EFFECT OF HUMAN CAPITAL INVESTMENT ON COMPETITIVE ADVANTAGE IN HIGHER EDUCATION INSTITUTIONS IN TANZANIA: A CASE OF UNIVERSITY OF DAR ES SALAAM

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CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by The Open University of Tanzania a dissertation entitled**, Effect of Human Capital Investment on Competitive Advantage in Higher Education Institutions in Tanzania: A Case of University of Dar es Salaam**. In fulfilment of the Requirements for the Degree of Doctor of Philosophy of the Open University of Tanzania.

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DECLARATION

I, **Lilian H. Ramadhani** declare that the work presented in this thesis original. It has never been presented to any other University or Institution. Where other people's works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in fulfilment of the Requirement for the Degree of Doctor of Philosophy in Human Resource Management of the Open University of Tanzania.

……..……

Signature

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Date

DEDICATION

I dedicate this thesis to My Heroes. My late loving father Henry Justin Ramadhani. My tireless giving and loving, uncle the late Judge Augustino Lawrance Ramadhani. Last but not least my dearest sister the late, Veronica Sarah Ramadhani. Am truly everything I am today because you loved me. Rest in paradise MY HEROES. Thank you.

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The author bears full responsibility for any errors and mistakes in this work, in no way should they be associated to the individuals and institutions mentioned herein.

ABSTRACT

This study explores the impact of human capital investment on competitive advantage within higher education institutions (HEIs) in Tanzania, focusing on the University of Dar es Salaam (UDSM). It examines how employee training, rewards, creativity, and competence influence the institution's ability to maintain a competitive edge. Using stratified random sampling, data were collected from 299 academic staff through questionnaires and analyzed using descriptive statistics, correlation, and ordered logistic regression. Results show that training, rewards, creativity, and competence significantly contribute to the competitive advantage of HEIs. The analysis revealed strong positive relationships between these factors and competitive advantage, underscoring their importance in enhancing institutional performance. This study extends Human Capital Theory by highlighting the role of rewards and applies Herzberg's Two-Factor Theory of Motivation to an educational setting competitive advantage, traditionally less explored in this context. The findings underscore the need for HEIs to invest in continuous training, effective reward systems, and initiatives that foster creativity and competence to remain competitive. These insights are valuable for HEI administrators, HR professionals, and policymakers in Tanzania and other developing nations aiming to improve their educational institutions' competitive positioning in a global context

Keywords: *Competitiveness, Human capital, intellectual capital, and Higher Learning Universities.*

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS/ACRONYMS/SYMBOLS

ASR	Academic Staff Student Ratio
CA	Competitive Advantage
CE	Competence of employee
CR	Creativity
EFA	Exploratory Factor Analysis
ET	Employee Training
FAC	Flexibility and Adoptability to Change
HC	Human Capital
HCT	Human Capital Theory
HEIs	Higher Education Institutions
HLIs	Higher Learning Institutions
LTE	Learning, Teaching Environment
PCA	Principal Component Analysis
RW	Rewards
T&D	Training and Development
TCU	Tanzania Commission of Universities
UDSM	University of Dar es salaam
USA	United States of America

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter presents the background of the research problem, the statement of the problem, the research objectives, the research questions, the significance of the study, the scope of the study, and the overall organization of the study.

1.2 Background of the study

At the global level, competition among organizations has intensified due to globalization, profoundly impacting various sectors, including Higher Education Institutions (HEIs) (Abdurrahman *et al*.,2023). These institutions are not just competing locally but globally, striving to attract students and resources (Khodjaeva, 2023). In this increasingly competitive landscape, HEIs are implementing diverse strategies to enhance their offerings and distinguish themselves, creating a dynamic environment that necessitates a comprehensive understanding of the factors driving competitiveness. (Vasiliev, 2022)

In the United States, which boasts the world's largest higher education system with over 4,000 institutions (World University Rank, 2024), universities are continuously refining their strategies to maintain a leading position despite growing competitive pressures (National Centre of Education Statistics, 2019). The competitive dynamics in the U.S. are characterized by extensive investments human capital development, marketing, innovation, and technological advancements to attract both domestic and international students. Institutions strive to secure their reputation and rank, which

are crucial for attracting funding and top-tier talent. (Fubara *et al*.,2023; Micheal, 2020; Verbytsta *et al.*, 2020).

Furthermore, European universities, competing against educational powerhouses like the US, China, and South Korea (Europe Commission, 2024), are heavily investing in marketing, digitalization, and innovative teaching methodologies (Gunta *et al*., 2020; Kwinlinski *et al*., 2023). These efforts are geared towards attracting a diverse student body and securing a competitive edge in the global education market (Paruu et al., 2019). The European educational landscape is also influenced by government policies aimed at reforming and modernizing the higher education system through human capital development, which includes initiatives such as the Bologna Declaration and the European Universities Initiative, focusing on enhancing competitiveness and educational quality. (Europe commission, 2020; Mitch, 2022)

In Asia, China leads with the highest number of universities, currently boasting 6,782 institutions (Statista, 2023). The competitive environment in Asia is marked by rapid expansion and a strong focus on internationalization, technological advancement, investing in human resource and high-quality education (Coastes, 2021). Asian universities are increasingly adopting innovative strategies such as English-language programs and international partnerships to attract a global student body and compete on an international scale. (Alsharif *et al.*, 2020; Laposhin *et al*, 2020; Yichang, 2024;). The emphasis on research and technological integration is pivotal in maintaining their competitive edge (Moskovkin *et al.*, 2022). Australia, despite having a limited number of universities 42, the country leverages its peaceful environment and prestigious reputations to attract students, especially in competition

with China (Farrel, 2021). Post-COVID-19, the competition has intensified with universities focusing on creating robust reputations, offering high-quality programs, training of academic staff, fostering innovation and implementing strategic marketing to appeal to international students. Australia's competitive strategies also include leveraging government education reforms and utilizing the nation's safety and stability to their advantage. (Packer, 2024; Uzhegowa et al., 2021)

Also in Africa, despite the having fewer institutions 1933 as a continent (Statista, 2022), also facing challenges such as inadequate funding, political interference, and a high number of unemployed graduates. These challenges necessitate a strategic focus on quality management, human resource development, and competitive positioning (Murithis et al, 2023). Currently Africa has 133 Universities in the world ranking, about 135% more than 6 years ago (World Economic Forum, 2023). These universities are adopting competitive strategies such as total quality management, investment in human resources, and enhancing organizational planning to stay competitive (Abimbola et al., 2020). However, the overall competitiveness of African universities is still hampered by systemic issues that need to be addressed to improve their global standing. (Justice *et al*., 2023).

In Tanzania, the higher education landscape has undergone significant expansion since the liberalization of the sector (National Bureau of Statistics [NBS], 2020). This expansion has resulted in increased competition among institutions as the number of universities has grown from just two public universities in the 1990s to 53 by 2022/2023, comprising a mix of public and private entities. The liberalization has led to a surge in demand for higher education, with student enrollments rising from

40,993 in 2005/2006 to 229,049 in 2022/2023 (TCU, 2023a; 2023b; NBS, 2020). This growth has introduced new dynamics, with institutions competing to attract students by enhancing the quality and affordability of their programs (Ayiro,2023). The competitive landscape in Tanzanian higher education is shaped by various factors, including the increasing number of institutions, both locally and regionally, and the rising demand for quality education (The Citizen 2020; TCU, 2021). Tanzanian universities are striving to adopt strategies that will give them a competitive advantage, such as improving academic programs, investing in modern facilities, and enhancing the learning environment (Muya *et al*., 2023; Mkunde et al., 2022). However, challenges such as inadequate government funding, political interference, and high graduate unemployment rates continue to hinder their competitiveness. (World Bank, 2021).

Amidst these competitive pressures, human capital investment has emerged as a critical factor for sustaining competitive advantage in HEIs (Wardhani, 2021). Human capital refers to the knowledge, skills, abilities, and other attributes possessed by individuals that contribute to an institution's success (Mahdi *et al.,* 2021; Pedro *et al*., 2019). Investing in human capital involves strategies such as training, rewarding, fostering creativity, and enhancing competence among employees. These investments are crucial for improving institutional performance and maintaining a competitive edge. (Amar et *al.*, 2022; Alsershen, 2017)

Training is essential for equipping employees with the specialized skills and knowledge needed to perform their roles effectively and adapt to the evolving educational landscape (Manajemen *et al*., 2023). Rewards, including financial

incentives and recognition, play a pivotal role in motivating employees and fostering a sense of commitment and loyalty to the institution (Jain et al., 2019). Creativity involves encouraging the development of new ideas and approaches, which can lead to innovative solutions and improved competitiveness (Bujan, 2020). Competence encompasses the knowledge, skills, abilities, and personal attributes that enhance employee performance and contribute to the institution's success. (Škrinjarić, 2022)

Theories such as Human Capital Theory (Gary Becker and Theodore Schultz, 1960) and Herzberg's Two factor Theory of Motivation (Herzberg, 1966) highlight the importance of investing in human capital to achieve a competitive advantage. Human Capital Theory posits that investing in employees' education and training increases their productivity and value to the organization. Herzberg Theory of motivation emphasizes the need for organizations to develop unique capabilities and resources, such as highly skilled employees, to gain a sustainable competitive edge, through provision of satisfactory rewards systems. These theories underscore that training, rewards, creativity, and competence are critical factors in building a competitive advantage in any organization. (Mehdi et al., 2019)

Despite the recognized importance of human capital investment, there is limited research on its impact on competitive advantage within Tanzanian HEIs. Most existing studies have focused on other sectors, such as banking (Benson *et al.,* 2022; Subilaga, 2020), with little emphasis on the higher education sector. The few studies conducted on Tanzanian HEIs highlight the need for effective human capital management practices, including training, rewards, and enhancing employee competence, to improve institutional performance. (Iwatta *et al.*, 2020)

The Tanzania Commission for Universities (TCU) ranks HEIs based on various indicators such as employer reputation, academic staff-student ratio, research funding, and graduate employment rates (TCU, 2021). The University of Dar es Salaam has consistently been ranked as the leading HEI in the country and among the top 40 universities in Africa (UniRank, 2021; 2022). However, it remains unclear how human capital investment has contributed to this sustained competitive advantage. This gap in the research underscores the need to explore the role of human capital investments in maintaining the competitive edge of Tanzanian universities. This study aims to assess the role of human capital investments, particularly in training, rewards, creativity, and competence, in maintaining a competitive edge for HEIs in Tanzania. The focus will be on the University of Dar es Salaam, examining how these investments can enhance the university's competitive position in a rapidly evolving educational landscape.

1.3 Statement of the problem

Despite the growing competition among Higher Education Institutions (HEIs) in Tanzania due to an increasing number of institutions, many continue to rely on traditional strategies to attract students, such as school visits, media advertising, and participation in education exhibitions (Muya et al., 2020; David, 2021; Mkunde et al., 2022). However, these strategies are easily imitable, which diminishes their long-term effectiveness in sustaining a competitive advantage. Strategic management scholars have highlighted that human capital is a resource that is more difficult for competitors to replicate, making it crucial for gaining and maintaining a competitive edge (Wardhani, 2021; Ionita et al., 2021; Aminga, 2019). As a result, Tanzanian

HEIs are increasingly investing in human capital through employee training, reviewing reward systems, and enhancing employee education to foster creativity and competency acquisition (Subilaga, 2020; Iwatta et al., 2020).

The University of Dar es Salaam (UDSM) stands out as one of the HEIs that has heavily invested in human capital, with 1,178 academic staff and various initiatives aimed at improving staff performance through promotions and training. Over the years, UDSM has consistently been ranked among Africa's top 40 universities (TCU, 2021). However, it remains unclear whether and how these human capital investment strategies have contributed to its sustained competitive advantage, raising a critical knowledge gap in understanding the relationship between human capital and competitive advantage within the Tanzanian HEI context.

Previous studies examining human capital as a driver of competitive advantage in higher education have predominantly focused on contexts outside Tanzania, where conditions, institutional structures, and market dynamics differ significantly (Ayub et al., 2023; Amar et al., 2022; Kassa, 2021; Coff et al., 2021). This creates a contextual gap, as findings from those studies may not directly apply to Tanzanian HEIs. Furthermore, many of these studies have primarily explored general attributes of human capital without a focused examination of specific strategies such as training, rewards, creativity, and competence, presenting a methodological gap in understanding how these factors individually and collectively influence competitive advantage.

