufacturing know-how (Smit *et al.,* 2013). In terms of telephone and internet users Botswana has 160,490 main lines in use; 3.48 million mobile cellular; 600,248 Internet users (2015) (KPMG, 2016). Botswana cannot be considered a leader in terms of technological advancement though she has potential for becoming a decent technical diffuser given its growing strides educational, institutional and economic capabilities (Jefferis and Nemaorani, 2014).

1.4.5. Ecological issues

Environmental sustainability is increasingly topical in the entire globe though not without difficulty as a concept in terms of measuring it (Jefferis and Nemaorani, 2014). The environment comprises a scarce dose of natural resources at the disposal of organization who draws raw materials therefrom and those that also dispose of their waste into it, the latter of which constitutes waste creating various forms of undesirable pollution (Jefferis and Nemaorani, 2014). Beginning in the 1960s conservation of natural resources in the natural environment has been drummed as a need and commanding attention and awareness in larger society (Smit *et al.,* 2013).

A ranking scale composed of 22 performance indicators termed EPI[3] was developed and employed to gauge the environmental performance of countries within a ten point categories (Jefferis and Nemaorani, 2014). The EPI indicators are: “Environmental Health Water (effects on human health); air pollution (effects on human health); air pollution (ecosystem effects); water resources (ecosystem effects; biodiversity and habitat; forests; fisheries; agriculture and

[3] EPI stands for Environmental Performance Index formerly known as Environmental Sustainability Index (ESI).

climate change" (Jefferis and Nemaorani, 2014). In light of such a scale Botswana garnered an EPI of 53.74 in 2012 which essentially ranked her at 66 of the 132 countries measured therewith and in the result was overall considered to be as a "modest performer" (Jefferis and Nemaorani, 2014).

1.4.6. Legal issues

Botswana has a dual legal system composed of common law which is essentially a blending of common law which comprises both Roman-Dutch law as well as common law of England put together as one and traditional customary law on the other (Molokomme, 1985). The common law tradition as a legal system was imposed on then Bechuanaland Protectorate (present day Botswana) through the colonial piece of legislation then known as *General Administration Order 1891* which was essentially an extension of the laws that obtained in the Cape Colony on 10 June 1891 to the colony (Bechuanaland) (S 19, of the Bechuanaland Protectorate General Administration Order 1891). Botswana observes constitutional supremacism as a principle on the basis of which all actions of government as well as all laws it passes down are subjected to constitutional scrutiny leading to the striking down of any laws that could be found to contravene any rights enshrined in the Constitution of the Republic (Ch II, Ch 1, Laws of Botswana). 'Botswana's Constitution is graced with "a Bill of Rights, modelled along that of the 1950 European Convention for the Protection of Human Rights, providing for basic fundamental rights and freedoms such as the right to life, equality, personality, protection from torture and inhuman and degrading treatment and freedom of association and conscience as well as socio-economic rights" (Ch II, Ch 1, Laws of Botswana). Botswana's Constitution was relied upon by indigenous peoples commonly known as Basarwa to enforce their rights to ancestral land in the recent past (*Sesana and Others v Attorney General Misca* No. 52/2002 (Unreported judgment handed down on 13 December 2006, CKGR matter). Despite the Botswana government holding accolades in respect to upholding decisions of courts it is on record that the decision of the High Court pertaining to the famous indigenous peoples of the CKGR matter, was not fully complied with (Bojosi, 2009). Botswana has a functional legislature and effective court system which is graced with a Court of Appeal herein ("the CoA") at its zenith (Bojosi, 2009). Botswana commands a high record of good governance by all standards in Africa. This may be attributed to high quality public institutions, an independent legal system, and low levels of corruption in government, all of which the country has been able to develop and preserve over time (Jefferis and Nemaorani, 2014).

The next sections discuss the status of female graduates in technical fields in Ngamiland region in Botswana.

1.5. Statement of the Problem

Whilst the government has made great efforts to improve access to education for women in the technical fields, what is worrying is that women in the technical fields still continue to face problems in securing employment in their chosen fields of specialization. A study by (Bolaane et al, 2010) found out that male graduates in the technical fields are faring better keeping and securing employment than their female counterparts. It can be argued that unemployment in the technical fields is affecting both genders as there may not be enough technical jobs available to absorb graduates coming technical colleges. However, the disparity between male and female unemployment in the technical fields, may mean than this may simply be a matter of gender imbalance rather than general lack of availability of employment opportunities. Essentially, this means that women are not being offered equal employment opportunities as men in the technical fields. Thus, addressing the problem of female unemployment in technical fields might require ensuring equal access to employment opportunities for women and eliminating the stereotyping that perceives technical jobs as the preserve of men.

However, it is important to note that businesses primarily exist to make profits. In an increasingly competitive business environment, employers will hire the most productive person –that is the one who possesses the right skills they need irrespective of gender. Coincidentally, most of them might happen be males. It would therefore be difficult to accuse employers of labour discrimination on the basis of gender. The problem is that that it is expected that once a person graduates, he/she should be expected to automatically gain employment. Without the right skills and knowledge, it is practically difficult for one to gain employment, irrespective of gender. Thus, it is important to eliminate gender discrimination in the labour markets, and to ensure that female graduates in the technical fields are equipped with the employability skills that enable them to be equally competitive as man.

