The Quality of Higher Education and Its Influence on Graduate Employability and Employer Perception

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DEDICATION

To my parents Vuyani and Vuyelwa Mqingwana

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The completion of this mini-dissertation was virtually impossible without the patient support of several people. Firstly, I thank the Lord Almighty for giving me the strength, wisdom, the gift of life, and also making me know the following important people, who contributed immensely to this project: I would like to express my gratefulness to my supervisor, Ms Carol Cuthbert, for the guidance, wisdom, inspiration and unwavering support. I salute you for the support, contributions, and above all affording me a greater portion of your valuable time in helping me throughout this project. I would like to express my sincere gratitude for nothing more than doing your job right, I started this journey with you, and your undying support both directly and indirectly was noteworthy and immense towards the completion of this study. I feel proud to be a product of your guidance, and in all that, I learned quite a lot. May God bless you more and reward you amazingly abundantly. Last but not least would like to thank my family and friends for their continuous support and for believing in me. I do not have the right words to thank all of you, and words alone cannot express it. I want to thank you once again for the support and encouragement you gave all the way. May the Lord, Jehovah Jireh, provide all your needs to the fullest, and may all of you not lack but instead have what you cannot contain.

ABSTRACT

This study examined the quality of higher education and its influence on graduate employability and employer perception. Through determining the factors influencing graduates' employment by employers and also the elements that induce employers in employing graduates, this was achieved. This research is rooted in a positivist perspective determining the relationship between graduate employability and a universities' status. The main goal of this research was to examine to what extent employers are influenced by a higher education institution's perceived reputation when employing graduates. The linear regression model was used to predict the relationship between graduate employability (dependent variable) and the perceived reputation of the university by employers and citations of the university. This was achieved using quantitative methods. The quantitative database that this research relied on is Quacquarelli Symonds (QS) world university ranking. This research made use of descriptive data analysis as well as linear regression. The data set analysis showed citations of the institution had a significant negative relationship with the rate of employability (although this was a relatively weak relationship). The reputation of the institution and the number of international students enrolled do not affect the rate of employability. The analysed data set also showed that the number of citations of a university had a significant impact on the rate of employability at the 10% significance level. As such, higher education institutions need to consider including current market demand into their offerings to improve their graduate's employability.

Table of Contents

DECLARATION ON COPYRIGHT **2**

DECLARATION ON PLAGIARISM **2**

DEDICATION **3**

ACKNOWLEDGEMENTS **4**

ABSTRACT **5**

LIST OF FIGURES **8**

LIST OF TABLES **9**

CHAPTER 1 INTRODUCTION **10**

1.1 Introduction 10

1.2 Research Context 10

1.3 Research Questions 12

1.3.1 Primary Research Question: 12

1.3. 2 Secondary Research Questions: 12

1.4 Goals of the Research 12

CHAPTER 2 LITERATURE REVIEW **14**

2.1. Introduction 14

2.2. Graduate employability 14

2.3. The relationship between employability and higher education institutions 17

2.4. Measuring the quality of higher education 20

2.5. The relationship between HEI and employability in South Africa. 22

2.6. Theoretical framework 25

2.7. Conclusion 26

CHAPTER 3 METHODOLOGY **27**

3.1 Introduction 27

3.2. Research Paradigm 27

3.3 Research Goals and Objectives 27

3.4 Research design 29

3.5 Sampling 31

3.6. Data Analysis 31

3.5 Ethical considerations. 32

CHAPTER 4 RESULTS **33**

4.1 Introduction 33

4.2 Single regression 33
4.2.1 Employment Rate and high academic reputation 33
4.2.2 Employment Rate and Citations of institution 34
Source: Author 34
4.2.3 Employment Rate and International Students 35
4.3 Multiple Regression 37
CHAPTER 5 DISCUSSION AND CONCLUSIONS **42**
5.2 Results and Discussion 42
5.3 Recommendations 44
5.4 Conclusion 44
References **47**

LIST OF FIGURES

Figure 2.1: The career edge model……16

Figure 2.2: Employability diagram …… …..17

Figure 3.1: Model for graduate employability based on research goals……28

Figure 4.1: Employment rate and citations of institutions…… ……36

Figure 4.2: Scatterplot of regression analysis……39

Figure 4.3: Normality of response variable (Employment rate)……40

LIST OF TABLES

Table 3.1: QS ranking indicator……..……30

Table 4.1: Employment rate and academic reputation…….……34

Table 4.2: Employment rate and citations of institutions…….....35

Table 4.3: Employment rate and international students……..37

Table 4.4: Employability regression…….……42

CHAPTER 1 INTRODUCTION

1.1 Introduction

This research project examines the perceived quality of higher education and its influence on graduate employability and employer perceptions. This first chapter outlines the research context and research questions that acted as a guide for this project.

1.2 Research Context

The concept of employability is thought of as one of the key outcomes of higher education (Antonenko, et al., 2020; Boden & Nedeva, 2010; Dicker, et al., 2019;). The assumption is that individuals who possess university qualifications have the necessary skills to occupy higher-end labour market jobs. As a result, higher education qualifications have been promoted as a key determining factor in a good quality of life as well as higher earnings (Griffin, 2019). This belief has increased enrolment in Higher education institutions globally. The number of graduates entering the labour market has increased beyond the demand for graduates (Drydakis, 2016).

Researchers (Antonenko, et al., 2020; Bhorat, et al., 2006; Stats SA, 2019) note that while graduates have previously been able to secure employment, the changes in work because of globalisation and technological advances have shifted labour market demands. Brownlee (2020, p. 18) explains that equipping students with the skills needed for a career is inadequate; students must be trained to work in complex work environments as well. This is especially true within the context of the COVID19 global pandemic, where the notion of work is drastically changing. Currently, the labour market requires graduates to possess the necessary skills to adapt to flexible working environments (Brownlee, 2020).

Graduate employability is no longer solely determined by possessing a university qualification but additionally by employee perceptions about the university (Brown, et al., 2021). Bhorat and Visser (2012), state that the differences in the quality of tertiary institutions contribute to the graduate unemployment rate. According to Akareem and

Hossain (2016) quality of education can be defined in multiple ways. Mitchell (2010) looked at four perspectives namely: stakeholders' perception, quantifiable elements, course design elements, and external standards that should be used to define the quality of education. Furthermore, perceptions of a universities' culture and educational standards cause a sense of bias on the employers towards employing graduates (Bhorat and Visser 2012). This is due to the perception employers have that "HBIs are much poorer in ensuring success in the labour market for their client base than HWIs" (Bhorat and Visser, 2012, p. 13).

A growing voice within the literature is the argument that graduate employability is also determined by the personal attributes of graduates (Harry, et al.,2018; Hodgman, 2018; Van Broekhuizen, 2016). This strand of authors argues that transferable skills like interpersonal skills allow graduates to adapt to the current labour demands, hence employees focus on them. While the two identified trends within the literature have brought about valuable insights, the growing rate of unemployed graduates shows a need for further research into this topic. A study by Rogan, Wildschut and Mncwano (2020) argues that graduate employment in South Africa is equivalent to that in the European Union and other nations in comparison. In addition, Rogan, et al, (2020) states that graduate employment studies are often ad hoc and focus on graduates from only a handful of universities or degree programmes. Currently, the gap within graduate employability research is around understanding the factors that determine employability in an ever-changing environment. It is against this backdrop that this research examined the quality of higher education and its influence on graduate employability and employer perception through a human capital perspective.

In trying to unpack the topic, the research took on Human Capital Theory (HCT), as its guiding theoretical framework. Human capital is described as an investment made by people to enhance their productivity in the economy (Holden & Biddle, 2016). According to Schultz 1961 (cited in Nafukho, et al., 2010, p. 510) he defined human capital as "knowledge and skills that people acquire through education and training being a form of capital". Human capital can be broadly defined as the stock of knowledge, skills and other personal characteristics embodied in people that helps them to be productive (Tahir et

al., 2020). A new OECD measure of human capital builds on two components: years of schooling and rates of return to schooling. Its novelty comes from its assumptions on marginal rates of return to education (Tahir et al, 2020).

The definition of human capital evolved in the 1990s and included the element of productivity according to Cohn and Geske 1990 (cited in Nafukho, et al., 2010, p. 548), who defined human capital as “an investment in education and training that has both private and social returns”. According to Nafukho et al. (2004) production of a person is increased by attending school and receiving training, increasing the chances of obtaining higher wages in the free market and thus contributing positively, socially. The gap identified for this study is to identify the different indicators that influence employers’ perception of universities’ graduate employability. This research employed the Quacquarelli Symonds university ranking system (QS) as its database. A data set (n=123) was derived from the database and analysed using multiple linear regression to address the following research questions:

1.3 Research Questions

1.3.1 Primary Research Question:

- To what extent does an employer’s perception of a higher education institution’s reputation, impact the employability of graduates?