To address these gaps, this study aims to analyze the human capital investment strategies of UDSM and examine how these strategies contribute to its competitive advantage. Guided by Human Capital Theory and Herzberg's Two-Factor Theory of

Motivation, this study will focus on the key aspects of training, rewards, creativity, and competence, providing valuable insights for Tanzanian HEIs and beyond on leveraging human capital for sustained competitiveness.

1.4 Research Objectives

1.4.1 General Objective

The general objective of the study is to investigate the effects of human capital investment on achieving a competitive advantage in Higher Education Institutions in Tanzania using the University of Dar es Salaam as a case study.

1.4.2 Specific Objectives

i. To assess the effect of employee training in achieving competitive advantage in Tanzania's higher education institutions.
ii. To determine the effect of reward in achieving competitive advantage in Tanzania's higher education institutions.
iii. To find out the effect of employee creativity in achieving competitive advantage in Tanzania's higher education institutions.
iv. To identify the effect of employee competence in achieving competitive advantage in Tanzania's higher education institutions.

1.5 Significance of the Study

The findings from this study offer substantial theoretical, practical, and methodological contributions to a wide range of stakeholders, including administrators and HR professionals in public and private universities within and beyond Tanzania, policymakers, academicians, researchers, and scientists.

Theoretical Contributions

Theoretically, this study significantly advances the understanding and development of Human Capital Theory (HCT) and Herzberg's Motivation Theory. Traditionally, HCT has focused on the role of education and training in enhancing employees' skills, competence, and creativity, thereby improving organizational performance and competitiveness. This study introduces rewards as an additional variable within the HCT framework, demonstrating that effective utilization of training outcomes by employees is enhanced when accompanied by adequate incentives. This integration underscores that while training equips employees with necessary skills, rewards provide the motivation required to apply these skills productively, leading to greater effectiveness and organizational performance.

The application of Herzberg's Motivation Theory in the context of HEIs provides new insights into the role of motivation in attaining competitive advantage in educational sector. Herzberg's theory, which has predominantly been used in business environments to explain how motivation impacts job satisfaction and performance, is applied here to illustrate its relevance in the academic sector. This study shows that beyond meeting basic needs (hygiene factors), providing motivators such as recognition and growth opportunities can significantly enhance competitive advantage in HEIs. This novel application contributes to the broader theoretical discourse by extending the utility of Herzberg's theory to educational institutions' competitive advantage, which traditionally been used as a theory to attain motivation and job satisfaction to employees.

Furthermore, this study fills a significant gap in the literature by linking human capital investment to competitive advantage in Tanzanian HEIs and other developing

countries. Previous studies have often overlooked this connection, especially in the context of developing economies. This research enriches the existing body of knowledge by providing empirical evidence on how human capital investment influences competitive advantage in the higher education sector, offering valuable insights that can inform future academic discussions and research.

Practical Contributions

Practically, the study's findings are expected to provide actionable insights for various stakeholders in the higher education sector. University administrators and HR professionals can leverage these findings to enhance organizational performance by improving reward systems, training programs, and overall HR policies. The study suggests that effective human capital management, including comprehensive training and motivational reward systems, is crucial for fostering a productive workforce and achieving competitive advantage.

The results are anticipated to guide HEIs in developing tailored training programs that address specific skill gaps among their employees, thereby improving their practical skills and overall competency. The study also underscores the importance of creating locally adaptable reward systems that reflect the unique needs and contexts of Tanzanian HEIs. This practical application is crucial for ensuring that HR policies are relevant and effective in promoting employee motivation and performance.

Additionally, policymakers and authorities responsible for higher education in Tanzania may use the study’s findings to revisit and refine HR policies guiding HEIs. By encouraging the formulation and enforcement of comprehensive training

and reward policies, the study aims to enhance the overall quality and effectiveness of human capital in the higher education sector. This could lead to more robust and competitive HEIs that are better equipped to meet the challenges of a rapidly changing educational landscape.

Methodological Contributions

Methodologically, the study contributes to the field by providing an empirical framework for estimating the causal-effect relationship between human capital investment and the competitive advantage of HEIs. This methodological approach can serve as a reference for future studies, offering a robust model for examining the impact of human capital variables in educational settings. By establishing a clear linkage between human capital investments and competitive advantage, the study provides a valuable tool for researchers aiming to explore similar dynamics in different contexts or sectors.

1.6 Scope of the Study

The study investigated the effect of human capital investment on the competitive advantage of higher education institutions in Tanzania using experiences from UDSM. The human capital investment was investigated by considering four constructs: training, reward, creativity and competence. At the same time, competitive advantage was assessed using three variables: teaching and learning environment, academic staff-student ratio, and flexibility/adaptability to change. These were chosen because they have more weight in university rankings than other criteria (UniRank, 2022). Moreover, though there are 53 universities and university

colleges in Tanzania (TCU, 2021), this study was conducted in only one university, which is the UDSM. The UDSM is purposively selected as an area of study because it is the oldest and leading university in Tanzania, which has attained a competitive advantage as it has been ranked among the best forty universities in Africa at the 36th slot (UniRank, 2022) and consistently the first in Tanzania (TCU, 2021; UniRank, 2022).

1.7 Organization of the Study

This PhD thesis is categorized into five (5) chapters. Chapter 1 presents the introduction of the study, research problem, research objectives, and research questions. Chapter One also details the significance and scope of the study. Chapter 2 presents all relevant empirical and theoretical literature that informs the study. Chapter 3 presents the research methodology that was adopted in the study. Chapter 4 presents results and discussion of the study while Chapter 5 presents summary, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter presents operational definitions of key terms, theoretical framework and empirical literature related to the study. The chapter also presents the research gap and conceptual framework.

2.2 Definition of Concepts

2.2.1 Human Capital

Wool (2021) defined human capital as "A combination of knowledge, skills, competencies and other properties, within an individual, contributing to the creation of personal motivation, social and economic well-being". Matus et al., (2023) defined human capital as the intangible assets that organizations possess, such as knowledge, skills, and expertise, which contribute to their value and competitive advantage. Anabaraonye *et al*., (2022) referred to human capital as the economic value of a worker's experience and skills. Human capital includes assets like education, training, intelligence, skills, health, and other things employers value such as loyalty and punctuality. Gorodnichenko *et al*., (2022) stated that Human capital encompasses education, technical or job-related skills, health, mental and emotional well-being, and other qualities viewed in terms of their value to a company or a country. However, for this study, human capital is defined as the stock of employee skills, knowledge, experience, competence and capabilities of academic staff in HEIs.

2.2.2 Competitive Advantage

Vasiliev (2022) defined Competitive advantage as institution's ability to position itself effectively within its industry to achieve and maintain advantages over competitors. Ogola (2020) definition of Competitive advantage is concerned with how business as a whole distinguishes itself in a valuable way from its competitors and delivers value to specific customer segments. Feryl *et al*., (2023) refers to Competitive advantage as the heart of the firm which allows it to be competitive and to take lead in a competitive market. Competitive advantage is the area where the company highly emphasize to beat their competitors.

Uli *et al*., (2020) defined as the ability of an organization to maintain a defensive position against its competitors, with indicators of each being price, quality, product innovation, time to market, delivery and dependability. Competitive advantage also refers to a company's superiority over its competitors (Elrehail *et al*. 2020). Porter (1990) defined competitive advantage as the properties or dimensions of each firm enabling it to offer better services than the competitors (i.e., better value) to customers. However, the study defines competitive advantage as the properties (academic staff-student ratio, teaching and learning environment, and flexibility) that enhance HEIs' capabilities to offer better services than other HEIs within and outside the country. The ability to secure a favourable position that enables the attraction of students, faculty, funding, and other critical resources.

2.2.3 Training

Bourini *et al*., (2020) Training is an individual effort to gain knowledge in a

particular program prepared by an organization Training in the human resources aspect is defined as activities to increase employee abilities to help performance. Aziz *et al.,* (2022) Defines training is a company continuous strategy that increases the capacity of company workers according to the company's needs and goals. Training provides extra knowledge to employees. In this way, employees can solve existing problems. Other than that, with a sufficient level of knowledge, employees can be more productive which will certainly deliver added value to the company (Manajemen *et al*., 2023). Training is consisting of an organization's planned efforts to help employees acquire job-related knowledge, skills, abilities, and behaviors, with the goal of applying on the job (Noe *et al.,* 2019). Training is the use of systematic and planned instruction activities to promote the learning process (Armstrong, 2019). In this study, training is defined as imparting a specialized skill, knowledge, ability and experience or behaviour to a HEIs employee to enable him/her to do a particular job effectively. Training is practically based.

2.2.4 Employee Creativity

Creativity is the ability to convey new qualities in old concepts and ideas or develop new ways of the organization (Kassa, 2021). Employee creativity can be defined as generating beneficial and innovative ideas, practices, and products as raw materials for extra innovations (Asad, et al., 2021) Slatten et al, (2020) defines Creativity as the part of employees that helps them become problem solvers. Creativity is certain level of knowledge and confidence in an employee helps them to generate original ideas or concepts.

Elidemir et al, (2020) defined creativity as the capacity to assess and comprehend many options for fixing a certain circumstance. Creativity helps to improve the work patterns that are followed by the employees of an organization, when the work pattern is changed then the quality of the ultimate outcome from those are also become better than before (Bujan, 2020). Employee creativity denotes the delivering, generating, and executing of useful and new ideas regarding goods whether products or services and practices, and thus, creativity is an important portion of organization growth and sustainability (Elqassaby, 2018). In this study, creativity is defined as the ability of the academic staff of UDSM to discriminate against new relationships, examine subjects from new perspectives, and form new concepts from existing information.

2.2.4 Employee competence

Ong'ango (2019) define employee competence as a combination of knowledge, skills, abilities and personal attributes that contribute to enhanced employee performance. This study was focused on employee competence. Competence refers to the combination of knowledge, skills, and abilities that enables somebody to perform a particular task or function effectively (Otoo, 2019). Škrinjarić, (2022) defines Competence as an individual's capability to learn and adapt to new situations such as; technologies, as well as work collaboratively with others to achieve shared objectives. Competence can be illustrated by various means, including formal education, professional certification, on-the-job experience, and performance evaluations. In this study, employee competence refers to multiple expertise, knowledge, capabilities, experiences and skills that the academic staff of UDSM

possess that distinguish them from staffs of other HEIs in Tanzania, which form the basis of UDSM's competitiveness.

2.2.5 Reward

The basic reward is the employee's salary or wage, which may be an hourly wage, a set amount of pay per month, or commission-based. Reward systems must be designed to motivate workers, as motivation is essential for high performance (Armstrong, 2012). A reward is a tangible gift given to an employee to acknowledge a job well done. According to Dessler (2008), a reward can be in the form of pay given to workers as a result of their employment status. It can be a material or financial expression of appreciation, conditional on results (Baskar and Rajkumar, 2015). The reward can be from within (intrinsic motivation) where an employee is self-motivated by the status the job provides or enjoyments brought by the job (Tohidi, 2011) or extrinsically when an employee is stimulated by external factors such as pay, promotion and recognition (Jain et al., 2019). In this study, the reward refers to intrinsic and extrinsic stimulations that influence the academic staff of UDSM to devote more effort to their work to create competitive advantages.

2.2.6 Higher Educational Institutions (HEIs)

According to Naik and Naik (2019), higher education is defined as post-secondary education, training and research guidance at institutions such as universities that are authorized as institutions of higher education by state authorities. In general, HEIs encompass Universities, colleges and various professional schools that provide preparation in fields such as; law, theology, medicine, business, music, and art

(Alemu, 2018). Higher education also includes teacher-training schools, junior colleges, and institutes of technology (Naik and Naik, 2019). In this study, HEI is an academic institution providing post-secondary education, preferably a diploma and bachelor's degree.