In a world largely dominated and controlled by men, it is difficult to completely discount the gender discrimination in the labour markets. Considering the general stereotypes that views technical jobs as the preserve of men, it is much more difficult to deny that low female unemployment in the technical fields is a direct result of gender discrimination. However, before attributing the low unemployment directly to gender discrimination, it is important to start by ascertaining whether the levels of employability skills explain their labour outcomes. This is

particularly important for Botswana, where to the best of our knowledge, there is no study that has investigated the relationship between employability skills and labour outcomes of female graduates. Thus, this study empirically investigates whether labour outcomes of female graduates could be explained by their level of employability skills.

The study uses a systematic approach where it firstly assesses the relative importance of the employability skills required by employers. The relative importance of the skills required then forms the basis for measuring the level of employability skills of the female graduates which are turn used to determine the extent to which they relate to labour outcomes. In essence the study uses employability skills to predict labour outcomes of female graduates being churned out of vocational training institutions. The study therefore aims to achieve the following objectives:

- Assess the relative importance of the employability skills required by employers in the technical fields
- Assess the employability skills level of female graduates in the technical fields
- Determine if the female graduates level of employability skills help to predict/explain their labour outcomes

The study uses Ngamiland Region as a case study. The Ngamiland Region exists in the North west District of Botswana. The North West District Council, has ten villages and towns under its administrative wing. The villages are (1) Maun; (2) Etsha; (3) Gumare; (4) Nokaneng; (5) Nxai Pan National Park; (6) Sehitwa; (7) Seronga; (8) Shakawe; (9) Shorobe and (10) Toteng. The Ngamiland district has a total population estimated at over 80,000 people (2011 Census Report), and covers a geographical area of 129,930 kms^2. The Ngamiland Region has four technical colleges namely Maun Technical College; Maun Brigade; Ngethu Brigade and Okavango Brigade.

1.6. Methodology

The focus of this study was on graduates who successfully completed programmes of study as defined in this study. Programmes indicated in the Table 1 below offered by the four vocational public institutions in Ngamiland were identified for the study. The institution offering programmes in the technical fields are Maun Technical College; Maun Brigade; Ngethu Brigade and Okavango Brigade. The researchers separated Maun Brigade from Maun Technical College since the majority of graduates learnt before the takeover of the Brigade by the Maun Technical College in 2012. The lists of courses were drawn from the Colleges' curriculum. The participants

for this study were graduates from these institutions who completed their qualifications in the various programmes at each exit level. Industry leaders and academic members of staff who are involved in placement and those who deal directly with industries were selected. Individuals who learnt at these institutions but were employed or residing outside the Ngamiland were excluded from this study.

Table 1
The Following Table show Vocational Colleges and Technical Programmes Offered.

Maun Technical College	**Maun Brigade**	**Ngethu Brigade**	**Okavango Brigade**
Plumbing Fitting & Machining Welding & Fabrication Painting & Decoration Bricklaying & Plastering Electrical Installation Auto Mechanics Electrical & Mechanical Engineering Building Construction Textile ICT	Bricklaying & Plastering Carpentry & Joinery Auto Mechanics Panel Beating & Spray Painting Plumbing & Pipe Fitting Professional Computing & IT Computer Systems Engineering & Hardware Maintenance	Computer Operator Automotive Mechanics Welding & Fabrication Cert. in Computer Studies	Electrical Engineering Cert. in Computer Studies Painting & Decoration ICT Plumbing & Pipe Fitting Auto Mechanics Bricklaying & Plastering Architectural Draughting Carpentry & Joinery Welding & Fabrication Panel Beating & Auto Spray Painting Maintenance Fitting Borehole Mechanics Electrical Installation Heavy Plant Mechanics Computer Engineering & Hardware maintenance Radio & Television Repairs Electrical & Mechanical Engineering Building Construction Automotive Engineering Mechanical Engineering Furniture Design & Manufacture

The research objectives for this study are addressed using data from two questionnaires related to employability skills and labour outcomes. The first questionnaire was distributed to employers in the Ngamiland region who provide employment opportunities in the technical fields. The questionnaire provided data necessary was to assess the relative importance of various employability skills to employers in the technical field.

The second questionnaire was distributed to female graduates from technical institutions in the Ngamiland region. The questionnaire provided data necessary to assess the level employability skills of female graduates from Ngamiland technical institutions and also their level of employability skills predict or explain their labour outcomes.

The relative importance of the employability skills was assessed by calculating a relative weight for each skill. The relative weight of each skill indicated the level of importance employers attach to each type of employability skill. The level of employability skill for the female graduates was assessed using the Average Employability Score which measured the extent to which the graduates possesses the employability skills. Whether employability skills determine labor outcomes of female graduates was determined by estimating a model that relates labour outcomes to the level of employability skills and then testing for the significance of the employability skills factor in the model.

1.7. Conclusion

The section introduced the study by discussing the research background, and the statement of the problem and the research objectives. The study also briefly introduced the methodology which was used to achieve the research objectives. The rest of the study presents in detail the literature review, the methodology, the research findings. The study finishes with a conclusion and discussion of the research findings.

SECTION 2-LITERATURE REVIEW

2. Introduction

This section reviewed literature related to the study. The purpose of the review was to get a deeper understanding of employability skills and how they influence employability. The section also uses literature to evaluate the capability of employability to influence labour outcomes of female graduates, in the face of gender imbalances in labour markets. Finally, this section,

through a review of past empirical studies was expected to provide ideas about the effective methods to employ to achieve the research objectives.