1.3. 2 Secondary Research Questions:

- What elements determine the employability of graduates by employers?
- What factors influence employers in hiring graduates?

1.4 Goals of the Research

The researcher seeks to meet the following research objectives in this study:

1. To determine the factors influencing graduate’s employment by employers
2. To determine the elements that induce employers in employing graduates

Masron, Ahmad, and Rahim (2012) developed a conceptual framework of intangible performance looking at the Key Performance Indicators (KPI) and Key Intangible Performance (KIP). The KPI's are tangible indicators such as teaching, research, supervision, publications, and consultancy. On the other hand, intangible indicators are classified as a contribution to the university and a contribution to society or community (Masron, Ahmad, and Rahim 2012). To address the objectives of this research the KPI's indicated in the framework will form the basis of the research as these indicators influence the perception of the employers.

CHAPTER 2 LITERATURE REVIEW

2.1. Introduction

This chapter contextualizes graduate employability within the higher education system in two ways. Firstly, it discusses the definitions of graduate employability and how this has changed over the years. Secondly, it then discusses Higher Education Institutions (HEI) ' role in preparing students for the labour market. The restructuring of the global economic system shifted the traditional forms of employment, and this meant employers were now looking for employees who were flexible enough to respond to market demands (Andrews & Higson, 2008, p. 117). More recently, the global pandemic has shifted the demands on graduates, with employers looking for employees with more technical skills (Brownlee, 2020; Burgess & Sievertsen, 2020). Boden and Nedeva (2010, p. 40) explain that graduates' employability is rooted in the belief that graduates' success depends on the skills and knowledge they acquire in HEI. This placed pressure on HEI to produce graduates that possessed the skills needed to compete in this globalised labour market. An analysis is needed on the changing relationship between employability and higher education in understanding what quality education is. This chapter explores and understands the dominant trends in graduate employability on a global scale and, most importantly, within the South African context.

2.2. Graduate employability

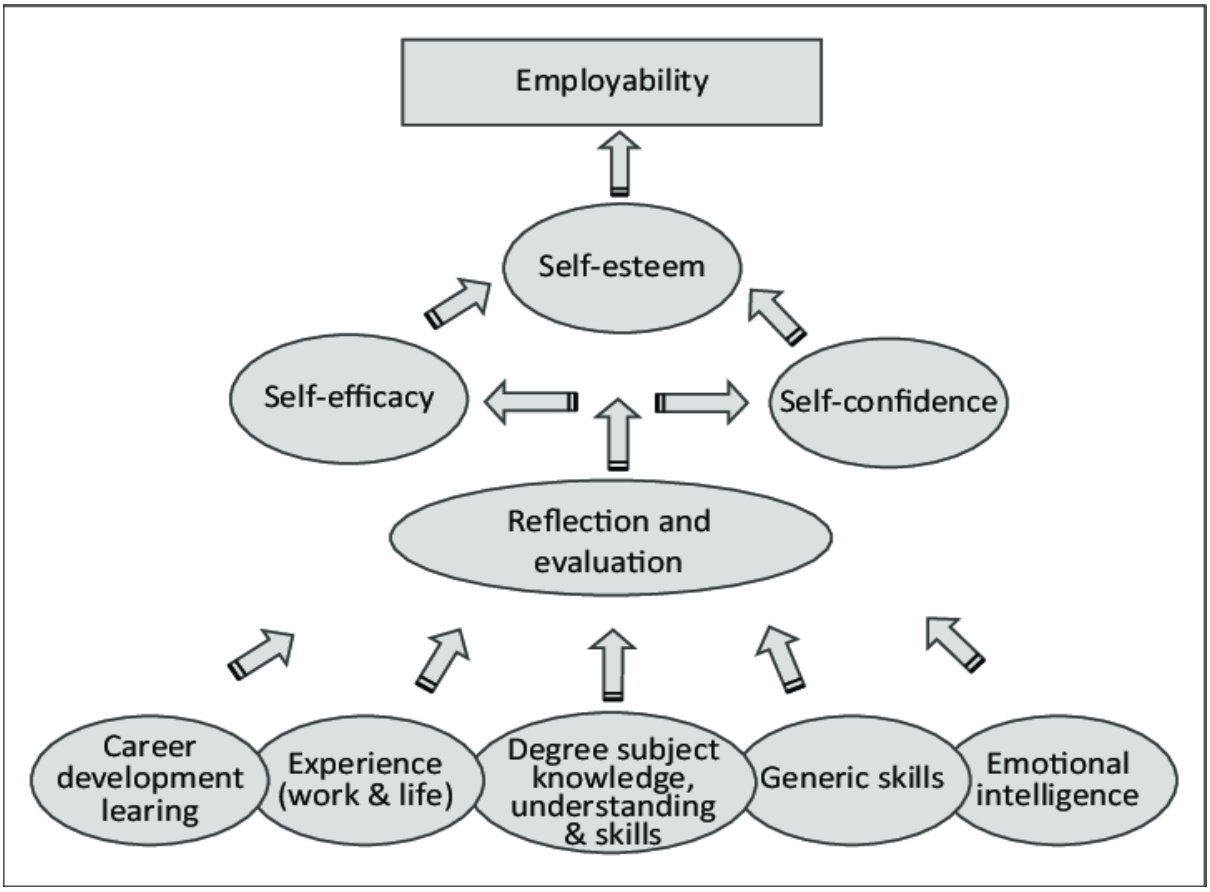
Employability is a concept that relates to the "economic value of education" or the relationship of education to labour markets (Andrews & Higson, 2008, p. 112; Boden & Nedeva, 2010, p. 35). Before the rise of globalisation, graduate employability was considered for preparing graduates for the workplace (Boden & Nedeva, 2010; Harry, et al., 2018). According to Knight and Yorke (2004), the restructuring of the labour market has changed what is defined as graduates' employability. Whereas previously graduates needed a set of job-specific skills, the employment changes now require more than just skills issues around personal attributes of candidates also influence the employability of

graduates (Knight & Yorke, 2004, Sha, 2006, Weligamage, 2009). Employability can be defined as a combination of skills and personal attributes that increase the chances of employment of graduates in their field.

Similarly, for Sha (2006), graduate employability goes beyond the skills one needs to secure employment and includes the skills needed to advance in a particular industry. Harvey (2003, p.4) offers a different perspective and argues that employability is the ability of graduates to display the characteristics that employers deem adequate for their organisations. The above definitions imply that graduate employability is defined by skills, attitude, and the kind of knowledge a graduate possesses and how these are presented to prospective employers.

From the above definitions, graduate employability can be divided into subject-specific skills and transferrable skills (Shivoro, et al., 2018). The former refers to subject-specific knowledge and skills that are key to the career of a graduate. For example, to become an accountant, one might need accounting-specific skills instead of general counting. The latter refers to skills that a graduate can use in different professions through their career, for example, interpersonal and communication skills. Pool & Sewell (2007), develop a framework that illustrates the other factors that affect a graduate's employability, as presented in Figure 2.1.