2.3 Theoretical Review

2.3.1 Human capital theory

Human Capital Theory, originating in the 1960s with economists Gary Becker and Theodore Schultz, posits that investment in education and training is a critical driver of productivity and economic growth (Becker, 1964; Schultz, 1961). The theory argues that individual workers possess skills that can be enhanced or accumulated through education and training, which in turn increases their productivity and value to organizations. Human Capital Theory assumes that formal education is necessary to improve the productive capacity of individuals, thus contributing to overall economic development (Woodhall, 1997). This premise underscores the idea that human capability is shaped by a combination of innate abilities and deliberate investment in education and training (Becker, 1993).

The theory differentiates between human capital and other forms of capital, such as physical and financial capital. While organizations may own physical or financial capital, human capital is inherently owned by individuals in the form of their skills, knowledge, experiences, capabilities, creativity, and competence (Tomer, 2016). These intangible resources, particularly human resources, are increasingly recognized as more critical to organizational success than tangible assets (Odhong et

al., 2014). This shift highlights the growing importance of human capital in driving market value and maintaining competitive advantage (Ross, 2021).

In this study, Human Capital Theory is directly relevant as it provides the foundation for understanding how investments in training, creativity, and competence contribute to the competitive advantage of higher education institutions (HEIs) (Mehdi et al., 2019). Specifically, at the University of Dar es Salaam, this theory supports the argument that investing in human capital through the training of academic staff (Manajemen et al., 2023), fostering creativity (Jain et al., 2019), and developing competencies can significantly enhance the institution's ability to improve its teaching and learning environment, maintain a favourable academic staff-student ratio, and adapt to changes in the educational landscape.

Despite its widespread application, Human Capital Theory has faced criticism for its assumption that education and training alone are sufficient to improve productivity. Critics argue that other factors, such as employee motivation, compensation, and well-being, also significantly affect productivity (Tomer, 2016). The theory overlooks the complexities of real-world productivity, where factors such as organizational culture, employee morale, and external market conditions can play a substantial role (Freeman, 1976). Moreover, Human Capital Theory does not adequately account for how motivation influences an individual's willingness to apply their acquired skills and knowledge in the workplace.

This gap in Human Capital Theory leads to the integration of Herzberg's Two-Factor Theory of Motivation in this study. Herzberg's theory distinguishes between hygiene factors (e.g., salary, job security) and motivators (e.g., recognition, personal growth)

as critical components of employee satisfaction and motivation (Herzberg, 1966). Since Human Capital Theory does not explicitly address the role of rewards and recognition in enhancing productivity, Herzberg's theory complements it by emphasizing the importance of motivation in applying acquired skills to achieve organizational success.

2.3.2 Herzberg's Two-Factor Theory of Motivation

Herzberg's Two-Factor Theory of Motivation, introduced by Frederick Herzberg in 1959, provides a comprehensive framework for understanding the factors that influence employee motivation and job satisfaction. The theory, which categorizes factors into hygiene factors and motivators, is particularly relevant to Higher Education Institutions (HEIs) where the motivation of academic and administrative staff is crucial for enhancing institutional performance and competitiveness. Hygiene factors, such as salary, company policies, supervision, working conditions, interpersonal relationships, and job security, are elements of the work environment that, if inadequate, lead to dissatisfaction. In the context of HEIs, addressing hygiene factors is essential for creating a baseline level of job satisfaction among staff. For example, competitive salaries and secure job contracts are fundamental to retaining qualified faculty and administrative staff, which in turn supports the institution's ability to maintain high academic standards and operational efficiency (Herzberg, 1966; Tietjen and Myers, 1998; Kalleberg, 2011). However, while improving these conditions can prevent dissatisfaction, it does not necessarily enhance motivation or job satisfaction (Robbins & Judge, 2019).

On the other hand, motivators are intrinsic factors that lead to higher levels of employee satisfaction and motivation. These include opportunities for achievement, recognition, the work itself, responsibility, and personal growth. For HEIs, motivators are critical in fostering a culture of excellence and innovation. Providing faculty and staff with opportunities for professional development, recognizing their contributions, and involving them in meaningful work can significantly enhance their motivation and commitment to the institution's goals (Herzberg et al., 1959; Gagné and Deci, 2005; Luthans et al., 2015). In your study, the emphasis on professional development and recognition as motivators underscores their importance in enhancing employee performance and organizational competitiveness. Offering opportunities for academic staff to engage in research, attend conferences, and publish their work can lead to higher job satisfaction and increased institutional prestige. Similarly, recognizing the achievements of administrative staff can foster a sense of value and belonging, contributing to overall organizational effectiveness (Kreitner & Kinicki, 2013; Spector, 2022).

Herzberg's theory provides valuable insights for understanding how to enhance motivation among HEI staff, which is crucial for maintaining a competitive edge in the education sector. The theory suggests that HEIs should focus on addressing hygiene factors to prevent dissatisfaction and implementing motivators to promote satisfaction and engagement. This dual approach is vital for creating an environment where staff feel valued, motivated, and empowered to contribute to the institution's success (Locke and Latham, 2004). By investing in the continuous professional development of academic and administrative staff, HEIs can enhance their competencies and adaptability, which are critical for sustaining competitiveness in a

rapidly changing educational landscape (OECD, 2019; Noe et al., 2017). Additionally, recognizing and rewarding staff achievements can foster a sense of accomplishment and motivation. HEIs can implement recognition programs that celebrate teaching excellence, research contributions, and administrative efficiency, thereby enhancing job satisfaction and organizational loyalty (Ryan & Deci, 2000; Herzberg, 1966).

Furthermore, enriching job roles by increasing autonomy, responsibility, and opportunities for meaningful work aligns with Herzberg's emphasis on motivators and is crucial for fostering a motivated and engaged workforce (Hackman and Oldham, 1976; Gagné and Deci, 2005). Ensuring a supportive and conducive work environment is also essential for preventing dissatisfaction and enhancing motivation. HEIs should prioritize the improvement of physical working conditions, foster positive interpersonal relationships, and implement fair and transparent policies to maintain a satisfied and motivated staff (Tietjen and Myers, 1998; Kalleberg, 2011). Herzberg's Two-Factor Theory of Motivation thus offers a robust framework for improving job design and organizational practices in HEIs. By distinguishing between hygiene factors that prevent dissatisfaction and motivators that enhance job satisfaction, the theory provides practical insights for fostering a motivated and productive workforce, essential for sustaining the competitive advantage of HEIs in the education sector (Herzberg et al., 1959; Gagné & Deci, 2005).

2.4 Empirical Literature Review

2.4.1 Employee Training and Competitive Advantage of an Organization

al., (2020) studied the training and development as competitive advantage in companies in Brazil. The instrument for data collection was a semi structured questionnaire, applied to ten employees on the company's front line. In which, five employees have already undergone training and have been with the company for three years and the remaining five, untrained, who were recently hired by the organization. As a result, it was noticeable that the employees already trained become partners of the organization, reaching the planned goals, acting safely in the service and presentation of products and promotions to customers. As opposed to untrained employees, who, due to insecure service, presented catastrophic results for the organization. For both cases the training must be continuous and necessary for a better performance. The most punctuated methodology for training was face-to face, due to the interaction it promotes, thus facilitating the understanding and clarity of information. The study was similar to the current study because they both assessed effect of training on competitive advantage. However, the studies different in context and methodology.

Mohammed (2022) assessed impact of training on employees' performance in the technology focused academic institution. This study used a quantitative approach and the cross-sectional survey was used to collect data from a sample population of administrative employees of Bahir Dar University, who were randomly sampling. 316 questionnaires were distributed and collected for the study. Data were analyzed using both descriptive and inferential statistics. Results show that training design,

training needs assessment, training delivery style and training evaluation have significant positive effect on employees' performance. The study was similar with the current study because it viewed the impact of training in HEIs however only stopped to performance, the current study has go as far as seeing its impact on competitive advantage. However, both studies used questionnaire, descriptive statistics, however the inferential statistics conducted in the previous study was correlation and multiple linear regression, while the current study used ordered logistic regression.

Abd Al Aziz *et al*., (2021) studied on shaping education sectors to be more competitive through training and development. The study Emphasis was placed on the relationship between the perception of employees with regards to training and development, and the perception of customers with regards to the service provided by specific employees. A self-administered questionnaire was distributed to 296 employees and 1480 students in Aden University in Yemen. The findings, attained through confirmatory factor analysis and between training and development and service quality. This positive relationship was observed to be particularly obvious for the more highly qualified employees. This study concludes that, when employees provided by training and development, they will put greater effort into the delivery of good service quality, thus promoting a positive perception among customers towards the organization, hence competitiveness. The study is similar from the current study because they all wanted to see the effect employee training has over university competitive advantage. However, the differences are in their methodologies. The previous study administered questionnaire to staff and students and also use

structural equation modelling, revealed a positive relationship. While the current study only administered questionnaire to academicians who are the back born of the university and also used ordered logistic regression to analyze the relationship between training and competitive advantage in HEIs.

Maadan et al., (2021) studied on competitive advantage through training and development in hospitality industry with special reference to the Imperial, New Delhi. The focus of the research was to study the usefulness of training programs conducted by The Imperial, identifying the techniques of training being provided towards competitive advantage to the organization. Primary and secondary data were used for collecting information. The primary data was put together with the help of a standardized questionnaire administered to 82 employees selected through simple convenience sampling technique. The questionnaire measured the responses of the employees' pre and posts the training program on Likert scale to check the effectiveness of the training programs organized by the hotel. Paired T test has been used to find the result which shows that the training and development programs organized by hotel is effective. Hence it was recommended to provide training to the employees relevant to their jobs. The study was similar from the current study because they all wanted to see the effect of training on competitive advantage. However, difference on the methodology used.

Abiwa *et al.,* (2022) studied on talent management as a source of sustainable competitive advantage for higher education during the pandemic in South Africa.

The study administered 265 structured questionnaires to academicians. Pearson correlation and multiple regression. Results concluded that staff can attain sustainable competition through training and development. The universities were advised to adopt KBV in their operation. The study is similar with the current study because they both explain the influence of training in competitive advantage; however, the studies differ in their theory and methodology. The previous study used KBV and multiple regression methodology, while the current study used human capital theory and ordered logistic regression. Also the studies are done in different content.

Subilaga (2020) studied the impact of human resource training and development in creating competitive advantage in the Tanzanian banking. Data were collected used questionnaire survey and interviews to the selected employees and key persons in the human resource directorate. The data were analyzed using Microsoft Exel-2007 integrated package on a personal computer and the SPSS software. The study found that human resources training and development greatly affects the bank's ability to create competitive advantage and hence has direct effect on performance as well. Furthermore, the study revealed that human resources training and developing activities that consider employees' needs, knowledge and skills gaps are expected to produce higher impact results on the bank's competitive advantage. These activities play a key role in the bank's products and services design, employee commitment and creating tacit knowledge that is only for the particular bank. The effect of human resources training and development was also discovered to result into increase in sales, profitability, customer loyalty, effective problem solving and non-financial and

financial organizational performance. The study recommends that banks and all other organizations need to develop strategies for and around the adoption of human resource training and development practices for creating competitive advantage for their own survival. The study was similar to the current study both analyzed the impact of training on competitive advantage. However, their difference was the content of research the above research was done in a bank, while the current research was conducted in HEIs.

Mzirya (2020) studied on the Influence of employee training on organizational performance in restaurants in Arusha. The theory applied was Human Capital theory. Methodologically, the study employed an exploratory research design. A mixed approach was employed for data collection. A sample of 45 respondents was selected to participate in the study. Sampling procedure purposive sampling and convenient sampling were used, methods of data collection were: questionnaire method, in-depth interview and documentary review. Qualitative data was analyzed through content and logical analysis techniques and Quantitative data was analyzed by using descriptive statistics. Findings showed that training bridges the gap between job requirements and the skills needed to perform their duties outlined in the job requirements, hence increases organizational performance. The study is similar to the current study since the both used the human resource theory and training variable. However, the study only assessed the effect of training on performance and used descriptive analysis, while the current study assessed the effect of training on competitive advantage and the methodology used was quantitative, through

administering questionnaire and analyzing the data through ordered logistic regression.