2.1. Employability Skills a Key Determinant of Employability

'Employability involves the capability to gain initial employment, maintain employment and obtain new employment if required' Hillage and Pollard (1998:1). From the perspective of employers, 'employability' refers to 'work-readiness', that is, possession of the skills, knowledge, attitudes and commercial understanding that will enable new graduates to make productive contributions to organisational objectives soon after commencing employment' Mason, Williams and Cranmer (2006). In other words, employability implies that an employee is supposed to be productive, effective and efficient in the performance of duties once they assume duty. Thus, employability does not only refer to one's ability to secure and keep employability, but to make positive contributions that increases the productivity of an organization.

Education is believed to be a key component of improving ones's employability. This is because it is through learning acquire the skills and the knowledge that they can use in an employment situation. The theoretical view that education is important improving ones employability is based on the human capital theory which points out that education provides opportunities for employability and high earnings (Schultz, 1971; Mincer, 1974; Berker, 1993 and Sakamota and Powers, 1995 and Psacharopoulos and Woodhall,1997)[4]. Thus, Botswana government efforts, in the form huge investments in the vocational educational sector and the education sector as a whole are therefore aimed at equipping citizens with the knowledge and skills that improves their employability.

However, the major weakness arising from this theoretical perspective is the inability to account for the failure to match graduate output with job creation. Precisely, the human capital theory fails to account for a growing gap between people's increasing learning efforts and knowledge base and the diminishing number of commensurate jobs to apply their increasing knowledge investment, especially in developing nations (Olaniyan and Okemakinde, 2008). In Botswana, a study commissioned by Bolaane et al (2010:77-78) revealed that there is mismatch between training provision and industry requirements. "The proportion of graduates respondents unemployed and looking for a job was relatively high, standing at 49.55%. This evidence thus proves that education alone does not guarantee employability of graduates.

[4] The theory also specifies that formal education is highly instrumental and an imperative to improve national production capacity, in particular that an educated population is a productive population (Olaniyan and Okemakinde, 2008).

For education to be useful, students need to be equipped with the right skills needed by employers, otherwise they will remain largely unemployable. Such skills are known as employability skills. Employability skills can be defined as "transferable core skill groups that represent essential functional and enabling knowledge, skills and attitudes required by the 21st century workplace… necessary for career success at all levels of employment and for all levels of education" Overtoom (2000: 2). Possession of employability skills forms the basis for succeeding in the employment situation. Employers tend to prefer employing workers with appropriate work experience because of commercial pressures to seek graduates who will not require long learning curves (Mason, 1998, 1999) cited in Mason, et at (2006). It is actually not only daunting task but expensive to train workers and as a result there is an inclination by employers to recruit persons with minimal need for further training once employed. Thus, it is important that graduates are well equipped with the right employability skills at tertiary or college level before they even enter the labour market.

The importance of employability skills in determining the employability of graduates mean that education need to tailored towards equipping students with the right skills that increase their employability. A number of countries, in the 1990s, embarked on strategic initiatives aimed at crafting and producing skills-sets seen as critical to employability, whose output often identified what is termed as *core, key or generic* skills (Harvey & Green, 1994 and Griesel and Parker, 2009: 4). Examples of these initiatives includes, the Mayer Report (Mayer 1992) and the Finn Report (Australia) (Finn 1991), the Dearing Report (UK) (Dearing 1996) and, The Secretary's Commission on Achieving Necessary Skills (US) (SCAN 2000), (Griesel and Parker, 2009). This was an important step towards a consolidating process of ensuring skills acquired by graduates led to 'work-readiness' and eventually produced favourable outcomes.

2.2. Core Employability Skills

What are the core specific employability skills required by employers? Several studies point out a different set of employability skills. Studies in the UK, in particular the 'Dearing Report (1996) identified a set of key skills which were 'relevant throughout life, not simply in employment' and amongst these were *Communication*, *Numeracy*, *IT* and *Learning how to learn* at a higher level and recommended that provision of such skills should become a central aim for higher education, (NCIHE, 1997, Para. 9.18, cited in Mason et al, 2006). For the Dearing report every graduate needs to have *Communication*, *Numeracy*, *IT* and *Learning how to learn* at a higher level as essentials skills to be employable.

The last element '*Learning how to learn'* is very illustrious of Stephenson's (1998) view that acquisition of a job is not the chief end of employability but there is a cogent need to look 'beyond employability at the moment of graduation towards employability in the context of lifelong learning: Capable people have confidence in their ability to (1) take effective and appropriate action, (2) explain what they are seeking to achieve, (3) live and work effectively with others, and (4)continue to learn from their experiences, both as individuals and in association with others. What stems from the above position is that a graduate must not only be capable of tackling tasks but must be action-oriented and be able to bring desirable outcomes in the employability situation.

Knight and Yorke's (2002) had earlier than the Dearing report developed the popularised USEM model which stands for **U** Understanding; **S** 'Skills'; **E** Efficacy beliefs, students' self-theories and personal qualities – of critical importance being the extent to which students feel that they might 'be able to make a difference' (not every time, but in a probabilistic way) and **M** Metacognition, encompassing self-awareness regarding the student's learning, and the capacity to reflect on, in and for action.

Griesel and Parker (2009)'s adaptation of USEM model states that 'Employability is influenced, in the main, by four broad and inter-related components: skillful practices (communication, management of time, self and resources, problem-solving and lifelong learning); deep understandings grounded in a disciplinary base (specialised expertise in a field of knowledge); efficacious beliefs about personal identity and self-worth; and, metacognition (self awareness and the capability to reflect on, in and for action) (Yorke and Knight 2006: 5). Griesel and Parker (2009: 5) convincingly based their study on these component sets of competences as the basis for employability.