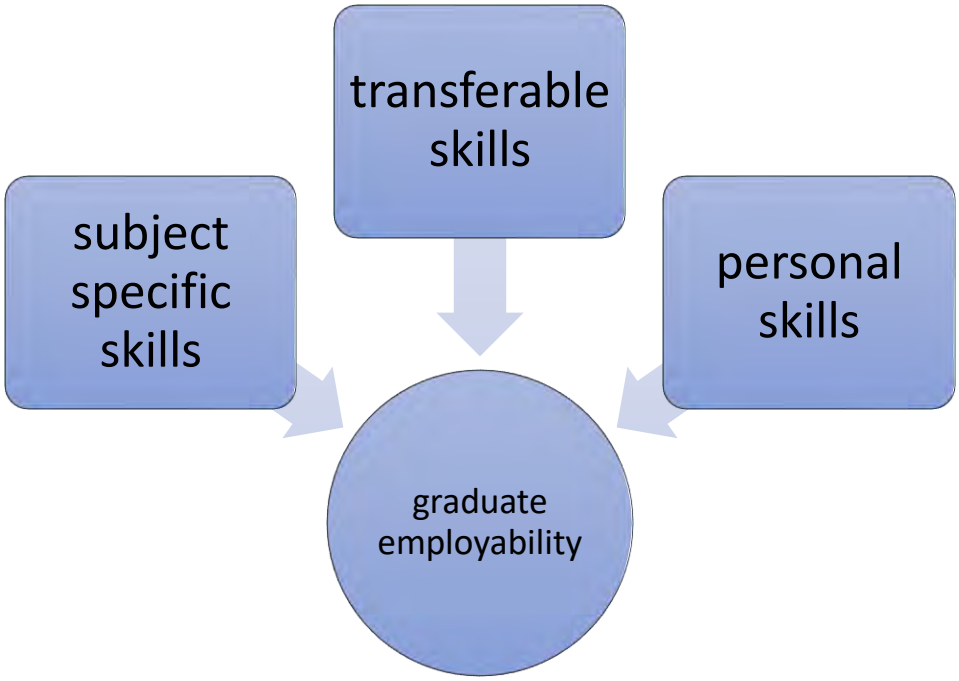
Figure 2.1: The Career Edge Model



Source: **(Pool & Sewell, 2007, p. 4)**

The above image highlights that at the base of graduate employability are university-taught skills and understanding; the middle process of graduate employability is determined by individual attributes of the graduate like self-confidence and self-esteem. For the stated research goals, this diagram implies that the factors that may influence employers in hiring graduates are a combination of both personal attributes and the technical skills one gets at university. What becomes clear from the above image is that a graduate's employability is then about getting and fulfilling employment based on subject-specific skills, transferable skills, and personal attributes (Knight & Yorke, 2004; Sha, 2006; Weliganage, 2009; Boden & Nedeva, 2010). Based on the above information, this study thus views employability through the following diagram Figure 2.2:

Figure 2.2: Employability diagram



Source: Author

This pressurizes higher education to ensure graduates are employable. The following section addresses the relationship between employability and higher education.

2.3. The relationship between employability and higher education institutions

Globalization is a term that has shifted both social and economic systems. Robertson (1992, p.8) defines globalization as the world's connectedness into one global system. The inclusion of education by the World Trade Organisation (WTO) in the General Agreement on Trade and Services (GATS) has changed HEI from being a public service entity and placed it into the private sphere (Boden & Nedeva, 2010; Fox & Hundley, 2011). Previously, the missions of HEI were closely linked with the goals of producing research, educating, and playing a pivotal role in the development of society at large. According to Harvey (2003, p. 91), universities were thus looked at as the "custodians of knowledge." Fox and Hundley (2011, p. 116) explain that shifts in the global economy have changed higher education's traditional role.

Through globalisation, higher education now plays the role of contributing to economic and social growth. Brownlee (2020) and Hodgman (2018) add that higher education is now seen as an opportunity for individuals to improve their employability chances. A study that validates this claim was conducted by Wharton, Goodwin & Cameron (2014), on two United Kingdom HEI. The study found that students pursue higher education qualifications with the hopes of enhancing their employment chances. According to Goodwin & Cameron (2014), this assumes that individuals with higher education levels are more beneficial to the workplace. The emphasis placed on the importance of higher education in determining the kind of market rewards one gets has led to an increased demand for degrees offered by HEI (Harry, et al., 2018).

The current global Covid 19 pandemic has added to the demands placed on Higher educations and graduates in the labour market. The COVID-19 pandemic, also known as the coronavirus pandemic, is an ongoing global pandemic of coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) (Brownlee, 2020; Buheji & Buheji, 2020). The novel virus was first identified from an outbreak in the Chinese city of Wuhan in December 2019, and attempts to contain it there failed, allowing it to spread across the globe (Brownlee, 2020). Employers are increasingly looking for graduates with more technical skills to aid in working remotely. Buheji and Buheji (2020) add that employees' attitudes have become an essential part of employability because the work environment under the Covid 19 pandemic is constantly reshaping. In addition to this, since the outset of the global pandemic, the ILO has warned of the disastrous impact of the crisis on informal workers. More so, the impact of the crisis on different groups of informal workers has been uneven. This is supported by the differentiated impacts of the pandemic recession on informal and precarious employment by gender, status in employment, and industry sector. For Higher education institutions, this means they must play a key role in producing graduates with attitudes that fit in with the current work dynamics (Brownlee, 2020; Burgess & Sievertsen, 2020).

In trying to deal with this demand and the pressures placed on demand for higher education, these institutions started rethinking their teaching and delivery structures to

produce the kind of graduates the labour market demanded (Boden & Nedeva, 2010; Purcell & Lumbreras, 2021). Purcell & Lumbreras, (2021, p. 114) explain that the demand for HEI has resulted in universities changing the programs and modules they offer. Universities now either separate their modules into small semesterised modules or create new learning outcomes in line with employability skills. According to Mogomotsi & Madigele (2017), the expansion of higher education has resulted in an oversupply of graduates met with little demand in the labour market. For these authors (Fox & Hundley, 2011; Mason, et al., 2005) the expansion of higher education has made it difficult for graduates to be absorbed in the labour market. When a large portion of the population has some formal education level, employers look at other attributes to determine the graduate's employability (Antonenko, et al., 2020; Lauder & Mayhew, 2020).

In comparison to other countries, the employment absorption rate in South Africa is plausible and in support of this Rogan, et al (2020:974) highlighted “the fact that roughly three-quarters of recent graduates were employed within a relatively short period after completing their degrees provides further support to the notion that the South African graduate labour market compares favourably with other countries”. Furthermore, Rogan, et al (2020) added that in making the transition from higher education to the labour market, inequality across higher education institutions remains a barrier to harnessing the full benefits of improved participation in higher education. This can be supported by the fact that most NSFAS graduates were enrolled in HDIs and that the absorption rates associated with these universities were significantly lower than those from the highly ranked South African universities remains a concern. This finding of persisting inequalities in labour market outcomes corresponding with a hierarchy among higher education institutions in South Africa therefore suggests that increasing access to higher education is not enough and can only go so far within a highly unequal context.

Undoubtedly, higher education does increase an individual's chances at employment (Reid, 2015; Shivoro, et al., 2018). However, as Harvey (2003), Lauder & Mayhew (2020), and Tymon (2013), argue, this does not automatically guarantee employability. Harry et al. (2018, p. 3) add that employability is a complex issue with internal and external factors.

The former refers to the individual performance of a graduate within the workplace. The latter refers to problems directly related to the university's imagined specific field of study (Boden & Nedeva, 2010).

For scholars like (Boden & Nedeva, 2010; Harry, et al., 2018), employability is then dependent on the decisions an individual takes when applying for higher education. These scholars argue that the kind of institution and subjects one takes also determine their employability. Students with higher marks may be more interested in higher-ranked institutions because of their academic ability to meet higher-ranked institutions' requirements (Drydakis, 2016, p. 4). Furthermore, higher-ranked institutions may be able to give students a better education due to better resources. The increased competition between higher learning institutions has resulted in external factors like the institution's reputation playing a significant role in determining the employability of graduates (Boden & Nedeva, 2010; Dicker, et al., 2019; Harry, et al., 2018; Hodgman, 2018). Research (Hodgman, 2018; Boden & Nedeva, 2010) on graduate employability from the employer's perspective indicates that employers perceive students from higher-ranked institutions as generating more economic value for their businesses.

A study conducted by Griesel and Parker (2009) highlighted that the knowledge, intellectual approach, and conceptual foundations system produced by high-ranked institutions, is valued by employers. Furthermore, these institutions are usually linked to industries where their students can create portfolios for themselves in the business world (Andrews & Higson, 2008). Employers, therefore, tend to pick students from higher-ranked institutions, highlighting that having a degree is the first requirement of employability, but this is not enough to set a graduate apart in the labour market. Little (2001) states that there is a link between high-ranked institutions and high admission requirements, indicating good grades. The link between high-ranked institutions and high admission requirements, leads to how ‘quality higher education’ is measured by determining whether an employer hires a graduate. The following section will look at how the quality of HEI is measured.

2.4. Measuring the quality of higher education

As a result of the above shift in HEI's, there has been an emphasis on universities driven by competition to examine the quality of the services they offer, redefine their product, and measure customer satisfaction in familiar ways to service marketing specialists. The survival of universities in this globalised world is now dependent on the quality of the services offered and what sets one university apart from the rest (Wharton, et al., 2014). Different stakeholders in higher education determine quality education. Higher education comprises four essential stakeholder groups; clients (students), users of final products (employers), funders, and employees within higher education (Dicker, et al., 2019; Schindler, et al., 2015). Where students might define quality in terms of teaching methods, lecturers may define it in terms of resources available (Dicker, et al., 2019). Similarly, employers may define quality education through graduates' ability to adapt and survive in the workplace. Schindler et al. (2015) note that these different definitions can be grouped into ones that focus on achieving a stated vision and concentrate on meeting a set of standards/requirements.