Gwahula and Innocent (2021) conducted a study which examined the contribution of training and development of employees toward enhancing the institution performance at Mbeya University of Science and Technology as higher education institution. The study used cross-section design to collect data from 234 respondents where questionnaire and interviews were adopted as data collection tools. Results of the findings indicated that, the employees have a great awareness on the fundamental paramount of training and development in higher education institutions toward ensuring better education provision to the students. The issues of increasing knowledge, skills, competences as well as job satisfaction were marked as essential aspects which the higher education institutions should consider effectively in training and development of the workforce. The study is similar with the current study since its analysis on how training can enhance performance in HEIs. However, the study at hand wanted to see effect of training on competitive advantage of HEIs also the methodology used in the study were different from the ones applied in the current study

2.4.2 Employee Competence and Competitive Advantage of the Organization

Manyu and Adiputra (2023) studied on influence of job stress, competence, and Job Recognition on the achievement of competitive advantage in Central Bank in Asia. The study was based on resource-based theory. The sampling technique employed is

purposive sampling, resulting in 54 respondents as the research sample. Data analysis in this study uses the Smart PLS.4 approach. The results of this study indicate that job stress has a negative and significant influence on competitive advantage, job competence has a positive and significant influence on competitive advantage, and Job Recognition has a positive and significant influence on competitive advantage. The study has similarities with the current study that they both assessed employee's competence as a factor to achieve competitive advantage, but differ in other factors, the previous factor used job stress and job recognition. While the current study used training, creativity and rewards. Also, the previous study was done in the bank, while the current study was conducted in HEIs. Another difference is in the methodology the mention study used Smart PLS.4 approach while the current study used descriptive statistics and ordered logistics regression.

Riatmaja and Shaddiq (2023) studied on the impact of human resource competence and innovation on competitive advantage at small medium enterprise (SME) in Indonesia, with entrepreneurial marketing as a moderating variable. This study used a quantitative survey method. 120 SME entrepreneurs were randomly selected in Yogyakarta. The study applied resource-based theory. Non-probability sampling techniques was used as a criteria-based approach. The collected data was analyzed using structural equation modelling (SEM) with the help of the Smart Partial Least Square (PLS) application. Findings showed that small doses of HR competence and entrepreneurial marketing have a significant positive impact on competitive advantage, whereas innovation does not have such an effect. Marketing innovation and HR competence have a huge impact on start-up businesses. Finally, evidence

suggests that innovative marketing and entrepreneurship can bridge the gap between HR competence and competitive advantage. The study confirms the importance of employee competence dimensions on competitive advantage. However, the study used different methodology that was used by the current study.

Oriaku and Oriarewo (2024) examined the effect of employees' competence on competitiveness of selected deposit money banks and to determine the effect of employees' competence on competitiveness of selected deposit money banks in Makurdi metropolis in Nigeria. The study used competence theory. The study utilized the survey research design, with questionnaire as instrument for data collection using stratified sampling method. The deposit money banks selected for this study had a population of 231 staff upon which a sample size of 146 was determined using the formula by Taro Yamane. Data were collected using questionnaire, and thereafter they were analyzed using descriptive statistics consisting of frequencies and percentage; while multiple regression analysis was used to test the hypotheses. Findings concluded that employee competencies practices can be employed to achieve better competitiveness in the deposit money banks. The study recommended amongst others that management of deposit money banks should embrace and emphasize a more responsive posture of attracting experienced employees, as it will enhance their business understanding of the environment towards delivering quality services. The study similarly with is they current as they all agree employee competence and competitive advantage. However, the sample size, tool of analysis and context the study were different

Takawira et al., (2023) examined the strategic leadership skills and responsibilities of a pharmaceutical company in Durban, South Africa, and how they contributed to the company's long-term competitive advantage. Ten prominent pharmaceutical strategic leaders were selected for this research. The strategic leaders were interviewed in-depth using a semi-structured interview guide. The thematic analysis defined themes illustrating how strategic leadership's skills and responsibilities help maintain a company's competitive edge. Findings indicate that Alpha Pharma's ability to sustain competitive advantage in Durban was impacted by four facets of strategic leadership: strategic thinking, emotional intelligence, diversity management, and the promotion of collective leadership. The study also found that strategic leadership was involved in distinct activities: establishing a course of action; dealing with the complexities of doing business, advocating for a new organizational structure; shaping the company's culture, and developing its human resources. Strategic leadership is a competitive advantage for pharmaceutical companies as they develop their internal capabilities and adapt to an ever-changing industry and marketplace. The study confirms the importance of employee competence on competitive advantage. However, the study used different methodology that was used by the current study and was performed on a different context.

Moshi et al., (2023) determine the influence of entrepreneurial competence on SMEs' profitability focusing on personal, interpersonal and business competencies on SMEs' profitability. The study employed Resource-based theory. A cross-sectional research design was adopted, data were collected at once from 102

randomly selected sunflower oil processing firms in Dodoma region in Tanzania. Structured questionnaires were used to collect data. The study's findings reveal that personal, interpersonal and business competencies had a positive significant influence on the profitability of SMEs (p<0.05). Integration of personal, interpersonal, and business competence influences profitability of sunflower processing firms. Involvements of personal, interpersonal, and business competencies influence the profitability of SMEs (sunflower processing firms). The study was in line with the current study that employee competence has positive effect on competitive advantage. However, the study used a different theory, methodology and was conduct on a different context.

Munishi *et al*., (2022) examined the influence of firms' staff and firms' skills on the organizational performance of salt mining industry in Coast Region of Tanzania where four salt companies were involved in the study. The study was quantitative, employing a survey design with a sample size of 100 employees obtained conveniently from a pool of 1010 employees from the four selected salt mining companies. The study employed primary data obtained through questionnaire distributed to the sampled respondents. Data was analysed descriptively and with inferential statistics with the help of SPSS to generate frequency tables and multiple regression analysis output. The findings of the study revealed that firms' staff and firms' skills influenced the organizational performance of salt mining industry. The study confirms the importance of employee competence dimensions on competitive advantage. However, the study was conducted in a salt mine industry and not HEIs. Also used multiple regression and not ordered logistic regression.

2.4.3 Employee Creativity and Competitive Advantage of the Organization

Al haraisa (2024) examined the role ethical leadership and employees' creativity on organizational pride. Using a convenience sample of (130) managers, heads of the department, and their employees from private hospitals in Jordan, the data were gathered by questionnaire. The current study adopted a quantitative approach. Furthermore, Structural Equation Modeling (SEM) was used to test the study hypotheses. The current study reveals that ethical leadership has a significant and positive impact on employees' creativity. On the other side, the results of the study showed that ethical leadership has a significant and positive impact on organizational pride. Additionally, the current study also showed that organizational pride has a significant and positive impact on employees' creativity. Finally, it has been found that there is a mediation impact on the relationship between ethical leadership and employees' creativity. These findings may help the leader to focus heavily on organizational pride to foster the relationship between ethical leadership and employees' creativity. This reveals that employee creativity is significant for the success of the organization. The study confirms that employee creativity has a significant impact on competitive advantage. Although the study used different methodology and context, compared to the current study

Sustano *et al*., (2023) studied on the influence of creativity boosting competitive advantage in Indonesia. In this study's quantitative methodology, 300 SMEs in Palembang City, South Sumatra, Indonesia, were given questionnaires to complete. Path analysis using SEM-PLS is the analysis method employed. The study's findings indicate that psychological empowerment directly influences creativity and

innovative work behavior but has no impact on competitive advantage. Therefore, Creativity is required to compete in the modern world, and it must be based on the desires of the employees themselves, to use it for the gain of company competitive advantage. The study confirms that there is a significant effect between employee creativity and competitive advantage. However the study was conducted in a different context, and a different mode of analysis was used.

Martini et al., (2023) examined the link between employee competency, creativity, and performance in generating product competitiveness in the weaving industry in indonesia. It also analyzed the moderating role of time sufficiency in reinforcing employee performance and product competitiveness. This study was designed quantitatively by administering a questionnaire to 662 employees from 331 weaving SMEs in Indonesia using structural equation modelling. The analysis revealed that employee competency positively affects creativity, performance, and product competitiveness. Additionally, time sufficiency was confirmed as moderator in strengthening the linkage between employee creativity, performance, and product competitiveness. The study is in line with the current study that there is a significant effect between employee creativity and competitive advantage. However the study was conducted in a different context, and a different mode of analysis was used.

Usilian et al., (2024) to determine the contribution of the variables of employee creativity and job involvement variables mediated by strategic planning on competitive advantage in PT Nesinak Industries in Indonesia. This research was conducted using a quantitative method approach. The sample used in this study was

90. Data collection was used by distributing questionnaires. The research results show that employee creativity (X1) has a positive influence on competitive advantage (Y) with a t-statistic value. Study indicates employees tend to be more effective when they enhance their creativity skills on daily task they perform, their performance increases hence company's competitive advantage. The study is in line with the current study that there is a significant effect between employee creativity and competitive advantage. However the study was conducted in a different context, and a different mode of analysis was used.

Owhorji and Olomi (2023) determined the relationship between employee creativity and competitive advantage of hotels Port Harcourt in Nigeria. The study focused on employee creativity as the independent variable and competitive advantage in terms of differentiation and innovation, as the dependent variables. The study adopted a descriptive research design. The population of the study comprise six 5-Star star hotels in Port Harcourt, with a huge working space, connectivity and strong financial base. The study collected primary data using structured questionnaire, and analyzed same using the independent t-test. The result of the study showed that there is a positive and statistically significant association between employee creativity and competitive advantage. The study concludes that organizations with creative employees have higher chances of achieving an edge over competitors. The study therefore recommends that management of hotels in Port Harcourt, should consider employee creativity as strategy for gaining competitive advantage. The study is inline with the current study that there is a significant effect between employee

creativity and competitive advantage. However the study was conducted in a different context, and a different mode of analysis was used.

Mashenene et al., (2020) examined factors affecting the performance of small businesses in Tanzania using human resources-based approach. A sample of 380 small business owners was surveyed using a structured questionnaire. Multi-stage sampling technique was used, whereas proportionate stratified sampling was applied which was followed by random sampling technique. In addition, snowball sampling technique was used to select cases of interest for in-depth interview. Excel and a Statistical Package for Social Sciences (SPSS) were used as analytical tools for quantitative data. Content analysis was used to analyses qualitative data from four case studies developed. Binary logistic regression model was used to estimate the effects of employees' commitment, trustfulness and competencies on the performance of small businesses. The study revealed that employees' commitment, honesty and competencies, creativity had a significant positive effect on the performance of small businesses. The study confirms that there is a significant effect between employee creativity and competitive advantage. However the study was conducted in a different context, and a different mode of analysis was used.

Yildiz (2019) studies the impact of effective leadership style and employee creativity and organizational innovation at Boehringer Ingelheim (BI), a German pharmaceutical company, with offices in Turkey, the Middle East and Africa (META) and the head office is based in Dubai, UAE. Qualitative approach methodology was used and the findings revealed effective leadership style can

enhance employees with creativity and organizational innovation for organization performance and competitiveness. The study confirms that there is a significant effect between employee creativity and competitive advantage. However the study was conducted in a different context, and a different mode of analysis was used.

2.4.4 Employee Reward and Competitive Advantage of the Organization

Misook *et al.,* (2020) examined the relationship between internal marketing with the variable's communication, rewards and empowerment and competitive advantage in the organizational coaching approach to gain competitive advantage in hospitals in Korea. The study applied Porter's theory of competitiveness. Data was collected through questionnaire survey of 220 employees working in three branches of the Korea Health Care Association and and analyzed hypotheses through SPSS and AMOS analysis. Findings indicated internal marketing variables had a significant positive influence on service innovation and directly affect competitive advantage as organizational coaching. The study confirms the contribution of rewards on competitive advantage and applied the supporting theory of current study. Although the study was done in different context and used different methodology.

Singh and Ahuja (2020) studied the impact of rewards on knowledge sharing in education sector in India. The study was conducted knowingly knowledge is an essential element in improving the organizational performance and competitive advantage, a valuable resource in an education sector. The study employee the Theory of Reasoned Action. The study used convenience purpose sampling to select for 200 Faculty members form the selected Management Institutes. A self-designed

questionnaires were administered and analyzed through correlation and multiple regression. The findings concluded that monetary rewards had positive significant on knowledge sharing among faculty, which in result helps the education sector to attain competitive advantage. The study confirmed that rewards are relevant to attain competitive advantage. However, the study was for different content. The current study assessed effect of rewards on HEIs competitive advantage.