DEST, (2002a) cited in Precision Consultants (2007) identified eight skills which they termed *Employability skills for the future* which resulted from an 'extensive research undertaken by the Business Council of Australia (BCA) and the Australian Chamber of Commerce and Industry (ACCI) in 2001' which incorporate, (1) Communication skills that contribute to productive and harmonious relations between employees and customers; (2) Teamwork skills that contribute to productive working relationships and outcomes; (3) Problem solving skills that contribute to productive outcomes; (4) Self-management skills that contribute to employee satisfaction and growth; (5) Planning and organising skills that contribute to long-term and short-term strategic planning; (6) Technology skills that contribute to effective execution of tasks; (7) Life-long

learning skills that contribute to ongoing improvement and expansion in employee and company operations and outcomes and (8) Initiative and enterprise skills that contribute to innovative outcomes'. These, according to DEST (2002a) enable graduates to "…*not only to gain employment, but also to progress within an enterprise so as to achieve one's potential and contribute successfully to enterprise strategic directions.'*

2.3. Employability Skills and Labour Outcomes of Female Graduates in Technical Fields

The assertion that employability skills help graduates secure and keep employment is debatable especially in the context of women in the technical fields. Technical jobs are generally viewed as physically demanding and such the jobs are generally perceived as male jobs. There is a general belief that women are less productive and this tends to accentuates women discrimination in the labour markets. Phelps (1972) cited in Strober (1990) develop a theory called statistical discrimination with respect to sex and race which sought to illustrate that 'if employers believe that minorities and females are in the long run less productive than white man and if employers operate in a world of uncertainty where it is costly to obtain information about the individual productivity of prospective employees then employers will assume that individual minorities and women have the presumed lower productivity characteristics of the average minority worker or women worker. Employers will then either pay women and minorities less or exclude them entirely from employment in a particular occupation." What may be emerging from this view is that discrimination is practiced as a deliberate effort by employers to evade uncertainty and the road least traveled, they choose against females for the avoidance of preconceived propositions that they were unproductive.

This confirms the unconscious bias[5] by the labour market. This was explained in a study by Bradley, (1999: 34-5), Smetherham, (2003) and Dennehy (2010) who confirmed that there is a tendentiousness of the labour market to have man monopolise economic, positional, technical, collective and physical power at the expense of female counterparts. In other words, there is a tendency by men to enhance their employability at the expense of women. This explains why the human capital theory is often criticized for being 'blind to gender differences as it ignores differences in the power of social groups to enhance their employability at the expense of others (Smetherham ,2003)[6]. This means that even if women possess the right employability skills, it

[5] *Audrey J. Lee* Unconscious Bias, Theory in Employment Discrimination Litigation Harvard Civil Rights-Civil Liberties Law Review [Vol. 40], p 482 503

[6] This sharp criticism of human capital theories caused the emergence of social closure theories' who actually argue that better paying and higher status jobs have been closed off to women or other

might be difficult for them to conquer the labour markets. Thus this gender bias towards employing men in the labour markets raises doubt as to whether gender inequalities in the labour markets could be overcome by simply investing in skills, employability and education of women[7].

The doubts are worsened by the fact that there are no empirical studies that have explored the extent to possession of employability skills by women result in desirable labour outcomes. Nonetheless, despite the gender imbalances that exist in the labour markets, employability skills may be an important determinant of labour outcomes of female graduates in Botswana technical fields. However, whether employability skills influence labour outcomes of female graduates requires an empirical investigation. Thus, the question whether possession of employability skills influences labour outcomes of female graduates is the subject of this study.

2.4. Conclusion

Education alone does not guarantee employability. The possession of employability skills is very important in improving the employability of graduates. This means that lack of employability skills might be explaining low employment among female graduates in the technical fields. However, the stereotypes which perceive technical jobs as male jobs and the general bias towards male employment in the labour markets might mean that employability skills might not be a very significant factor in explaining labour outcomes of female graduates. To be sure about the extent to which employability skills influence labour outcomes is the basis of this study. Due to the unavailability of previous studies related to the study, this review failed provides us ideas about the methodology to use for this study. The review, however at least managed to provide us with an idea of the important core set of skills which we used as the basis of our study. The next section presents the methodology which we used for the study.

SECTION 3-METHODOLOGY

3. Introduction

disadvantaged members of society, by men, as they seek to retain their relatively advantageous positions in the labor market, (Weber, 1968, and Collins, 1979.)

[7] The contribution of education to improvements in occupation and income is scant and Bronchi (2003) asserts that raising the level of education in a society can under certain instances increase the inequalities in income distribution.

This section presents the methodology that was used to achieve the research objectives It describes the research design, the population, the sample, the research procedures, the data collection methods and the data analysis methods that were used to address the research objectives. The section also discusses how ethical issues were dealt with in the study.

3.1. Research Design

We used both qualitative and quantitative research approaches to address the research questions. Precisely we converted qualitative data into quantitative data by assigning number to the variables of interest. This allowed us to objectively analyse the data and therefore avoid the some of the bias and subjectivity associated with analyzing entirely qualitative data.

3.2. Population

The study investigated employability skills of females who graduated from technical institutions in the Ngamiland Region. Precisely the study focused on female graduates from these four vocational public institutions: Maun Technical College, Maun Brigade, Ngethu Brigade and Okavango Brigade. Individuals who learnt at these institutions but were employed or residing outside the Ngamiland were included in the study. We considered only graduates from 2011 to present. To effectively study the employability skills of female graduates in Ngamiland, researchers also sought employers' perspective regarding the importance of various employability skills. The study sought the perspective of only employers in the Ngamiland region that offer employment opportunities to graduates in the technical fields. Thus, the population of the study was all females who graduated from technical institution in the Ngamiland region and as well as all employers who are in the technical field in the Ngamiland region.