Research (Boden & Nedeva, 2010; Harry, et al., 2018; Tymon, 2013; Hodgman, 2018) on graduate employability has found that employer perceptions of higher education institutions have become a key component in university rankings. Hodgman (2018, p10) explains that employers use variables like a university's reputation in determining the value of employees. The importance placed on universities' reputation amongst employers refers to the "perceived excellence" influencing employers' decisions (Boden & Nedeva, 2010). A research study conducted by Hamburg (2013), as cited in (Hodgman, 2018, p. 18) amongst employers, found that a university's reputation plays a critical role when employers hire graduates. Similarly, researchers have argued that the employability of university graduates impacts positively towards a university's reputation (Hodgman, 2018).

The kind of quality strategy adopted by HEI determines how prospective employers view the institutions and the graduates produced in that university. A way to measure the quality of HEI is through university ranking systems (Alma, 2016; Shivoro, et al., 2018). From an institutional perspective, ranking systems help create and maintain a reputation for prospective students and future employers (Alma, 2016; Boden & Nedeva, 2010).

University ranking systems can be constructed in various forms depending on the level of education, focus group, field-based, national, and international education focus (Alma, 2016). The Academic Ranking of World Universities (ARWU), the commonly used ranking system, ranks universities based on research output and provides an overall performance score (Alma, 2016). The Times Higher Education World University Ranking is also a commonly used ranking system that uses academic opinion, employers' views, number of international staff and students per faculty, and student to lecturer ratios as indicators (Alma, 2016; Boden & Nedeva, 2010; Weligamage, 2009).

The dominant method followed by most HEI is a merger of tangible and intangible indicators, trying to accommodate the various stakeholders. Masron et al., (2012) developed a framework to measure the quality of an institution through combining Key Performance Indicators (KPI)'s and Key Intangible Performance (KIP)'s. The KPI's are tangible indicators such as teaching, research, supervision, publications, and consultancy. Intangible indicators are classified as contributing to the university and contributing to society or community (Masron, et al., 2012). A combination of tangible and intangible indicators measuring quality will be used in this research.

2.5. The relationship between HEI and employability in South Africa.

Before 1994, the structure of the South African education system was determined by the political climate. Like the rest of South Africa, the education system was divided along racial lines. Higher education in South Africa was divided into universities, Technikons, and colleges. Out of twenty-nine HEI in South Africa, nineteen were meant for White people only, two for Coloured's, two for Indians, and six for Black South Africans (Harry, et al., 2018).

This racial division also determined the allocation of funds, student intake, and staff capacity within higher education. This impacted the level of publications and recognition historically disadvantaged institutions (HDIs) received nationally and internationally. The structure of higher education in South Africa before 1994 gave an advantage to Historically advantaged institutions (HAIs), where they had the resources and capacity to

secure alternative funds through research and student output (Akoojee & Nkomo, 2008). HDIs, with a student demographic from impoverished backgrounds, were financially disadvantaged.

The distribution of higher education funds was allocated based on the structure provided by the South African Post-Secondary Education (SAPSE) formula (Van der Walt, et al., 2003). This formula distributed funds based on a university's inputs, those being student enrolment and outputs, this referring to the number of students graduating and research published. This distribution method meant that HAIs benefited more because they had more resources and the capacity to publish research papers. Furthermore, these institutions had more student enrolments in facilities that were considered scarce skills.

The structure of the South African higher education system before 1994 meant that HAIs were in a better position to produce labour market, competitive graduates. These institutions were linked to critical industries and could thus ensure their graduates' transition into the workplace. Black South Africans were disadvantaged when they entered the labour market, even though they were educated (Harry, et al., 2018; Van Broekhuizen, 2016). HAIs built reputations that spoke for their graduates and were preferred over other university graduates. When the democratic government came into power, it had to rethink the amounts allocated to institutions through the SAPSE formula.

In trying to address the visible gaps in the South higher education structure, the government followed the global route of commercializing higher education, creating a system that produces market-ready graduates, and addressing the unequal structures within the higher education system. This meant expanding student enrolment in higher education and the restructuring of university programs to offer competitive market packages (Harry, et al., 2018).

Since then, there has been an increase in student enrolments in higher education institutions. The dismantling of the racial divide has also allowed students from previously disadvantaged groups to enrol at historically white institutions. The results of this have been evident. It is reported that between the period of 1994-2014, the number of black graduates has increased tremendously from 11,339 in 1994, to 46 686 black graduates

in 2014. South Africa's graduate labour force has shown significant growth (Akoojee & Nkomo, 2008).

The graduate unemployment rate has however increased the overall unemployment rate (Akoojee & Nkomo, 2008). Oluwajodu et al. (2015, p. 3) further add that "although graduate unemployment only accounts for 5.9% of the changes in overall unemployment from 1996 to 2012, the actual unemployment rate for this education group has increased from 5.4% during 1995 to 7% in 2012." More recently, Statistics South Africa states that for the first quarter of 2019, the unemployment rate among graduates up to 24, was 31% compared to the 19.5 % of the 4th quarter of 2018, indicating an increase of 11.4 percent (Stats SA, 2019). The graduate unemployment rate in South Africa in 2021 was 40,3% for those aged 15–24 and 15,5% among those aged 25–34 years, while the rate among adults (aged 35–64 years) was 5,4% (StasSA, 2021).

Since 1994, the number of South African graduates being absorbed into the labour market has decreased. This could be explained with the rationale that the opening of higher education to those who did not have access previously, has meant an oversupply of graduates in a labour market with little demand (Van Broekhuizen, 2016). But Rogan et al (2020) argued that a majority of graduates as of 2017 in South Africa were getting employed, meaning that in South Africa the graduates' unemployment rates were very low, while the absorption rates have remained above 80% over the past decades. They further contended that the majority of NSFAS graduates enrolled in HDIs and that their absorption rates were much lower than those of 'highly ranked' South African universities, therefore remaining a source of concern. Their finding of persistent discrepancies in labour market results in South Africa, corresponding to a hierarchy among higher education institutions, implies that increasing access to higher education is insufficient and can only go so far in a highly unequal setting.

This rise in unemployed graduates in South Africa is then coupled with an economy that has skills shortages. A study (Bhorat, et al., 2006) conducted across different South African sectors, found that the skills shortage is typically associated with graduates from Historically black institutions.

2.6. Theoretical framework

According to Olaniyan (2008), a nation's functioning and prosperity are heavily dependent on its human and physical capital stock. According to Weisz, Suh, and Graebel (2015), physical capital is a form of industrial production facilities such as buildings, waste infrastructure, transportation, and machinery. Human capital is thus described as an investment made by people to enhance their productivity in the economy. The connection between higher education institutions and the labour market outcomes is best explained by HCT.

The HCT Is rooted in the orthodox economic view of human behaviour, arguing that human action is driven by the goal to continually maximise self-interests/benefits (Holden & Biddle, 2016). From this perspective, humans use market information to make rational decisions on the best profitable outcome. For education, this means that students make decisions on where to study and what to study based on increasing their economic value and maximising the profit they will receive in the labour market (Almendarez, 2011). Thus, the HCT theory argues that an investment in one's education determines the position one occupies in the labour market and, ultimately, returns. Almendarez (2011, p. 4) explains that for the HCT, an investment in one's education is increasing one's productivity and efficiency.

The changes to the labour market and the expansion of higher education mean that to remain competitive, graduates must make decisions, not only on what to study but also to pick institutions that will bring about the highest profits. This theory provides a platform to this research because it provides a base, to analyse the relationship between education and the economic and social benefits it yields, for individuals. The foundation of this theory is that higher levels of education are linked to higher wages. By unpacking each university's investment in the packages offered to students, this research will attempt to determine whether the kind of university a student picks directly impacts their employability. This theory then allows this research to analyse if the quality of education impacts graduates' competitiveness in the labour market.

2.7. Conclusion

This chapter sets out to outline the dominant trends within the field of graduate employability. It started by providing a working definition of what graduate employability is. As defined in the literature, graduate employability combines emotional-specific skills and transferable skills and also graduates' attributes (Bhorat, et al., 2006). This chapter went on to discuss the relationship between higher education and graduate employability. This section argued that while higher education does enhance the chances of employment of a graduate, it is not the only factor that determines employability (Boden & Nedeva, 2010; Dicker, et al., 2019). Factors like the chosen field of study, the quality of HEI chosen, impact the graduates' employability. This helped set the scene for understanding the South African higher education context. This section showed that the division of South African HEI along racial lines also impacted higher education quality, where historically white institutions were better positioned than historically black institutions. This section argued to understand the employer perceptions of a university's reputation, we need to consider the racial divide. This chapter has helped identify the key themes in understanding a university's reputation, combining both tangible and intangible indicators.

CHAPTER 3 METHODOLOGY

3.1 Introduction

This research aimed to investigate the influence of an employer perceived higher education institution's quality, on graduate employability. This chapter will address how the data were collected to address this goal. The methods and techniques used in this research will be explained in this chapter. This chapter will explain the variables that were used in trying to answer the research questions.