Mazllami (2020) identified the relationship between employee rewards and employee performance in the SMEs in Polog Region in the Republic of North Macedonia. The study was statistically analyzed, synthesis and comparative methods. Data was collected through structured questionnaires. The findings indicated that there was a significant relationship between employee reward and employee performance. Indicating human resource satisfaction through rewards is a key objective through creating a business success and competitiveness. The study acknowledges the effect of rewards on competitive advantage; however, the study was based on organizational performance of SMEs and not competitive advantage of HEIs. Also, the study used comparative method and data were analyzed through correlation. The current study applied ordered logistic regression.

Oboreh *et al.,* (2021) examined the effect of reward on organizational performance in universities in Edo State in Nigeria. The study aimed to determine the effect of salary increase, cash bonus, recognition, promotion and career development on organizational performance. The study anchored on equity theory. Survey research design was employed in the study. Six universities comprising of two private

universities, two state-owned universities and two federal universities were sampled for the study. The population consists of 3974 academic staff of the selected universities. A sample size of 365 was determined using Taro Yamene formula. Questionnaire was employed as the major instrument of data collection. The data generated were analyzed using frequency tables, percentages and multiple regression analysis. The study found that salary increase, cash bonus, promotion, recognition and career development have significant effect on organizational performance. The study conquers that rewards are important for employees to perform effective and help in organization performance and competitiveness. However, the study is different from the current because, the current tends to assess effect of rewards on HEIs competitive advantage. Also, the studies differ in the tools of analysis.

Kumburu (2020) studied if rewarding employees for organizational performance, matters in the 21st century matters in Tanzanian context. The study was backed by various motivational theories up by Herzberg two factor theory, Vrooms theory and Agency theory. It employed simple random sampling to select 160 respondents. Primary and secondary data were obtained using semi-structured interviews, questionnaires and documentary review and were analyzed through descriptive statistics and correlation analysis. The findings showed that there are variety of financial incentives used and the level of financial incentives provided to employees is adequate. In addition, some of the financial incentives provided to staff were found to have positive relationship with organizational performance whereas others seemed not to influence the performance. However, the estimated correlation coefficients were low to indicate that there might be other factors apart from financial incentives

which influence organizational performance. The study can prove that rewards required to motivate employees to be effective doesn't necessarily have to be financial. However, the study can provide the important of rewards, also can with right evidence since the study was very generalized with few respondents. The current study tends to show the effectiveness of rewards on competitive advantage precisely HEIs.

2.5 Research Gap

Following a critical literature review regarding the effect of human capital on competitive advantage in higher learning institutions, several research gaps have been identified: knowledge, methodological and theoretical. In the case of the knowledge gap, several studies worldwide have been done focusing on the effect of human capital investment on the competitive advantage of non-education institutions or organizations. Studies conducted by Martini *et al*., (2023), Mohammed (2022), Duatre *et al*., (2020), Moshi et *al*. (2022), Yildiz (2019), Mazllami (2020), Mehdi et al. (2019), Owhorji and Olomi (2023), Asaari et al. (2019), Asha (2019), Iwatta *et al.*, (2020), Riatmaja and Shaddiq (2023),, Subilaga (2020), Zilincikova and Stofkova (2020), Elrehaid et al. (2020), Sai (2022) and Adaobi and Owusuaa-Konado (2022) have shown the contribution of human capital investment on competitive advantage and or performance of an organisation. However, very few efforts have been made to understand the effects of human capital investment on the competitive advantage of HEIs (Owhorji and Olomi 2023). Riatmaja and Shaddiq, 2023). This confirms the existence of a knowledge gap on the effects of human capital investment on the competitive advantage worldwide. Therefore, the study came up with new facts and

insights that expand our understanding on effect of human capital on competitive advantage in HEIs.

Besides, studies regarding human capital investment and competitive advantage are not common in the Tanzanian context. Thus, a comprehensive study to analyse the link between human capital investment and competitive advantage is missing. Moreover, based on the reviewed literature, there has not been an investigation on human capital investment that combined training, reward, competence and creativity to extensively analyse their link to the competitive advantage of HEIs in Tanzania. For instance, Buberwa (2015) focused on only the role of employee motivation on the performance of academic staff in public universities. Subilaga (2020) focused on two variables of training and development of employees and their effect on achieving a competitive advantage in the banking sector. Iwatta and Hoskin (2020) investigated the methods used to manage intellectual capital held by Tanzanian HEIs. Therefore, to fill the gap, this study analysed the effects of human capital investment in training, reward, competence and creativity on the competitive advantage of HEIs. The study provided empirical evidence that informs the management of HEIs on how to become competitive in education sector.

Moreover, in the case of a methodological gap, most of these studies used descriptive statistics (frequencies, percentages, mean and standard deviation) and correlation coefficients to estimate the link between human capital investment elements and competitive advantage or performance (Agha and Alrubaiee, 2019; Asaari et al., 2019; Adaobi and Owusuaa-Konadu, 2022). Correlation coefficients do not have

strong predictive power like regression models to gauge the causal-effect association of variables (Bewick et al., 2003). Therefore, the study filled these gaps by using regression analysis models to link human capital investment variables with the competitive advantage of HEIs in Tanzania. Regression models are useful in determining which particular variables in human capital affect competitive advantage the most so as to inform long-term strategic planning, aligning human capital strategies with business objectives of HEIs.

Moreover, the previous studies on competitive advantages have either used a few theories or not used at all. For instance, Kumburu (2020) used Herzberg two factor theory, Vrooms theory and Agency theory. Misook et al., (2020) applied Porter's theory of competitiveness to examine the relationship between internal marketing with the variable's communication, rewards and empowerment and competitive advantage. Mzirya (2020) human resource theory to study the influence of employee training on organizational performance in restaurants in Arusha. Unlike the previous studies, this study has used two different theories to understand, explain, and predict the effect of human capital investment on competitive advantage in HEIs in Tanzania. These include Human Capital Theory and Herzberg's Two-Factor Theory of Motivation. The human capital theory is used in this study because it emphasizes the value of investing in people to enhance their skills and productivity, which directly aligns with the goals of educational institutions. Herzberg's Two-Factor Theory of Motivation is used here because provides a sophisticated understanding of employee motivation by separating variables that prevent dissatisfaction from those that encourage job satisfaction. The two theories, in this study, enabled to assess the

effect of investing on human capital, analyzing job satisfaction levels, and measuring the outcomes of motivational strategies in HEIs.

2.6 Conceptual Framework

The term “conceptual framework” is defined by Shields and Rangarjan (2013) as an analytical tool with several variations and contexts used to make conceptual distinctions and organize ideas. The framework usually shows the way ideas are organized to achieve a research project's purpose. The conceptual framework in this study was synthesized from the literature review and two theories (Human Capital Theory and Herzberg's Two-Factor Theory of Motivation). Figure 2.1presents the intricate relationship between human capital investment and competitive advantage in HEIs in Tanzania. As can be seen in the figure, there are independent and dependent variables. The dependent variable in this study is the competitive advantages that comprising of Teaching and Learning Environment (TLE), Academic Staff-student Ratio (ASR), and Flexibility or Adaptability to Changes (FAC). The independent variables are training, competence, rewards and creativity.

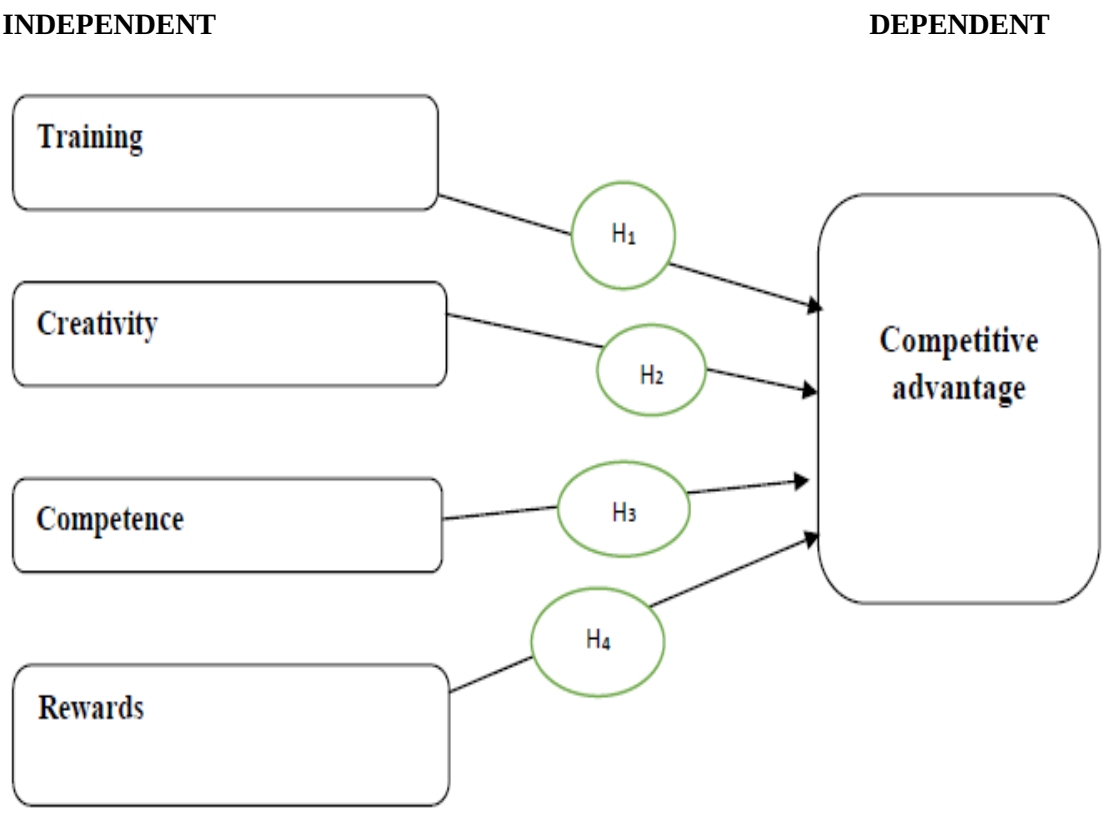

Figure 2.1 Conceptual framework

Source: Researcher's Construct Based on the Literature Review (2021)

According to the human capital theory and Herzberg's Two Factor theory of motivation, it is a fact that investing in training, competence, rewards and creativity of employees could attain competitive advantage in the organization. The Human capital theory highlights the importance of putting much effort (investing) in improving employees in terms of knowledge, experience, skills, capabilities, competencies and logical reasoning/ mental power; to realise competitive advantage. Also, Herzberg's Two Factor theory of motivation contends that rewards, recognition for performance, conducive working conditions, job security, promotions and friendlier organisational policies and rules improve employees' behavioural elements

to induce them to work hard and thus influence the attainment of organizational competitive advantage. These independent variables could have influence competitive advantages either negatively or positively, meaning that could either improve or cause a decline of competitive advantages.

2.7 Research Hypothesis

i. There is a positive and significant relationship between reward and competitive advantage in higher education institutions in Tanzania.

ii. There is a positive and significant relationship between reward and competitive advantage in higher education institutions in Tanzania.

ii. There is a positive and significant relationship between employee creativity and competitive advantage in higher education institutions in Tanzania

iii. There is a positive and significant relationship between employee competence and competitive advantage in higher education institutions in Tanzania.

2.8 Chapter Summary

The chapter reviewed theories and empirical related to the knowledge transfer practice on human capital investment and the literature related to the problem associated with competitive advantage in Higher Education Institutions in Tanzania. Several crucial issues have been raised and explored to understand the phenomenon under the study. A theoretical and extensive review of existing relevant empirical material were done. To establish a conceptual framework and testable hypothesis was necessary to have better understanding on the subject. The study identified the influence of training, rewards, creativity and employee competence. The theories

employed were human capital theory which provide three hypothesis of construct training, creativity and competence, on hypothesis from reward construct emanated Herzberg motivation theory. The hypotheses were alternative because they were in line with the theories that they originated

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter discusses research philosophy, research approach, research design, study area, survey population, sampling frame, sampling design and procedure, variables and measurement, methods for data collection and data processing and analysis.