3.3. Sampling Procedures

The guiding principle in choosing a sample is choosing a relatively bigger sample in an unbiased manner. There was no reliable information about the total number of female graduates who graduated since 2011. Where the was information about the numbers of graduates from the Colleges, the information did not separate between female and male graduates making it difficult to know the total number of female graduates from which to draw a sample from. Moreover, none of the colleges had comprehensive tracer study records for female students who completed from the colleges since 2011 and is such it was difficult to trace the former students. As a result, we used a snowballing sampling technique in which female graduates

were identified through college informants. The few female graduates contacted using informants were contacted and asked whether they knew other graduates who were the focus of the study. Using this technique, the researchers achieved a sample size 52 graduates. With regard to employers in the technical field, the companies were few such that we decided to include all identified companies as part of the study. A total of 14 companies were included as part of the study.

3.4. Data Collection Method

The questionnaire method was used to collect relevant data. Precisely, two questionnaires were formulated-one targeting the female graduates and the other one targeting the employers (companies) in the technical field. The employer questionnaire was aimed at revealing data about employers perception of the importance of various employability skills. The female graduate questionnaire was aimed at revealing data about their level of employability skills and also their labour outcomes[8].

3.5. Ethical and Confidentiality Issues

Any research which involves extracting information from individuals and private businesses has some ethical concerns. Important ethical concerns from the research were on the issues of privacy and confidentiality of research participants. The researcher assured participants of their rights to confidentiality and privacy. Respondents were not required to identify themselves or record their names, or their families and businesses they represent. The researcher-maintained anonymity of the respondents during data analysis and data was kept safely during the entire research process.

Participants were well informed about the nature of the study and participation was on a voluntary basis. All the informants will participate in the research voluntarily. For transparency purposes, a pledge was also made in writing to all informants that upon successful completion of the research, feedback will be provided to them. Finally, the researchers evaluated all possible risks to the participants and concluded that there was no risk exposure to be experienced by participants as a result of them being part of the study.

[8] Refer to Appendix 1 and 2 for the Female Graduate Questionnaire and the Employer Questionnaire respectively.

3.6. Research Procedures

3.6.1. Assessing the Relative Importance of Employability Skills to Employers

We used the following core employability skills, most of them identified by DEST, (2002a) as cited in Precision Consultants (2007) as the basis of our study[9].

Table 1: Employability Skills

1	Employability Skills
2	Self-awareness skill
3	Specialist skill
4	Time Management skills
5	Lifelong Learning skill
6	Communication skills that contribute to productivity
7	Communication skills that contribute to harmonious relations between employees and customers
8	Teamwork skills
9	Problem solving skills
10	Self-management skills
11	Technology skills
12	Initiative and enterprise skills

We then assessed the relative importance of the identified employability skills by using responses from employers regarding the above skills. In other words, relative importance of the employability skills was assessed from the perspective of the employers. This is reasonable because employers are the ones who know exactly the skills they consider important.

In the Employers Questionnaire, employers were asked to convey the level of importance they attach to various employability skills. The level of importance they attached to various employability skills was measured using the Weighted Average Score (WAS).

We then assigned the relevant Weighted Average Scores to the eight employability skills. This was done by matching the skills that employers were asked to assign Weighted Average

[9] Refer to Literature **Review Section 2.3** for a detailed discussion of these skills

Scores with the identified employability skills from and then assigning the relevant Weighted Average Score to the particular skills[10].

After assigning the Weighted Average Scores to the identified employability skills, we calculated the relative importance of each skill by using the following simple formula.

$$W_j = \frac{WAS_j}{\sum_{j=1}^{n} WAS_j} (1)$$

where:

W_j is the relative weight(importance) of each employability skill as perceived by employers

WAS_j is the weighted average score for each skill as perceived by employers.

3.6.2. Assessing the Level of Employability Skills of Female Graduates

We assessed the level of employability skills by calculating an Average Employability Score. The Average Employability Score was calculated using the following formula

$$\tilde{E} = \frac{\sum_{i=1}^{N} E_i}{N} \quad (2)$$

Where

$\tilde{E}$ is the Average Employability Skills Score for the female graduates

E_i is the employability skills score for graduate i

N is the total number of female graduates in the study

The Employability Skills Score for each graduate was calculated using the following formula:

$$E_i = \sum S_{j,i} W_j \quad (3)$$

Where

E_i is the employability skill score for graduate *i*

$S_{j,i}$ is the employability skill score for skill *j* for graduate *i*

W_j is the relative weight of the employability skill *j* as perceived by the employer.

[10] The set of skills which were used as the basis for assigning the weights to the identified core employability skills are detailed in Appendix 3.

The Employability Skills Score for each graduate was calculated using data from the Female Graduate Questionnaire. In the questionnaire the graduates were asked to convey their opinion about the extent to which they possess the eight core employability skills using a scale of 1 to 4. The higher the score, the higher the extent to which they think they possess the score. The employability score was also calculated using relevant weights for each skill mentioned in Section 3.7.1[11].