3.2. Research Paradigm

This research is rooted in a positivist perspective in trying to determine the relationship between graduate employability and a universities' status. A positivist paradigm is one where the research is based on empirical data that is generated through measurable methods (Collis & Hussey, 2014).

3.3 Research Goals and Objectives

The main goal of this research was to examine whether employers are influenced by a higher education institution's perceived reputation when employing graduates. The linear regression model was used to predict the relationship between graduate employability (dependent variable) and the perceived reputation of the university by employers and citations of the university. This research was guided by comprehensive objectives, each objective unpacked graduate employability and higher education institutions. Each of the following objectives was accompanied by a hypothesis that allowed for a more detailed analysis.

1. To determine the factors influencing graduate's employment by employers.
2. To determine the elements that induce employers in employing graduates.

From the research objectives outlined above, the null hypothesis is that there is no relationship between the desired variables, and the following alternative hypothesis claims were created.

H1: There is a relationship between academic reputation and the number of students employed

H2: There is a relationship between the number of students employed and the universities number of citations

H3: There is a relationship between the number of students employed and the universities international faculty

H4: There is a relationship between the number of students employed and the university's academic reputation, number of citations, and international faculty

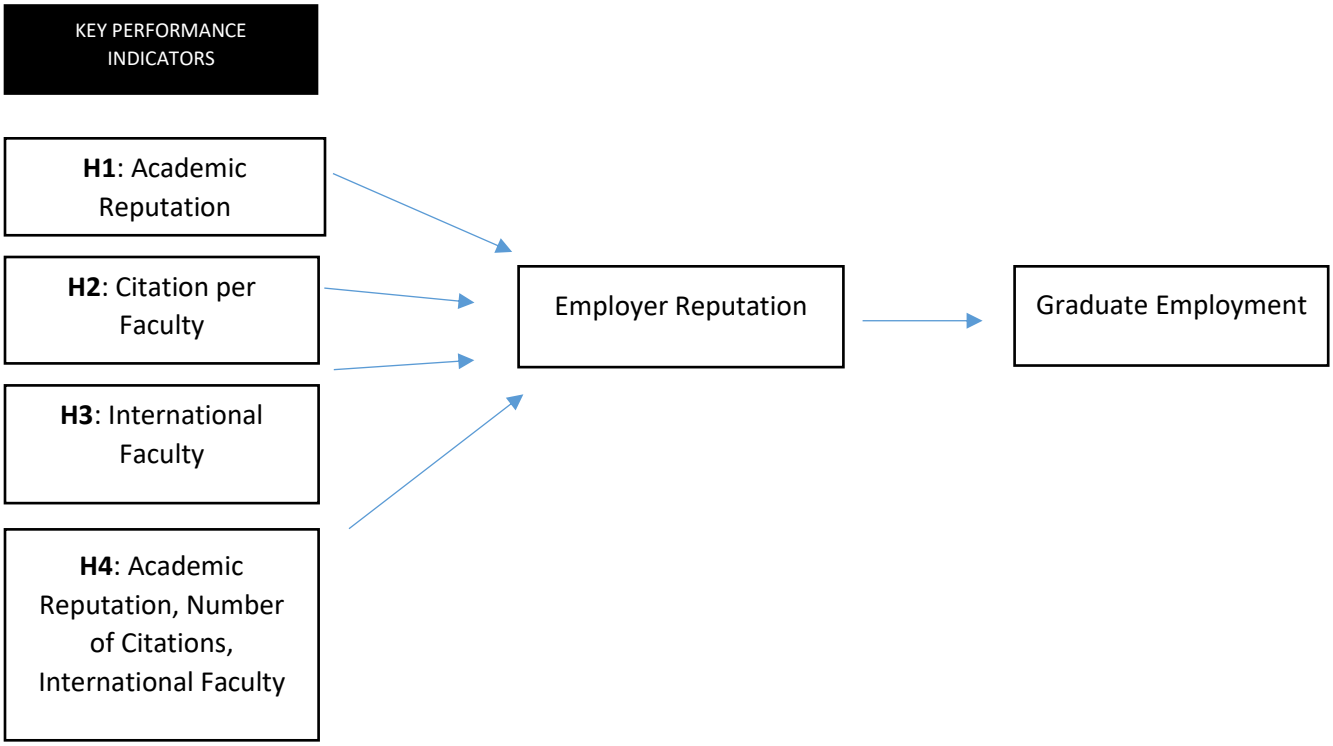


Figure 3.1: Model for graduate employability based on research goals

3.4 Research design

A research design is the planning of methods and methodologies to be applied to research so that the research question(s) may be answered (Collis & Hussey, 2014). This research made use of the quantitative research approach and methods. The quantitative paradigm is objectivist, experimental, positivistic, and scientific (Collis & Hussey 2014).

The quantitative database that this research relied on is Quacquarelli Symonds (QS) world university ranking. The QS is an annual publication of university rankings in the world. QS Has evaluated more than 3,800 universities and ranked more than 900 universities (Griffin, 2019). The published rankings of the QS are categorised for country/region comparisons. This study focused on Universities for which employability data was available. The sample size was 123 universities.

This research was focused on finding out whether employers' perceptions of HEI's reputation impact graduates' employability. The QS ranking system was beneficial in this research because it allows the researcher to identify what influences employers' perception of universities through assessing them using the same indicators (Griffin 2019). The Employer Reputation indicator is conducted through a survey (QS Employer Survey). The aim of the study is for employers to identify from which institutions they source the most employable, innovative, and competent students. The Employer Reputation metric is based on over 75,000 responses to the QS Employer Survey, and asks employers to identify those institutions from which they source the most competent, innovative, effective graduates (Griffin & Yu, 2019). The QS Employer Survey is also the world's largest of its kind (Griffin & Yu, 2019).

The QS employer survey interviewed over 40,000 employers for their 2018/2019 edition of rankings (Griffin, 2019). According to Griffin (2019), six indicators are used for the World University Rankings to give a holistic view of the university's performance, according to fundamental key aspects of their mission. The six indicators are used to capture class sizes, academic standing, research efficiency, fostering graduate

employability, and the extent to which internationalization is achieved (Griffin, 2019). Table 3.1 shows the six indicators of the QS ranking:

Table 3.1: QS Ranking Indicators

1. Academic Reputation	40%
2. Citations per faculty	20%
3. International Faculty	5%
4. Faculty-student	20%
5. Employer Reputation	10%
6. International Students	5%

Source: Griffin, (2019)

Table 3.1 indicates that citations per faculty count 20 percent towards a university's reputation. The citation element is an indication of a universities ability to create new knowledge. International students and faculty indicate the ability of the university to attract students and faculty members from across the globe. These two factors depict a university's competitive edge, on a global scale. Each of these indicators contributes 5 percent towards a university's reputation. The faculty-student indicator analyses the number of students registered in each faculty. This indicator contributes 20 percent towards a university's reputation. The employer's reputation reflects employer perceptions about the university. Employers provide 10 domestic and 30 international institutions they view as excellent choices for graduate recruitment. The last indicator is the academic reputation of the institution, which counts for 40 percent of the institution's reputation.

These indicators of the QS ranking speak to each of the research goals as outlined in chapter one. The first goal of this research was to explore the factors influencing graduates' employability by employers. The QS ranking allowed the researcher to assess how employers rank the quality of a university based on university citations, international students, and academic reputation.

3.5 Sampling

Sampling is a process that involves any procedure that makes use of a small number of items from a population to make conclusions (Collis & Hussey, 2014, p. 111). This study's sample size was determined by the number of universities participating in the QS World University Ranking, who supplied their employability data for 2019. The sample size for this research was 123 universities that provided employability data for the year 2019.

3.6. Data Analysis

Data analysis was conducted using Statistical methods. This research made use of descriptive data analysis as well as linear regression. According to Thompson (2009), descriptive statistics represent numbers summarizing the data collected to describe what transpired from the sample. In this case, this study will summarize the data from the indicators by focusing on single regression and multiple regression.

Regression is statistical modeling that analyses the relationship between one dependent variable and one or more independent variables (Collis & Hussey, 2014). The first variable 'x', is the independent variable. The second variable 'y' is the dependent variable. Single regression allowed the researcher, to predict the relationship between the quality of a university (independent variable) and graduate employability (dependent variable). The following formulae were created based on the hypothesis guiding this research:

Y_1 (graduate employability) $= a0 + a1(X1$(academic reputation)

Y_2 (graduate employability) $= b0 + b1(X1$(citations of the institution)

Y_3(graduate employability) $= c0 + c1(X1$(International Students)

The data were further analysed using multiple regression. Multiple regression is the use of statistical data to estimate the relationship between two or more variables (Collis &

Hussey, 2014). Similar to linear regression, multiple regression has a dependent variable however it has more than one independent variable. The independent variables are used to estimate the value of the dependent variable. In the case of this research, the independent variables are citations, international students, and academic reputation was used to determine the value of the dependent variable, graduate employability. The following formula was used:

$$y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \beta_3 x_{i3} + \varepsilon_i$$

i denotes the universities, β_0 is the constant, β_1, β_2, and β_3 are the coefficients for each independent variable of the regression equation and ε_i is the error term.