3.2 Research Philosophy

Research philosophy refers to the set of beliefs concerning the nature of knowledge, reality, and the processes through which knowledge is developed and understood. It is critical in guiding how research is conducted, determining what constitutes valid research and which methodologies are appropriate (Easterby-Smith et al., 2018). The study employed positivism research philosophy. The positivism research philosophy is highly structured and based the quantitative research methods (Saunders, et al., 2012). A reason why the positivist research philosophy was selected is the belief that knowledge should be based on observable, measurable phenomena and that empirical evidence is the best way to understand the world (Ryan, 2018).

The positivist research paradigm holds that knowledge is based on facts obtained from objective reality and stated numerically with explanatory predictive power and not on the subjective manner of an individual's opinions (Creswell et al., 2011). On the one hand, the researcher uses the positivism paradigm to build a highly structured

methodology to allow generalization and quantifiable observations and evaluate the outcome with the aid of statistical techniques (Creswell, 2014; Ryan, 2018).

In addition, in this study, the quantitative method was considered appropriate because there is hypothesis testing that is associated with the cause-effect relationship (Creswell, 2014). Therefore, the use of positivism has made it possible to explain the cause-effect relationship between independent variables (employee training, rewards, employee creativity, and employee competence) and dependent variables (competitive advantages namely teaching and learning environment, or academic staff-student ratio, or flexibility or adaptability to changes).

3.3 Research Approach

The study employed a quantitative approach. The approach was chosen for this study because it is very strong at studying large groups of people and making generalizations from the sample being studied to broader groups beyond that sample (Creswell, 2014). By using this method, quantitative data were collected. The choice of the quantitative research approach was informed by the fact that the approach systematically and accurately describes the causal-effect relationship between independent and dependent factors as intended in the study (Creswell, 2014, Yanovitzky & Greene, 2009).

The quantitative research process in this study involved five main steps as suggested by Holton & Burnett (2005). These include 1) determining the hypothesis to be tested by the study; 2) determining participants in the study (population and sample); selecting the methods needed to test the hypothesis including variables (independent

and dependent variables), measures of the variables and overall design; 4) selecting data analysis tools, and 5) understanding and interpreting the results.

3.4 Research Design

A research design is defined as the scheme, outline, or plan that guides the generation of answers to research problems (Akhtar, 2016; Creswell and Creswell, 2020). This study employed a descriptive survey design, a quantitative approach particularly effective for hypothesis testing and systematically exploring relationships between variables (Brink et al., 2019). The rationale for using a descriptive survey design lies in its capacity to provide a detailed account of causal-effect relationships among the variables under investigation, specifically training, competence, reward, creativity, and competitive advantage. Descriptive surveys are advantageous because they allow for the collection of reliable and structured data, which is crucial for accurately depicting the current state of the phenomena being studied and for testing hypotheses based on observed data patterns (Mertens, 2020; Fowler, 2014). The use of this design enabled the study to gather comprehensive data from a broad sample of participants, thereby ensuring the reliability and generalizability of the finding.

3.5 Area of the Study

This study was conducted at UDSM. The UDSM was purposively selected because of being the best case and special interest. The consideration of the best case in the selection of UDSM was guided by the question “What makes UDSM competitive as

compared to other universities in Tanzania? The UDSM was also chosen based on unusual/special attributes including being the oldest and leading university in Tanzania (Kilango et al., 2017). In addition, the researcher has a special interest in UDSM because for many years has been ranked among the best twenty Universities in Africa and consistently the first in Tanzania (TCU, 2021; uniRank, 2022). Despite establishing numerous HEIs in the country, the UDSM has sustainably maintained its competitive advantages over the last six decades. Therefore, other HEIs in Tanzania must learn from UDSM.

3.6 Target Population

The target population and sampling frame coincide with the academic staff of the University of Dar es Salaam. The selection of academic staff was informed by the fact that they are the ones who deal with the implementation of core business functions in HEIs; among others, teaching, consultancy and research are the foremost. The target population for the study comprises 1178 academic staff of different ranks obtained from the HR department at the University of Dar es Salaam as stipulated in Table 3.1.

Table 3.1 The target population

Rank	Population in each rank
Professor	30
Associate Professor	69
Senior Lecturer	163
Lecturer	397
Assistant Lecturer	442
Tutorial Assistant	95
TOTAL	1178

Source: *UDSM HR department, 2021*

3.7 Unit of Analysis and Inquiry

In this study, the unit of analysis is Higher Education Institutions (HEIs), with a specific focus on the University of Dar es Salaam (UDSM) as a representative case. The conclusions drawn from the study are based on data provided by academic staff at UDSM, reflecting the broader context of HEIs in Tanzania. The choice of HEIs as the unit of analysis is based on the objective to understand how investments in human capital, such as training, rewards, competence, and creativity, contribute to competitive advantage within the higher education sector (Creswell and Creswell, 2020; Cohen et al., 2020). UDSM, as a prominent HEI, provides a relevant context for examining these dynamics and offers insights that can be generalized to other institutions.

The unit of inquiry in this study is the academic staff from selected UDSM, because they are central to achieving competitive advantage through their roles in teaching, research, and consultancy (Altbach and de Wit, 2018; Marginson, 2019). Academic staff possess critical knowledge about the training, rewards, and competencies provided by their institutions and are key drivers of creativity in educational and research activities. By focusing on academic staff, the study captures valuable perspectives on how human capital investments are managed and their impact on institutional performance and competitiveness within the higher education sector (Bryman, 2020; Johnson & Christensen, 2020).

3.8 Sample and Sampling Strategies

3.8.1 Sampling Procedure

This study employed stratified random sampling techniques to select academic staff as respondents because academic staff comprises four groups or strata; professors, lecturers including senior lecturers, assistant lecturers and tutorial assistants. Thus, the academic staff of UDSM was grouped in the strata mentioned above before the sample was selected. Thereafter, a sample size was calculated based on the number of academic staff of UDSM using a formula developed by Taro Yomane (1967) cited in Umar & Wachiko (2021). After that, a sub-sample for each stratum was calculated using a proportionate formula developed by Skinner (2016). Then, from each stratum academic staff equal to the number of respondents obtained from each stratum using the Skinner formula was chosen randomly, and then combined to form a sample. The stratified random sampling method was chosen since it ensures the selection of a truly representative sample when the population under investigation comprises different sub-groups (Lohr, 2019).

3.8.2 Sample size

The size of the sample in the extant reviewed studies ranges from as low as 50 to as high as 381 (Marin-Diaz et al., 2014; Cherono, 2017; Agha &Alrubaiee, 2019). According to Saleh (2006), the standard and sophisticated statistical analysis including the regression model, recommends a sample size of 200 as fair and 300 as good. Aaker et al (2001) also recommend a sample of over 300 as capable of raising the level of consistency and validating the research. To ensure that the sample size is

optimum, this study employed a formula developed by Taro Yomane (1967) cited in Umar & Wachiko (2021) as illustrated below –

$$n = \frac{N}{1 + Nd^2}$$

Where:

n = required sample size

N = the population size and in this case, the total number of academic staff (1178)

d = the degree of accuracy expressed as a proportion (0.05). This is also termed the Desired Margin of Error (ME) expressed as a proportion.

n= 1178/1+1178 $(0.05)^2$

n= 299

This formula gives accurate results and it was deemed suitable for this study due to the available population. Thus, 299 academic staff constituted the sample size. To ensure that the sample size is representative and inclusive, the calculation of sample size in each stratum of particular academicians' rank was conducted using a proportionate formula developed by Skinner (2016). The formula is as follows:

Si=(ACi/ACt) * Gs

Where:

Si= sub-sample per stratum (i.e. number of academicians per each stratum or rank)

ACi = number of academicians in each rank or stratum (Table 3.1)

ACt= total number of academicians or sampling frame = 1178

G_s = Sample size=299 academic staffs)

Based on the proportion-to-size ratio, the sub-sample in each academic rank or stratum was as follows;

Table 3.2 Sample Size in each Academic Rank

RANKS	Population in each rank	Sample size per academic rank
Professor	30	7
Associate Professor	69	17
Senior Lecturer	163	40
Lecturer	397	100
Assistant Lecturer	442	111
Tutorial Assistant	95	24
TOTAL	1178	299

3.9 Data Collection Methods and Tools

The study was informed by primary data. Primary data refers to information in its original form that is directly accrued from the field to inform a specific study (Bryman, 2016). Primary data were therefore obtained through a self-administered questionnaire (Appendix 1). Structured questionnaires were administered to 299 academicians selected from the UDSM.

3.10 Data collation and entry

Data organisation, editing and entry into the computer were conducted immediately after the field. At the end of each data collection day, all questionnaires were thoroughly reviewed for necessary editing, checking for missing information, and possible outliers. At the end of the field, I entered all data into IBM's Statistical Package for Social Sciences (SPSS) version 26.0 computer programme.

3.11 Data Analysis

Data analysis was carried out using IBM's Package for Social Sciences (SPSS) version 26.0 SPSS computer programmes.

3.11.1 Data processing

Before detailed analysis, data were arranged in such a way as to facilitate analyses. For example, some data were re-coded to fit a particular analysis (e.g. ordinal logistic regression analysis). Dependent variables (Teaching and Learning Environment (TLE), Academic Staff-student Ratio (ASR), Flexibility or Adaptability to Changes (FAC)) were collapsed from the previous three statements into one statement. This was done by calculating the mean value to obtain a single value that represents TLE, ASR, and FAC. Thereafter, data were screened which involved checking for errors and correcting the error in the data file. In addition, before data analysis, data were sorted to make analysis easier by re-coding some data to match with the analysis of ordinal logistic regression.

3.11.2 Descriptive statistical analysis

The general purpose of the descriptive statistical method is to summarise, organise and simplify a set of scores (Gravetter and Wallnau, 2007). The descriptive statistics such as frequency and percentage distribution and measures of central tendency; mean, standard deviation and range, were estimated for all objectives of the study and demographic characteristics of respondents. The central tendency for numeric data (interval or ratio) was determined by mean. The central tendency determination for discrete variables was a median, which is the middle value of a data set when it is

ordered from least to greatest. The median is considered in this study because is less affected by the sampling fluctuations and, thus is a less sensitive measure of the central tendency of income distribution (Gravetter and Wallnau, 2007). The descriptive data were calculated with the aim of describing the extent human capital investment has influenced the competitive advantage of UDSM. Also, the analysis is intended to show the distribution of demographic characteristics of respondents.

3.11.3 Correlation analysis

Correlation analysis was conducted to measure and analyze the strength and direction of the relationship between two variables. Variables subjected into correlation analysis include employee training, rewards, employee creativity, employee competency and three measures of competitive advantages namely Teaching and Learning Environment (TLE), Academic Staff-Student Ratio (ASR) and Flexibility/Adaptation to Change (FAC). The analysis helped to determine whether, and to what degree, two variables move together (Gogtay and Thatte, 2017). In this study, Pearson correlation coefficient (r) was calculated and magnitude of correlation was interpreted as follows: Negligible correlation (0.0 to 0.1), Weak correlation (0.1 to 0.3), Moderate correlation (0.3 to 0.5), Strong correlation (0.5 to 0.7) and Very strong correlation (0.7 to 1.0).

3.11.4 Inferential statistical analysis

According to Gravetter and Wallnau (2007), inferential statistics use limited information from samples to answer general questions about the population. The present study made use of inferential statistical analysis to determine the effects of

human capital investment on the competitive advantage of HEIs. This study adopted an ordinal regression analytical model because the dependent variables' competitive advantages (LE, ASR and FAC) were measured in a 5-point Likert scale (Appendix 2).

Before conducting regression analysis, all key assumptions were considered including sample size, multicollinearity, and Outliers. The sample size was considered to address the issue of generalisability. Stevens (2009) recommended that that ‘for social science research, about 15 participants per predictor are needed for a reliable equation. The maximum number of predictors in this study is 11, which means 165 participants are sufficient to carry out regression analysis. Along with this, Tabachnick and Fidell (2013) give a formula for calculating sample size requirements, taking into account the number of independent variables: $N > 50 + 8m$ (where m = number of independent variables). Based on the formula, and considering the maximum number of 11 predictors, the sample size for this study was supposed to be 138. Since the sample size for this study is 299, which exceeds 168 and 138 estimated using Stevens (2009) Tabachnick and Fidell (2013) formulas, respectively, hence, the assumption of sample size is well met in this study paving the way for regression.