3.6.3. Assessing Whether Employability Skills Predict/Labour Outcomes of Female Graduates

We estimated the following model which regresses labour outcome for each graduate against her level of employability skills.

$$L_i = \alpha + \beta E_i + \varepsilon_i (4)$$

Where

L_i is the labour outcome for graduate *i*, measured as the length of time each graduate takes to secure employment

E_i is the level of employability skills for each graduate, measured by an employability skills score

ε_i is the error term

Data used for the Employability Scores for each graduate is the same data calculated in Section 3.7.2 when measuring the level of employability skills. Labour outcomes data was taken from the Female Graduate Questionnaires. Since the length of time it took to secure a job was measured as a range, we assigned values of 1, 2,3 and 4 for those who secured employment in under 6 months, 6-12 months, 12-24 months and over 24 months respectively. We only used data for labour outcomes and level of employability skills for female graduates who are employed in the technical field. We excluded those who are not working in the technical field, the unemployed and those with missing data. This is because we were interested in relating labour outcomes to employability skills of those who managed to secure employment in their chosen fields of specialization. After exclusion of data for such graduates, data for a total of 22 graduates was used to estimate the model.[12]

[11] Refer to Appendix 1for the Employability Skills Score for each graduate
[12] Refer to Appendix 3 for data which was used in estimating the regression model.

3.7. Analysis Methods

3.7.1. Relative Importance of Employability Skills

The Relative importance of the employability skills was measured using the Relative Weight. An employability skill with a higher Relative Weight (W) would indicate that employers consider it to be more important than those with lower Relative Weight. The relative importance of the skills is analyzed by presenting them in a tabular format starting with employability skills with a higher Relative Weight that is in their in their order of importance.

3.7.2. Level of Employability Skills of Female Graduates

Level of employability skills of female graduates was measured using the Average Employability score. The Employability Score will range between 1 to 4[13].A high employability Score that is closer 4 means that female graduates have a higher level of employability skills required by employers and a lower employability score which is closer to 1 mean that female graduates have a lower level of employability skills required by employers.

3.7.3. Determining Whether Employability Skills Predict Labour Outcomes

This was achieved by estimating a model that relates female graduates labour outcomes to their level of employability skills and then testing for the significance of the coefficient employability skills variable in the model. A significant coefficient of the Employability Skills variable in the model would indicate that employability skills are a significant factor in determining labour outcomes of female graduates. Conversely, an insignificant coefficient of the Employability Skills variable in the model was to indicate that employability skills are not a significant factor in determining labour outcomes of female graduates.

3.8. Conclusion

This section presented the methodology which we used to achieve the research objectives. The first research objective which is aimed at assessing the relative importance of the employability skills is achieved by calculating relative weights of each of the employability skill. The second objective which is aimed at assessing the level of employability skills of the female graduates is achieved by calculating the Average Employability Skills Score. The third objective which is aimed at determining whether employability skills of female graduates help to predict their

[13] This is because a Likert Scale of 1-4 was used in the questionnaire

labour outcomes is achieved by testing the significance of the coefficient of employability skills level in a linear model that relates it with labour outcomes. The next section presents the research findings obtained from following the methodology described in this section.

SECTION 4- FINDINGS OF STUDY

4. Introduction

This section presents the research findings obtained from following the methodology described in the previous section. The section firstly presents the results of the assessment of the relative importance of employability skills. It then presents the results of the assessment of the employability skills of the female graduates from Ngamiland technical institutions. Finally, it presents results of the assessment of determining whether employability skills help to predict female graduates labour outcomes.

4.1. Results of the Assessment the Relative Importance of Employability Skills

Our results of the assessment of the relative importance of the employability skills showed that life-long learning skills and communication skills were the skills that employers consider very important. These were followed by technology skills, problem solving skills, self-awareness skills, initiative and enterprise skills, self-management skills, time management skills and specialist skills.

Table 2: Relative Importance of Employability Skills

Employability Skill	Weighted Average Score (WAS)	Relative Weight (%)
Self-awareness skill	4,7	9.00
Specialist skill	4.4	8.43
Time Management skills	4.7	9.00
Life long Learning skill	4.9	9.39
Communication skills that contribute to productivity	4.9	9.39
Communication skills that contribute to harmonious relations between employees and customers	4.9	9.39

Teamwork skills	4,7	9.00
Problem solving skills	4.8	9.20
Self-management skills	4.7	9.00
Technology skills	4,8	9.20
Initiative and enterprise skills	4.7	9.00
Total	52.2	100

4.2. Results of the Assessment of the Level Employability Skills of Female Graduates

The Level of the Employability Skills of Female Graduates was assessed using the Average Employability Skills Score. We found an Average Employability Score of 3.23. The Score is relatively closer to 4 implying that female graduates believe that they possess adequate employability skills that can enable them to secure employment in their chosen fields of specialization.

4.3. Results of the Assessment of Whether Employability Skills Predicts Labour Outcomes of Female Graduates

We regressed labour outcomes against employability skills score. The results of the estimated model are as follows:

Table 3: Results of Estimated Model

$$L_i = \alpha + \beta E_i + \varepsilon_i \quad (4)$$

	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
		Beta		

(Constant)	0.743617457		0.410636	0.685705
Employability skills	0.596903138	0.244685255	1.128571	0.272435

The results of the estimated model show that the coefficient of the Employability Skill variable is insignificant at all levels of significance (1%, 5% and 10%). This means that employability skills are not a significant factor in explaining the labour outcomes of female graduates in the technical fields.

SECTION 5-CONCLUSIONS AND DISCUSSION

5. Introduction

This section summarizes the research, discusses the implications of the research findings and provides recommendations. The study also discusses the recommendations, limitations of the study and provides suggestions for future research.