Where:

y_i = Employment rate

x_{i1} = Employability Reputation

x_{i2} = Institutional Citations

x_{i3} = Number of International

Through analysis of the measure stated above the research will add new literature on the factors influencing graduate employment by employers. It will also add to the body of knowledge by focusing on whether employers are influenced by a higher education institution's perceived reputation when employing graduates.

3.5 Ethical considerations.

This research uses publicly available data that does not pose any risk to any persons and/or organisations associated with the data. This exemption is based on Section1.18 of DoH (2015) Ethics in health research Principles, processes and structures.https://www.ru.ac.za/media/rhodesuniversity/content/ethics/documents/nationalguidelines/DOH_(2015)_Ethics_in_health_research_Principles,_processes_and_structures.pdf

CHAPTER 4 RESULTS

4.1 Introduction

The first three chapters of this research provided the contextual background on the topic. The current chapter presents the statistical results that were analysed and discusses these within the context of the stated research objectives. Critical analysis and interpretation will be discussed in detail in this section.

4.2 Single regression

This section will interpret the effect of each variable individually, starting with the citation of an institution, the number of international students, and employability reputation.

4.2.1 Employment Rate and high academic reputation

The following single regression was used for this section:

Y_1(graduate employability) = $a0 + a1(X1$(academic reputation)

Table 4.1: Employment Rate and high academic reputation

Independent variable	Dependent variable	F	P-value	R^2	Adjusted R^2
High academic reputation	Employment rate	0.2265	0.635	0.01794	-0.06128

Source: Author

The adjusted R-squared was 0.06128 for the high reputation of an institution predicted the rate of students employed 6% of the time. The p-value was 0.634 which means that

we fail to reject the null hypothesis at the 5% significance level. N = 125. The standard error reflecting the accuracy of the coefficients was 1.89.

H_0: There is no relationship between the number of students employed and the high reputation of the institution

H_1: There is a relationship between the number of students employed and the high reputation of the institution

Since the test statistic fails to reject the null hypothesis, it can therefore be concluded that there is no significant influence between employability and having a high reputation of the institution. This finding derived from the limited data set provides a different perspective from contemporary studies that have argued a universities reputation is a key determinant in a graduate's employability (Boden & Nedeva, 2010; Dicker, et al., 2019; Harry, et al., 2018; Hodgman, 2018). An explanation for this finding from the limited data set could be found in Pool & Sewell's, 2007 explanation that employability in the 21st is determined by both tangible (institution reputation) and intangible(graduate attributes) assets. Intangible assets were beyond the scope of this research.

4.2.2 Employment Rate and Citations of institution

The following single regression was used for this section:

Y_2 (graduate employability) $= b0 + b1(X1($citations of the institution)

Table 4.2: Employment rate and citations of institutions

Independent variable	Dependent variable	F	P-value	R^2	Adjusted R^2
Citations of institutions	Employment rate	3.868	0.0514	0.02979	0.02209

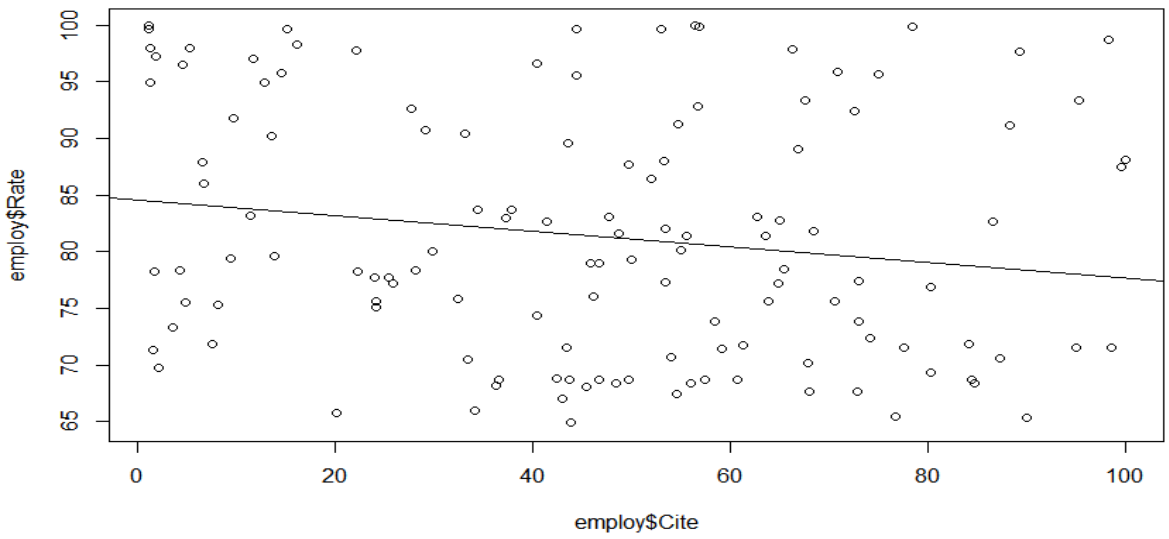
Source: Author

From Table 4.2 the adjusted R-squared was 0.02209 meaning that the institution's number of citations predicted the rate of students employed 2% of the time. The p-value was 0.0514 so we can reject the null hypothesis at the 5% level of significance but accept the hypothesis at the 10% level of significance. N = 125. The standard error reflecting the accuracy of the coefficients was 1.86. The hypothesis as stated is given below.

> $H_{0:}$ There is no relationship between the number of students employed and the universities number of citations
>
> $H_{2:}$ there is a relationship between the number of students employed and the universities number of citations

This test statistic meant that a high number of citations of a university was significant (at the 10% level), and therefore affected the employability rate of a student at 2%, according to the limited data in this study, displaying a weak relationship between the employment rate and a number of citations. The diagram below depicts this weak relationship visually.

Figure 4.1: Employment rate and citations of institutions



4.2.3 Employment Rate and International Students

The following single regression was used for this section:

Y_2 (graduate employability) = $c0 + c1(X1$(International Students)

Table 4.3: Employment rate and international students

Independent variable	Dependent variable	F	P-value	R^2	Adjusted R^2
International students	Employment rate	0.02183	0.8828	0.001719	-0.077701

Source: Author

From Table 4.3 the adjusted R-squared was 0.07701 meaning that the number of international students at an institution predicted the rate of students employed 7% of the time. The p-value was 0.8828 which indicates that we fail to reject the null hypothesis at the 5% significance level 126. N = 125. The standard error reflecting the accuracy of the coefficients was 1.86.

H_0: There is no relationship between the number of students employed and the universities' number of international students

H_3: There is a relationship between the number of students employed and the universities number of international students

Since the test statistic fails to reject the null hypothesis, it can therefore be concluded that there is no significant influence between employability and the high number of international students at the institute.

4.3 Multiple Regression

In the multiple regression analysis, the following relationship was tested.