Multicollinearity occurs when independent variables are strongly correlated with one or more other independent variables ($r > 0.9$) (Muhanga, 2018). Appendix 3 – 6 presents SPSS outputs of correlation analysis indicating that none of the independent variables exhibited high correlations; the highest correlation coefficient observed was 0.401, thus, there was no multicollinearity. On the other hand, outliers, which are

extreme scores (very high or very low scores) were checked using boxplots in descriptive statistics, and none was detected.

Before the analysis of the ordered logistic model, Factor analysis (Exploratory Factor Analysis) for each independent variable (i.e., employee training, rewards, employee creativity, and employee competence) was conducted to reduce the complexity in a set of data. Factor Analysis is a statistical technique that is used to reduce data to a smaller set of summary variables and explore the underlying theoretical structure of the phenomena. The PCA was used over other type of factor analysis such as Exploratory Factor Analysis because of the focus of this study which is to reduce the number of observed variables to a smaller number of principal components. In factor analysis, a cut-off criterion (eigenvalues) was greater than 0.5. It generated the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy for independent variables (Table 3.3), Total Variance Explained, and Rotated Component Matrix.

Table 3.3: Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy

SN	Independent variables	KMO Measure of Sampling Adequacy
1	Employee training	.840
2	Reward	.827
3	Employee creativity	.815
4	Employee competency	.670

Source: *Data analysis* (2024)

Table 3.4 presents a rotated component matrix showing the factor loadings for each variable of employee training. Since only five factors had eigenvalues greater than

0.5, therefore, in each component, one factor that loaded most strongly was selected for further regression analysis. Based on these factor loadings, the following variables were extracted and included in the analysis of the ordered logistic model: Component 1 - Training with the career development (ET 7); Component 2 - Competency acquired after training (ET5); Component 3 - Motivation to attend training (ET4); Component 4 - Work experience (ET9); and Component 5 - Training is part of organization strategy (ET6).

Table 3.4: Rotated Component Matrix for employee training

	Component				
Factors	1	2	3	4	5
# of training provided yearly (ET 1)	.165	.860	.172	.146	.037
Acquire useful skills (ET 2)	.858	.178	.092	.074	.121
Relevance of training provided (ET 3)	.896	.121	.007	.125	.109
Motivation to attend training (ET 4)	.156	.098	**.972**	.071	.081
Competency acquired after training(ET 5)	.187	**.876**	-.033	.023	.150
Training is part of organization strategy (ET 6)	.230	.165	.094	.230	**.924**
Training with the career development (ET 7)	**.944**	.115	.113	.043	.092
Training duration is sufficient (ET 8)	.927	.169	.125	.071	.109
Work experience (ET 9)	.144	.133	.075	**.952**	.210

Source: Data analysis (2024)

Table 3.5 presents a rotated component matrix showing the factor loadings for each variable of reward. Out of 8 variables, five had eigenvalues greater than 0.5, therefore, in each component, one factor that loaded most strongly was selected. Based on these factor loadings, the following variables were extracted and included in the analysis of the ordered logistic model: Component 1 - the rewards and incentives from the institution motivate to work hard (RW 8); Component 2 – value

and appreciation of work effort by the management (RW 2); Component 3 - motivation to work hard when valued and appreciated (RW3); Component 4 - satisfied with the rewards system used by the institution (RW 5); and Component 5 - institution supports staffs financially for career development (RW 7).

Table 3.5 Rotated Component Matrix for Reward

	Component				
Reward	1	2	3	4	5
My ideas are valued in managerial decision-making (RW 1)	.184	.782	.292	-.189	.247
My work effort is valued and appreciated by the management (RW 2)	.149	**.863**	.054	.321	-.002
I am motivated to work hard when I feel valued and appreciated (RW 3)	.285	.142	**.876**	.123	.157
In my work, I have been rewarded with leadership autonomy (RW 4)	.516	.265	.637	.224	.002
I am satisfied with the rewards system used by the institution (RW 5)	.124	.095	.179	**.887**	.243
Big efforts in my job will give higher rewards (RW 6)	.803	.175	.296	.194	-.008
The institution supports their staffs financially for their career development plan (RW 7)	.101	.133	.110	.228	**.928**
The rewards and incentives I receive from the institution motivate me to work hard (RW 8)	**.875**	.121	.189	-.014	.165

Source: Data analysis (2024)

Table 3.6 presents a rotated component matrix showing the factor loadings for each variable of employee creativity. Out of 9 variables, six had eigenvalues greater than 0.5, therefore, in each component, one factor that loaded most strongly was identified and highlighted. Based on these factor loadings, the following six variables were extracted and included in the analysis of ordered logistic model: Component 1 – complexity of the job that enhances creativity (CR 2); Component 2 – using various

approach to help colleagues and students (CR 8); Component 3 – the organization culture encourages employees creativity (CR 5); Component 4 – getting extra financial rewards, incentives and bonuses (CR 4); Component 5 – helping colleagues with regards to work-related knowledge (CR 7); and Component 6 - transformational leadership style (CR 1).

Table 3.6: Rotated Component Matrix for Employee Creativity

	Component					
Employee Creativity	1	2	3	4	5	6
The transformational leadership style used by my department encourages me to be more creative with my work practice (CR 1)	.234	.221	.205	-.002	.093	**.909**
The complexity of my job enhances creativity (CR 2)	**.828**	-.070	.060	.125	.257	.126
I believe my role gives a significant achievement for my department (CR 3)	.804	.142	.117	.144	.106	.190
I work creatively to get extra financial rewards, incentives and bonuses (CR 4)	.142	.096	.054	**.975**	.026	.001
The organization's culture encourages employees' creativity (CR 5)	.183	.022	**.951**	.060	.086	.182
The autonomy in my job enables me to be more creative in my work (CR 6)	.686	.491	.245	-.064	.059	.032
I always help my colleagues with work-related knowledge (CR 7)	.252	.098	.087	.026	**.949**	.084
I always use various approaches to help my colleagues and students (CR 8)	.097	**.917**	-.009	.121	.086	.200

Source: Data analysis (2024)

Table 3.7 presents a rotated component matrix showing the factor loadings for each variable of employee competence. Out of 11 variables, nine had eigenvalues greater than 0.5, therefore, in each component, one factor that loaded most strongly was

identified and highlighted. Based on these factor loadings, the following variables were extracted and included in the analysis of the ordered logistic model: Component 1 – more education is needed to be more competent (CE 7); Component 2 – work experience enables one to become more effective in work (CE 5); Component 3 – using analytical knowledge to solve problems (CE 3); Component 4 – analytical skills and knowledge match high performance (CE 8); Component 5 – showing professional work habit (CE 11); Component 6 – awareness of profession code of conducts (CE 6); Component 7 – enjoying working with students and treat them with respect (CE 9); Component 8 –) awareness of the quality of education to be provided to students (CE 4); and Component 9 – accepting advice and constructive criticism from supervisor(CE 10).

Table 3.7: Rotated Component Matrix for employee competency

	Component								
Employee competence	1	2	3	4	5	6	7	8	9
Our education has provided us with the highest analytical skills (CE 1)	.857	.127	-.062	-.039	.026	-.055	-.127	.044	.031
I actively use the knowledge we have obtained in our career to improve work practice (CE 2)	.575	.607	-.236	.007	-.117	.108	.101	-.041	.209
Individuals use their analytical knowledge to solve problems that arise in their daily activities (CE 3)	.018	.095	.966	.024	-.015	.045	.002	-.016	.094
We are aware of the quality of education we should provide to students (CE 4)	.053	.142	-.017	.082	.095	.071	.189	.945	.107
My work experience enables me to be more effective in my work (CE 5)	-.037	.824	.246	.248	.177	.037	.050	.218	.056
I am aware of my professional code of conduct and why they are important to follow it in my work (CE 6)	.063	.057	.044	.027	.005	.985	.030	.065	.089
Individuals need more education to be more competent in their area of work (CE 7)	**.874**	-.107	.146	.148	.119	.128	.054	.026	.051
Individuals analytical skills and knowledge matches their high performance (CE 8)	.079	.180	.025	.945	.055	.028	.020	.080	.198
I enjoy working with students and treat every student with respect (CE 9)	-.052	.066	.002	.020	.108	.031	.966	.177	-.004
I accept advice and constructive criticism from my supervisor to improve my work practice (CE 10)	.103	.106	.109	.208	.120	.102	-.005	.112	.933
I show professional work habits by keeping spoken and written information confidential, respecting others, using time well and being dependable (CE 11)	.092	.086	-.013	.054	.965	.005	.108	.090	.106

The general ordered logistic regression model for estimating the influence of human capital investment on competitive advantages (TLE, ARS and FAC) as proposed by O'Connell (2006) and Grilli & Rampichini (2014) was as follows:

$$\log it[\pi(x)] = \log\left(\frac{\pi(x)}{1-\pi(x)}\right) = \beta_0 + \beta_1 x_1 + ... + \beta_p x_p + \varepsilon \quad \text{..... (1)}$$

Whereby,

$\pi(x)$ Represent the likelihood of the UDSM having a competitive advantage (ordered in Five Point Likert Scale) variables: TLE, ASR, or FAC.

$x_i's$ Represent a set of predictors (independent variables) namely, training, competence, reward and creativity respectively (Table 3.8)

$\beta_i's$ Represent explanatory indicators (coefficient estimates) of respective independent variables: training, competence, reward and creativity respectively

ε = Normally Distributed Error Term

Table 3.8: Independent variables (predictors) used in ordered logistic regression model

SN	Main variable	Specific independent variables	Code
1	Employee training	Motivation to attend training	ET 4
		Competency acquired after training	ET 5
		Training is part of the organization's strategy	ET 6
		Training with the career development	ET 7
		Work experience	ET 9
2	Reward	My work effort is valued and appreciated by the management	RW 2
		I am motivated to work hard when I feel valued and appreciated	RW 3
		I am satisfied with the rewards system used by the institution	RW 5
		The institution supports its staff financially for their career development plan	RW 7
		The rewards and incentives I receive from the institution motivate me to work hard	RW 8
3	Employee creativity	The transformational leadership style used by my department encourages me to be more creative with my work practice	CR 1
		The complexity of my job enhances creativity	CR 2
		I work creatively to get extra financial rewards, incentives and bonuses	CR 4
		The organization's culture encourages employees' creativity	CR 5
		I always help my colleagues with work-related knowledge	CR 7
		I always use various approaches to help my colleagues and students	CR 8
4	Employee competency	Individuals use their analytical knowledge to solve problems that arise in their daily activities	CE 3
		We are aware of the quality of education we should provide to students	CE 4
		I am aware of my professional code of conduct and why they are important to follow it in my work	CE 6
		Individuals need more education to be more competent in their area of work	CE 7
		Individuals' analytical skills and knowledge match their high-performance	CE 8
		I enjoy working with students and treat every student with respect	CE 9
		I accept advice and constructive criticism from my supervisor to improve my work practice	CE 10
		I show professional work habits by keeping spoken and written information confidential, respecting others, using time well and being dependable	CE 11

3.12 Validity

In the present study, questionnaire testing was carried out for several reasons: (i) to gauge whether questions, as set in the questionnaire, are understood by the respondents, (ii) to check whether the questions will elicit the intended information, (iii) to find out the sensitive questions contained in the questionnaire, and (iv) to determine the respondents' interest, attention and cooperation towards the survey. Both pre-testing and field testing were carried out to improve both face validity and content validity of the questionnaire. Pre-testing involved further polishing through a rigorous literature review of questionnaires which are commonly used in socio-economic surveys in Tanzania. Issues identified were incorporated into the questionnaire. The revised version of the questionnaire was shared with a supervisor.