5.1. Summary of Research Findings

The study uses a case study of female graduates to find out whether employability skills could help to predict their labour outcomes.
The research objectives of the study were follows:

- Assessing the relative importance of the employability skills required by employers;
- Assessing the level of employability skills of female graduates from technical institutions in Ngamiland Region;
- Determining whether the employability skills that female graduates from technical institutions in Ngamiland Region help to predict their labour outcomes;

The study therefore had three major findings

- Firstly, the study revealed that communication skills were the skills that employers consider very important. These were followed by technology skills, problem solving skills, self-awareness skills, initiative and enterprise skills, self-management skills, time management skills and specialist skills.

- Secondly, the study also revealed that female graduates from technical institutions have a high level of employability skills, implying that they possess most of the employability skills required by employers to secure employment.

- Thirdly, the study revealed that the level of employability skills that female graduates possess does not explain or predict their labour outcomes.

5.2. Implications of Research Findings

The research findings that employability skills possessed by female graduates in technical fields do not explain their labour outcomes have both theoretical and practical implications. It is widely believed in theoretical literature that employability skills are an important determinant of labour outcomes. These results imply that this is not always the case, especially for female graduates in technical fields who may be victims of gender discrimination. Thus, there might be need to review theoretical perspective which seem to regard employability skills as the most important determinant of employability.

The practical implication of these findings is that this study will make policymakers, especially governments, reconsider their policies regarding female employment in technical fields and the labour markets as a whole. The study will force them to look beyond skills development as a way of improving employability of women, but also to seriously consider elimination of gender discrimination in labour markets.

5.3. Recommendations

Firstly, there is a high possibility that low unemployment of female graduates from technical institutions is a result of gender discrimination rather than their lack employability skills. This is because female graduates are attending the same institutions that males attend whereby they acquire the same skills. The disparity between male and female employment should therefore not be huge. We therefore recommend that the government put greater efforts in trying to eliminate gender discrimination in the labour markets. Efforts should be mainly directed towards eliminating stereotypes that perceive technical jobs as the preserve of men.

Secondly, it is important to note that low unemployment among female graduates can merely be a case of low supply of jobs rather than gender discrimination. In fact, the study noted that there are few companies in the Ngamiland Region that provides employment opportunities to

graduates from the technical fields. We therefore recommend that the government putting more effort in increasing the supply of jobs in the technical jobs. This can be done by attracting and increasing investment in the technical field industry.

Finally, the fact that employability skills failed to explain the labour outcomes of female graduates in the technical fields does not mean that employability skills are not important. Employability skills are still important because they enable graduates to fit well in the labour markets. Thus, we recommend that the government and the technical institutions themselves put more in skills development, especially the skills that employers consider important. This can be done by tailoring skills development to requirements of the industry.

5.4. Limitations of Study

We identified one major limitation of this study which could have affected the reliability of this study. The study measured the level employability skills from the perspective of the female graduates. It is possible that their opinions that they expressed regarding their employability skills might have been subjective. This could have well affected the net result regarding the relationship between employability skills and labour outcomes. However, since we made efforts in encouraging respondents to answer questions as honestly as possible, we believe that measure of employability skills reasonably represented their level of employability skills. Moreover, the relatively large sample size used in estimating the model might have helped in eliminating the possible bias and subjectivity arising from measuring employability skills from the perspective of female graduates themselves.

5.5. Suggestions for Future Research

As explained earlier, the major limitation of the study is that employability skills were measured from the perspective of the female graduates themselves, which means that the level of employability skills might be inaccurate. Further research should focus on finding ways of objectively measuring employability skills so as to attain objective results regarding the relationship between employability skills and labour outcomes.

Since employability skills weakly explain labour outcomes for female graduates in the technical fields, there is a high possibility that this is due to gender discrimination in the labour markets. Future research should therefore focus on investigating whether gender discrimination is influencing labour outcomes for female graduates from the technical institutions. A comparative

study countrywide will be required as well as beyond the boarders of Botswana, such as in South Africa and SADC at large.

5.6. Conclusion

The study has investigated whether employability skills explain labour outcomes of female graduates in the Ngamiland Region. The study made an interesting major that finding that employability skills that female graduates believe they possess does not explain their labour outcome. This is contrary to wide beliefs that employability skills are an important determinant of labour outcomes. As a result, we expect this study to have far reaching theoretical and practical implications. Much interestingly, we expect the study to invoke a debate around the issues of gender discrimination in labour markets in Botswana, which is the most likely reason why there is low unemployment among female graduates in the technical fields. Thus, this study provides the basis for addressing issues female unemployment in the labour markets in Botswana.

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Appendix 1-Employers Assigned Weighted Average Scores for Employability Skills

The following data was used as the basis for assigning Relative weights to employability skills. It shows the level of importance that employers attached to various set of skills grouped as basic skills and understanding; knowledge and intellectual ability skills and workplace skills and knowledge.

1. Basic skills and understanding.

	1	2	3	4	5	Average Scores	1	2	3	4	5	Average Scores
	Satisfaction with graduate competences & understanding.						Importance to you of different attributes					
	Very Dissatisfied	2	3	4	Very Satisfied		Unimportant	2	3	4	Very important	
Prior exposure to the work environment.	0	0	3	4	2	3.9	0	0	0	6	3	4.3
Knowing the organization.	0	1	5	2	1	3.3	0	0	0	2	6	4.8
Ability to find and access information.	0	0	3	4	2	3.9	0	0	0	0	9	5
Ability to use new information.	0	1	2	4	2	3.8	0	0	0	2	7	4.8
Proficiency in English.	0	1	2	3	3	3.9	0	0	0	2	7	4.8
Oral presentation skills.	0	1	4	2	2	3.6	0	0	0	1	8	4.9
Written communication skills.	0	0	7	1	1	3.3	0	0	0	1	8	4.9
Numeracy or quantitative literacy.	0	0	5	2	2	3.7	0	0	1	1	7	4.7
Computer literacy.	0	1	2	3	3	3.9	0	0	0	2	7	4.8
Technical ability.	0	0	1	4	4	4.3	0	0	0	2	7	4.8
Ability to use information technology.	0	0	4	2	3	3.9	0	0	0	2	7	4.8