$y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \beta_3 x_{i3} + \varepsilon_i$

Where:

y_i = Employment rate

x_{i1} = Employability Reputation

x_{i2} = Institutional Citations

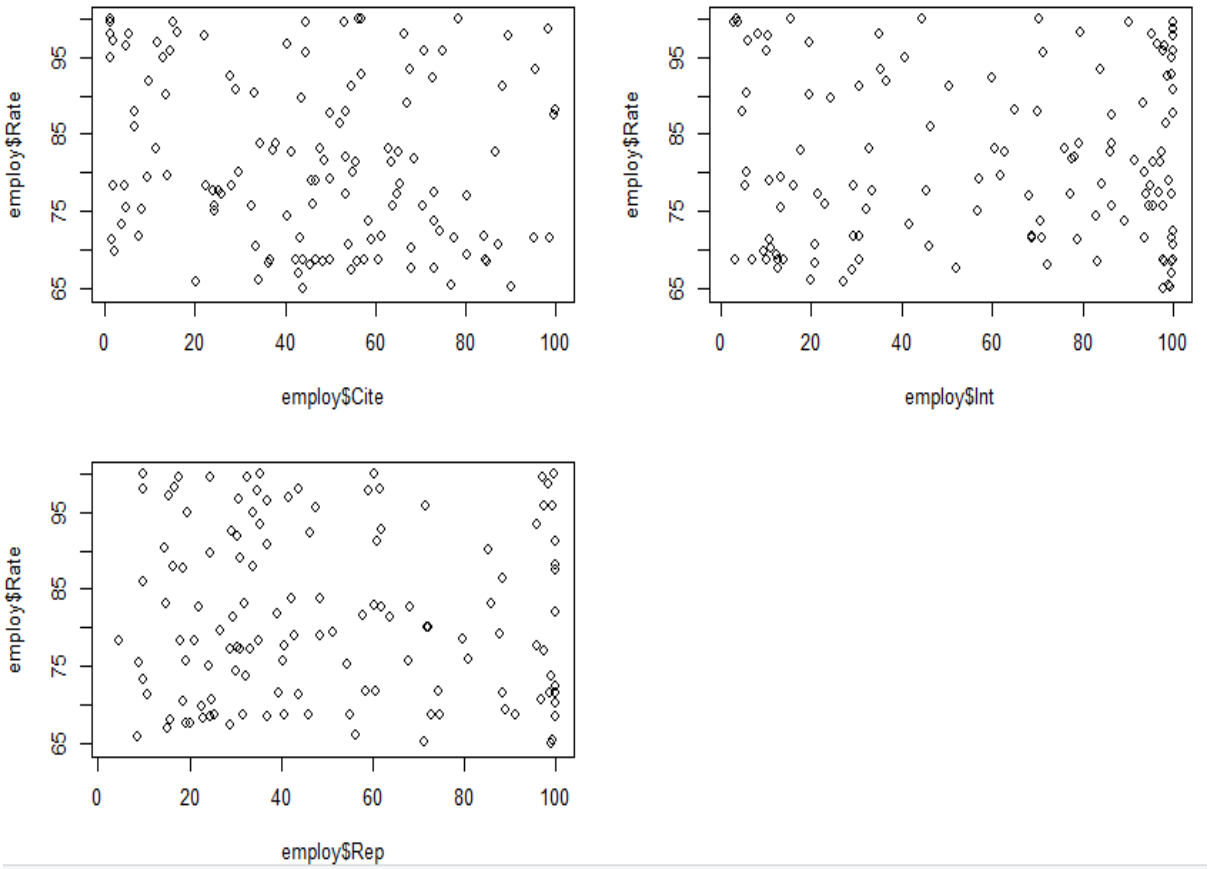
x_{i3} = Number of International

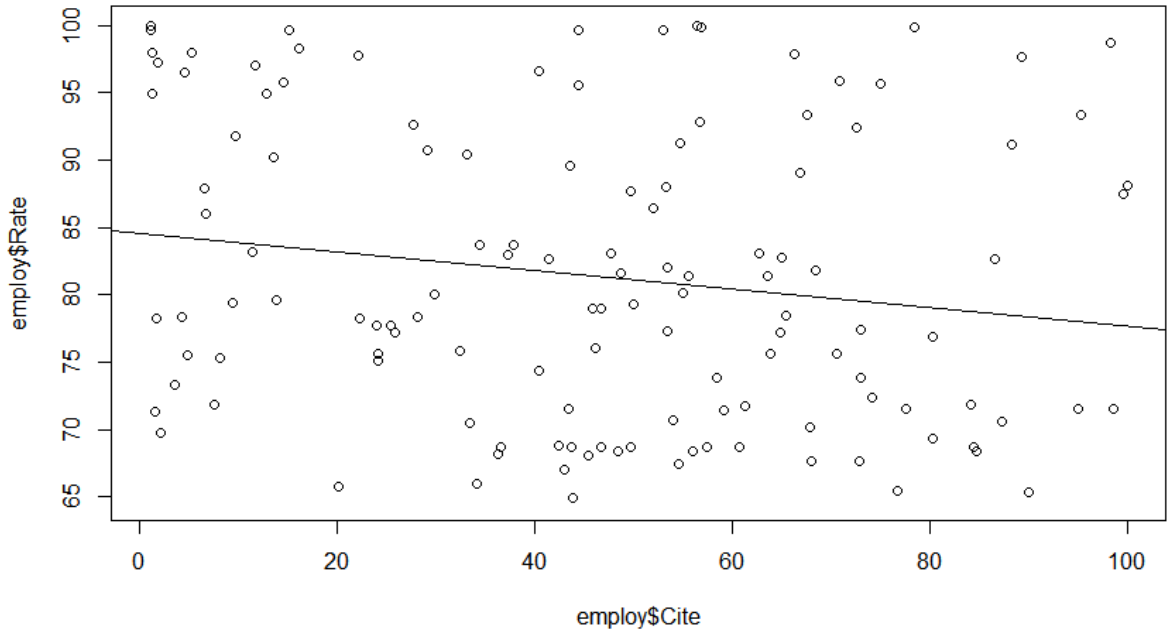
Multiple regression, according to Leedy & Ormrod, (2015), is an extension of simple linear regression. It is used when there is a need to predict the value of a variable based on the value of two or more other variables.

The objective is to establish the combined significant impact of all these variables, on the rate of employability. The sign of a regression coefficient tells the researcher whether there is a positive or negative correlation between each independent variable and the dependent variable (Leedy & Ormrod, 2015). A positive coefficient indicates that as the value of the independent variable increases, the mean of the dependent variable also tends to increase. In other words, from the graphical representation of the scatter plots, a line should indicate a relationship if one exists. In this study, employability is the dependent variable, while the citation of the institution, number of international students, and employability reputation represent the independent variables. The tests were run using R version 4.1.0 (2021-05-18).

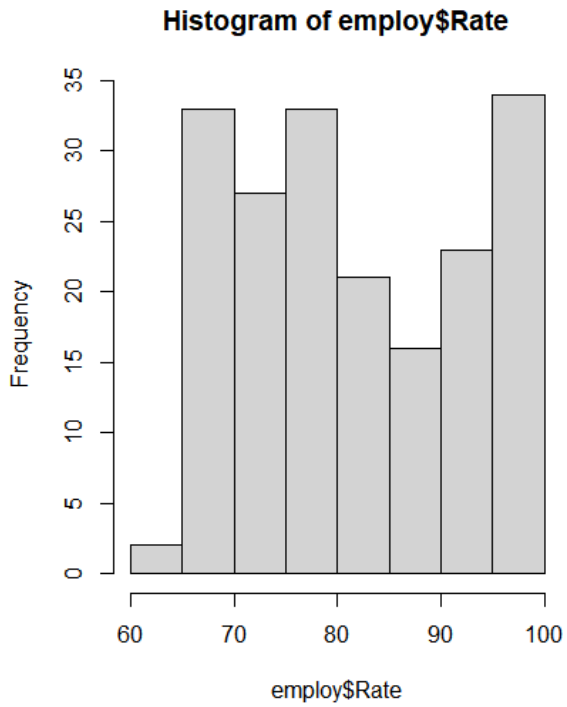
From the test statistic, the R-squared values are expected to range from 0 to 1 and are commonly stated as percentages from 0% to 100%, where an R-squared of 100% means that any shift in the independent variable will result in a corresponding response on the dependent variable

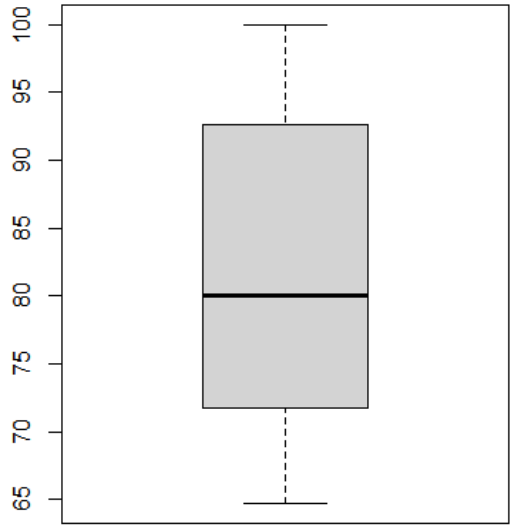
Figure 4.2 Scatterplot of Regression analysis





4.3.: Normality of Response variable (Employment Rate)





From the scatter plots above (see **Figure 4.3.1** above), the assumptions of linear regression are met since residuals are randomly scattered, variables are normally distributed, as shown by the histogram (Figure4.3.2) which indicates the normality of response variables (the employment rate) and the box plot in Figure 4.3.2 is reasonably symmetric, but a linear relationship is indicated between citations and the number of students employed. In essence, the plot indicates a clear line above between citations and the number of students employed and this shows a correlation between the variables and also on the scatter plot between citations and employability shows a relationship. From the plots, it can be concluded that all the independent variables seem to have no impact on the dependent variable but the scatter plot for employ rate against citation shows a weak relationship between the two variables. Thus, it can be safely said that for this data set, reputation, and the number of international students have no effect on the rate of employability, but citations show a weak relationship with the rate of employability.