2. Knowledge and intellectual ability

	1	**2**	**3**	**4**	**5**	Weighted Average Scores	**1**	**2**	**3**	**4**	**5**	Weighted Average Scores
	Satisfaction with graduate knowledge & intellectual ability.						Importance to you of different attributes.					
	Very Dissatisfied	**2**	**3**	**4**	**Very Satisfied**		**Unimportant**	**2**	**3**	**4**	**Very important**	
General knowledge about local and global affairs	2	1	2	2	0	2.57	0	0	2	0	7	4.6
Subject or discipline or core principles & processes	0	0	3	4	0	3.57	0	0	1	0	7	4.8
Enquiry and research skills	0	0	4	3	2	3.78	0	0	2	2	3	4.1
Interest in ideas and desire to continue learning	0	0	1	4	2	4.14	0	0	2	1	6	4.4
Intellectual flexibility and adaptability	0	0	0	4	4	4.5	0	0	0	1	6	4.9

Understanding of economic and business realities	0	0	4	3	2	3.78	0	0	0	3	4	4.6
Ability to summary key issues	0	0	3	4	0	3.57	0	0	1	2	6	4.6
Ability to relate a specific issue to the broader whole	0	0	3	4	0	3.57	0	0	0	5	4	4.4
Critical and analytical ability	0	0	1	6	0	3.86	0	0	0	3	6	4.7
Ability to formulate hypothesis and assumptions	0	0	2	5	0	3.71	0	0	3	1	5	4.2
Ability to follow and construct logical argument	0	0	2	3	1	3.83	0	0	0	3	6	4.7
Rapid conceptualization of ideas	0	1	2	4	0	3.43	0	0	0	3	6	4.7

3. **Workplace Skills and Applied Knowledge**

	1	2	3	4	5	Average Scores	1	2	3	4	5	Average Scores
	Satisfaction with graduate workplace skills & applied knowledge						Importance to you of different attributes					
	Very Dissatisfied	2	3	4	Very Satisfied		Unimportant	2	3	4	Very important	
Ability to apply knowledge to new situations.	0	1	4	2	2	3.6	0	0	0	1	8	4.9
Ability to recognize a problem situation.	0	0	3	2	4	4.1	0	0	0	2	7	4.8
Ability to choose appropriate information to address problems.	0	0	3	4	2	3.9	0	0	0	2	7	4.8
An appropriate approach to problem solving.	0	0	2	4	3	4.1	0	0	0	1	8	4.9
Ability to plan and execute tasks independently.	0	0	3	2	4	4.1	0	0	1		8	4.8
Ability to relate specific issues to wider organizational context.	0	1	5	2	1	3.3	0	0	0	2	7	4.8
Ability to monitor and evaluate own worked related actions.	0	0	3	5	1	3.8	0	0	1	1	7	4.7
Ability to devise ways to improve own actions.	0	0	2	4	3	4.1	0	0	1	1	7	4.7
Ability to deal with different cultural practices.	0	0	3	3	3	4	0	0	2	2	5	4.3
Understanding of changing workplace practices.	0	0	2	4	3	4.1	0	0	0	1	8	4.9
Ability to follow and construct logical argument.	0	0	1	5	3	4.2	0	0	0	2	7	4.8
Rapid conceptualization of ideas.	0	0	3	2	4	4.1	0	0	0	1	8	4.9

Appendix 2-Data Used to Measure Average Employability Score

Graduate	Employability Score
1	2.816
2	3.4502
3	4
4	3.1819
5	2.818
6	4
7	3.6302
8	2.3641
9	3.182
10	3.4502
11	3.8314
12	2.3639
13	3.09

14	3.621
15	3.9061
16	3.1841
17	2.818
18	3.09
19	3.1819
20	4
21	2.6322
22	2.544
23	2.3639
24	2.816
25	3.4502
26	2.3641
27	2.3601
28	3.6379
29	2.8219
30	2.2546
31	3.6321
32	3.0978
33	3.4463
34	3.1703
35	3.5363
36	3.362
37	3.7318
38	3.4598
39	3
40	3.73
41	3.8122
42	3.2702
43	3.5383
44	3.7222
45	2.7106
46	3.0097
47	3.9061
48	3.2874
49	3.5441
50	2.9923
51	3.2682
52	3.2778
Average	**3.225565385**

Appendix 3-Data Used to Estimate Regression Model

Graduate	Labour Outcome	Employability Skills Score
1	3	2.816
2	1	4
3	1	3.1819
4	4	4
5	3	3.182
6	4	3.8314
7	3	3.09
8	3	3.9061
9	3	3.1841
10	1	3.1819
11	4	4
12	2	2.544
13	3	2.816
14	4	3.4502
15	3	3.6379
16	4	3.4463
17	2	3.5363
18	1	3.362
19	3	3.8122
20	3	3.5383
21	3	2.9923
22	3	3.2778

For Labour Outcome:

1 means: Graduate secured a job in under 6 months

2 means: Graduate secured a job within 6-12 months

3 means: Graduate secured a job within 12-24months

4 means: Graduate secured a job after over 24 months