The assumptions for linear regression are as follows

- Linear relationship – a linear regression needs a relationship between the independent and dependent variables to be linear and there is a need to check for outliers since linear regression is sensitive to outliers.
- Multivariate normality- secondly, linear regression requires all variables to be multivariate normal. This assumption can be checked with a histogram and normality can be checked with a goodness of fit test.
- No or little multicollinearity - the linear regression assumes that there is little or no multicollinearity in the data. Multicollinearity occurs when the independent variables are too highly correlated with each other. Multicollinearity can be tested with three criteria which are: correlation matrix, tolerance, and variance inflation factor.
- No auto-correlation - linear regression analysis requires no autocorrelation in the data. Auto-correlation occurs when the residuals are not independent of each other. A scatterplot can be used to check for autocorrelations.

- Homoscedasticity - the last assumption of linear regression is homoscedasticity. Homoscedasticity in a model means that the error is constant along with the values of the dependent variable. The best way for checking homoscedasticity is to make a scatterplot with the residuals against the dependent variable.

Results for multiple regression on employability

Table 4.4: Employability Regression.

Category	Coefficients	Standard Error	T Statistic	P-Value
Graduate Employment Rate	80.86301	24.35965	3.319547	0.002315
Employer Reputation	0.117125	0.158344	0.739683	0.465057
Alumni Outcomes	0.030268	0.128142	0.23621	0.814823
Academic Reputation	-0.04206	0.149446	-0.28142	0.780258
Gov Exp per Student % of GDP	-0.31345	0.987987	-0.31726	0.753173
Growth Rate	-0.64303	1.834021	-0.35061	0.728252
R^2 = .19				
P value = 23.15 P< 0.5				
SE = 24.35965				
n = 37				

From the regression results above on employability in the table above R^2 of the regression is 0.19, meaning that approximately 19% of the observed variation are explained by the model's inputs or the regression predicts the results 19% of the time. The overall p-value of 0.002315 is significant, but the individual variables are all not significant at the 5% level of significance.

CHAPTER 5 DISCUSSION AND CONCLUSIONS

5.1 Introduction

Chapter 5 discusses the findings of the research results and looks at the research objectives relative to the literature review. The reasons why the study was conducted are discussed. A conclusion and recommendations are given. Recommendations will help future research studies and provide solutions to the limitations of the study.

5.2 Results and Discussion

This data set analysis showed citations of the institution had a significant relationship with the rate of employability (although this was a relatively weak relationship), but the reputation of the institution and the number of international students enrolled do not affect the rate of employability. It must be noted that the data sample for this research was small. This finding contrasts with the findings of other scholars like other Bhorat and Visser (2012), who discovered that perceptions of a universities' culture and educational standards cause a sense of bias from the employers, towards employing graduates. This meant that the reputation of institutions had an impact on their graduate's employability. Hodgman (2018), also explained that employers use variables like a university's reputation in determining the value of employees. More insight on employability ranking is offered by Cuthbert and Skae (2021:942) who argue that graduate employability was also influenced by universities focusing on industry relationships and career development for their students. The mentioned study perhaps provides more insight on the data set, deviating from the commonly held understanding, of a strong connection between graduate employability and the quality of higher education institutions.

The importance placed on universities' reputation amongst employers refers to the "perceived excellence" influencing employers' decisions (Hodgman, 2018). A research study conducted by Hamburg (2013), also found that a university's reputation plays a critical role when employers hire graduates. Higher academic institutions-built reputations that spoke for their graduates and were preferred over other university graduates.

For the analysed data set which was limited to those Universities that provided their employability data, a university's reputation has no significant impact on graduates' rate of employability. This finding is perhaps a result of graduate employability being determined by both subject-specific skills that are taught in universities and transferable skills that speak to the personal attributes of graduates (Shivoro, et al., 2018). When taking on a human capital perspective, to have a competitive advantage in the labour market, graduates must invest in both the kind of university they pick as well as their attributes.

An analysis of high citations of the institution predicted the rate of students employed 22% of the time and proved to be significant, at the 10% significance level, despite its effect being shadowed during multiple regression. This was in support of Olaniyan, (2008), who stated that the capacity to publish research papers of the institution and its subsequent citation of such papers improved.

Furthermore, the same author argued that institutions that had more international students enrolled were considered to offer scarce skills and hence improved employability of its graduates (Bloomberg, 2017). This research study's data set failed to concur and on the contrary led to the conclusion that several international students had no significant impact on the rate of employability of the graduates. However, the data set was limited to those institutions who provided their data and could perhaps lead to different conclusions with a larger data set.

The HCT is rooted in the orthodox economic view of human behaviour, arguing that human action is driven by the goal to continually maximise self-interests/benefits (Holden & Biddle, 2016). From this perspective, humans use market information to make rational decisions regarding the best profitable outcome. Based on the findings presented in the research, for graduates to increase their competitive advantage, acquiring a university degree from a reputable institution may not be adequate. The HCT would argue that students must ensure they have the necessary transferable skills. The study aimed to find if factors like institutional citations, number of international students, and employability reputation had an influence on employment by employers. The results showed that they had no significant effect on employment by employers. This research did however focus on the statistical quantitative side of

graduate employability. Future research could look at the impact of personal attributes on graduate employability.

5.3 Recommendations

It is evident that there was variability and lack of consistency in the universities' reputation, citations, and the number of international students as factors predicting the rate of employability, as shown by the scatter plot, as well as the regression results. Citations, however, had a weak relationship and the other factors were insignificant. Despite that, the literature states that these factors do impact the rate of employability. As such higher academic institutions should work at improving their reputations.

One of the key limitations of this research study was that it focused solely on the indicators in the QS ranking system. Future studies could look at the impact of personal attributes on graduate employability. This is especially important with the growing literature related to the need for transferable skills within the labour market.

The researcher is aware of the limitations ranking systems have when it comes to accessing information from smaller institutions. An important recommendation is thus the inclusion of smaller institutions in global ranking systems. The national government could partner with smaller universities providing resources, enabling them to increase their scores and gather their data. Attention should also be paid to the validity and reliability of university ranking systems.

5.4 Conclusion

This research set out to examine the quality of higher education and its influence on graduate employability and employer perceptions. As such, this research was guided by two research goals. (1) To determine the factors influencing graduate's employment by employers. (2) To determine the elements that induce employers in employing graduates. The study expectations were met since the study was able to prove that factors like institutional citations had a weak relationship with employability. Many international students and employability, did not influence the employment of students by employers.

Chapter 2 of this research project contextualized graduate employability within the higher education system in two ways. Firstly, it discussed the shifts in what constitutes graduate employability. The chapter defined graduate employability as the tangible and intangible skills needed for graduates to succeed in the labour market (Brownlee, 2020; Burgess & Sievertsen, 2020). This chapter further discussed the key factors that determine graduate employability according to contemporary literature. Based on the reviewed literature, this chapter identified citation of the institution, number of international students, and employability reputation as key factors that influence employability of graduates. As such, this chapter addressed the first objective of this research of identifying the key factors. This chapter helped set the scene for the upcoming chapters and determine whether the identified factors would prove relevant in the analysed data set.

Chapter 3 of this research explained the how and why of this project; namely how the data would be collected and how the sample was selected. This research followed a positivist paradigm because it intended to examine the Quacquarelli Symonds (QS) world university ranking to understand the relationship between the key factors identified in chapter two and employability.

Chapter 4 of this research presented the findings from the data sample analysed. The analysed data set showed that the number of citations of a university had a significant impact on the employability rate at the 10% significance level. However, the number of international students and reputation had no significant impact on the employability rate. It is important to note the data set analysed in this research was small, and as such the findings may not apply to other higher education institutions. This chapter concluded that the identified tangible factors may not be the only determinants in graduate employability. Intangible factors linked to the personal attributes of graduates may also determine employability.

The research provided valuable in-depth information about the relationship between university reputation, number of citations, number of international students, and graduate employability. Conversations around graduate employability thus need to include graduate traits in determining the competitive advantage of graduates. The current global pandemic has further placed a demand for graduates to possess

technical as well as interpersonal skills. As such, higher education institutions need to consider including current market demand into their offerings to improve their graduate's employability. The study was able to close the gap on the literature of graduate employability in South Africa, through assessment of three factors assumed to affect the employability of graduates in South Africa. It was found, within the limited dataset, that factors like institution citation have a weak relationship with employability across the universities that took part in the QS Ranking while academic reputation and international students do not influence employability in the context of South Africa. A wider dataset could lead to different conclusions.

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