A pilot study was conducted on 20 respondents at UDSM (included in the final survey sample) from across all positions (5 from Tutorial Assistant, 5 from Assistant Lecturer, 5 from Lecturer/Senior Lecturer, and 5 from Associate Professor/Professor rural). The choice of 20 respondents was proposed by Polit and Beck (2017) that this number of people is cost, energy and time-efficient, and it is large enough to note the problems with the survey questions in the questionnaire. The questionnaire was not translated into Kiswahili language and was (albeit minimally) reviewed after pre-testing and is attached as Appendix 1. Since the questionnaire was not reviewed after pilot testing, the respondents who participated in the pilot testing phase were not removed from the sampling frame of the main study.

3.13 Reliability

Questionnaire were subjected to an internal consistency test using Cronbach's alpha coefficient to test for the reliability of collected data before the data analysis process started to ensure that the results were true. Cronbach's Alpha coefficient measures how well a set of variables or items measures a single, one-dimensional latent aspect of an individual (Rajasekar et al., 2006). All questionnaire domains were tested to have an idea of whether the items measuring all domains of this study are internally consistent. Results of reliability analysis indicated that items for both domains were highly internally consistent (Cronbach's $\alpha = 0.949$ for all domains. Tavakol & Dennick (2011) recommend that reliability with Cronbach's coefficient alpha of 0.70 is considered acceptable.

Table 3.9: Cronbach's Alpha Result for Reliability Statistics (N= 299)

Variable	Cronbach's alpha	Number of items
Employee training	0.747	9
Reward	0.872	8
Employee creativity	0.902	8
Employee competence	0.731	11

Source: Data analysis (2024)

3.14 Ethical Consideration

This study is expected to adhere to various ethical aspects of the research. Firstly, the researcher sought permission from OUT after successfully defending the proposal to conduct the study. Then, the researcher was asked for permission from UDSM to conduct a data collection exercise at the UDSM premises. Secondly, the researcher was ensured the confidentiality and security of data obtained from participants during the collection of data, and honest in the analysis process, interpretation and reporting

of findings. During data collection, anonymous names or codes were used instead of the real names of respondents or any kind of formal identification.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Overview

This chapter presents the results and discussion on the Effect of Human Capital Investment on Competitive Advantage in Higher Education Institutions in Tanzania: Case of the University of Dar Es Salaam. This study is an attempt to assess whether the employee training, rewards, employee creativity and employee competency listed in the literature affect Competitive Advantage. This chapter is divided into four (4) sections. Section 4.1 is an overview, section 4.2 is the demographic characteristics of respondents, section 4.3 is descriptive statistics and section 4.4 is about inferential statistics. In every section, both results and discussion of the study are presented together.

4.2 Demographic Characteristics

The characteristics of 299 respondents who participated in the present study are summarized and presented in Table 4.1. Respondents' characteristics that are considered in this study include respondents' gender, respondents' highest education level, respondent's working experience as an academician, respondent duration of working in the current university, and respondent's current position.

4.2.1 Sex

The results show that the study sample comprised both males and females, albeit the former constitutes the majority. Table 4.1 presents that out of 299 respondents interviewed, 55.9% were male, and the rest, 44.1% were female. The results indicate

that more men were employed in UDSM than females. This difference can be explained by the fact that the number of educated men is higher than that of women in Tanzania. Such a scenario could be because of the sociocultural setting of most communities in Tanzania or even in most African countries that prefer to educate a male child as compared to a girl child. The results are in agreement with Opuku et al., (2024) who found that women are less likely to participate in the labour market. The results also justify reasons for affirmative action to increase women's enrollment in Tanzanian universities (Kilango, et al., 2017).

Table 4.1: Respondents Characteristics

Respondents' characteristics	Frequency	Per cent
Gender		
Male	167	55.9
Female	132	44.1
Total	299	100
Highest Education Level		
Bachelor	31	10.4
Masters	173	57.9
PhD	95	31.8
Total	299	100
Working Experience as an Academician		
0-2 years	80	26.8
3-5 years	40	13.4
6-10 years	130	43.5
11-20 years	37	12.4
More than 20 years	12	4
Total	299	100
Duration of Working Current University		
0-2 years	104	34.8
3-5 years	28	9.4
6-10 years	143	47.8
11-20 years	21	7
More than 20 years	3	1
Total	299	100
Current position		
Tutorial Assistant	8	2.7
Assistant Lecturer	87	29.1
Lecturer/Senior Lecturer	173	57.9
Associate Professor/Professor	31	10.4
Total	299	100

Source: Data analysis (2024)

4.2.2 Highest Education Level

Table 4.1 presents the respondents' education level. The study reveals that the majority (57.9%) of respondents had master's Degrees while 31.8% had PhD, and

10.4% had Bachelor degree. The results show that one-third of respondents had basic qualifications to serve as academicians at the University. These results indicate that a significant portion of the academic staff at UDSM holds advanced degrees, with nearly one-third possessing PhDs, which are crucial for conducting high-level research and contributing to academic scholarship. The high percentage of staff with master's degrees suggests a well-qualified workforce capable of delivering quality education. This educational profile enhances the university's competitive advantage by ensuring a robust academic environment that can attract research funding, foster innovation, and maintain high standards in teaching and learning. The presence of highly educated staff is a key factor in UDSM's ability to compete with other institutions, offering a strong academic reputation and the capability to produce impactful research and well-prepared graduates.

4.2.3 Working Experience as an Academician

The work experience of the respondents was also assessed (Table 4.1). In this study, work experience is defined as the duration that an employee has served as an academician at any HEI. This variable was captured based on the number of years that the employee has worked until the date of the interview. Work experience was divided into five categories namely 0-2 years, 3-5 years, 6-10 years, 11-20 years, and more than 20 years. The results in Table 4.1 show that 26.8% of respondents had served as an academician for 0 – 2 years, while the rest served for 3 – 5 years (13.4%), 6 – 10 years (43.5%), 11-20 years (12.4%) and more than 20 years (4%). The result indicates that a large proportion of respondents have sufficient work experience, meaning that they served as academicians for more than 5 years. The

long-term experience serves as an important ingredient to use the staff to attain competitiveness.

4.2.4 Duration of Working in Current University

The duration of working in the current University for respondents is presented in Table 4.1. This variable was captured based on the number of years that the employee has worked until the date of the interview. Work experience was divided into five categories namely 0-2 years, 3-5 years, 6-10 years, 11-20 years, and more than 20 years. The majority (47.8%) of respondents had worked at UDSM for 6 – 10 years while 34.8% had worked for 0-2 years, 9.4% for 3-5 years, 7% for 11-20 years and 1% for more than 20 years. Generally, the majority of respondents worked at UDSM for more than 5 years. This high retention rate of experienced staff could be linked to the competitive advantage of the university, suggesting a stable and supportive work environment that fosters employee loyalty and long-term commitment. This stability and accumulated institutional knowledge contribute to the university's ability to maintain high standards in education and research, ultimately enhancing its reputation and competitive edge in the academic sector.

4.2.5 Current Position

Furthermore, Table 4.1 presents the respondents' current position. A total of four academic designations were identified at the university. These include Tutorial Assistant, Assistant Lecturer, Lecturer/Senior Lecturer, and Associate Professor/Professor. Of 299 respondents, the majority (57.9%) were Lecturer/Senior Lecturers, followed by Assistant Lecturers (29.1%), Associate Professor/Professor

(10.4%) and Tutorial Assistants (TAs) 2.7%. The results suggests that UDSM has a substantial proportion of mid- to senior-level academic staff, which enhances its competitive advantage. The high percentage of Lecturers/Senior Lecturers and Associate Professors/Professors indicates a strong academic leadership presence, which is crucial for mentoring junior staff, driving research initiatives, and ensuring high-quality teaching. This hierarchical structure supports the university's ability to attract and retain talented academics, fostering a rich academic environment that can lead to improved student outcomes and a stronger research profile, further solidifying UDSM's reputation in the higher education landscape.

4.3 Results of Descriptive Statistics

4.3.1 The Effect of Employee Training in Achieving Competitive Advantage in Tanzania's HEIs

The study's descriptive statistics, including the mean, standard deviation, minimum, and maximum scores, reveal significant insights into respondents' perceptions of training's role in career development. The median score of 4, corresponding to "agree," indicates a general consensus on the importance of training. Specifically, the item "Training is in line with career development" (ET 7) had the highest mean value (M = 4.34, SD = 0.789), followed closely by "Training duration is sufficient" (ET 8) with a mean of 4.26 (SD = 0.781) and "Relevance of training provided" (ET 3) with a mean of 4.26 (SD = 0.776). The item with the lowest mean, "Number of trainings provided yearly is sufficient for career development" (ET 1), still reflected a positive perception with a mean of 3.95 (SD = 0.064). These findings support the university's strategic efforts, as outlined in UDSM Vision 2061, which emphasizes investing in

postgraduate training and staff development to maintain a competitive advantage. The high agreement among respondents underscores the perceived value of these training initiatives in fostering career development and aligns with the university's commitment to enhancing its academic programs and infrastructure to produce skilled academics for both UDSM and other Tanzanian universities. (UDSM, 2023)

Table 4.2: Variable of Employee Training

SN	Variable descriptions and code	Minimum	Maximum	Mean	Median	Std. Deviation
1	# of training provided yearly (ET 1)	1	5	3.95	4	0.64
2	Acquire useful skills (ET 2)	1	5	4.18	4	0.807
3	Relevance of training provided (ET 3)	1	5	4.26	4	0.776
4	Motivation to attend training (ET 4)	1	5	3.99	4	0.518
5	Competency acquired after training (ET 5)	1	5	4.03	4	0.579
6	Training is part of organization strategy (ET 6)	1	5	4.1538	4	0.55841
7	Training with the career development (ET 7)	1	5	4.3478	5	0.78967
8	Training duration is sufficient (ET 8)	1	5	4.26	4	0.781
9	Work experience (ET 9)	1	5	4.2	4	0.585

Source: Data analysis (2024)

Along with this, the university has been providing on-the-job training to its academic staff. For instance, from 16th to 17th, March, 2023 the university provided two-day training to academic staff on PhD and Masters Supervision skills that was held at APC Conference Centre, in Dar es Salaam (Mambele, 2023). Moreover, the findings of this study concur with previous and existing UDSM Five-Year Rolling Strategic Action Plans that emphasized on training of academic staff. In the implementation of

the previous strategic plan i.e., UDSM Five Year Rolling Strategic Plan 2014/15 - 2018/19, the university had established strategic partnerships with different institutions for funding training to its academic staff. Such institutions that have partnered with UDSM include Delft University of Technology, Trinity College Dublin (TCD), Aalto University and Leuphana University in German (UDSM, 2020).

These results are consistent with the findings of Portnuru and Sahoo (2017) who investigated the role of training towards competitive advantage in India. In their results, they showed that training programs equipped staff with knowledge and skills, leading to a competitive advantage (Portnuru and Sahoo, 2017). In addition, the results are tallying with the Human Capital Theory. The theory assumes that that effective human capability is a product of innate abilities and investment in human beings (Woodhall, 1997). This was also supported by Fitz-Enz (2009), Agrawal (2013), and Jain et al., (2019) who argued that training accelerates employees' competencies and creativity to improve productivity and contribute to organizational competitiveness. The findings of this study also fit with Marin-Diaz et al., (2014) who report a positive relationship between training and a company's competitive advantage measured by financial returns, and Subilaga (2020) who found that Training and Development (T&D) affects the bank’s ability to create a competitive advantage.

4.3.2 The Effect of Reward in Achieving Competitive Advantage in Tanzania's Higher Education Institutions

Table 4.3 presents SPSS outputs of descriptive statistics (i.e. minimum, maximum, median, mean and standard deviation) indicating the results of eight (8) statements on the effect of Reward in achieving competitive Advantage. The mean score for all eight (8) statements was rounded to 4 which stands for "agree". The results of the analysis, I am motivated to work hard when I feel valued and appreciated (RW 3) yields with a high mean value M = 4.37, SD = .612 followed by, I have been rewarded with leadership autonomy (RW 4) which scored mean value M = 4.28, SD = .677. In additional the institution supports their staffs financially for their career development plan (RW 7) scored M = 4.15, SD = .534. The least item was I am satisfied with the rewards system used by the institution (RW 5) which scored M = 3.67, SD = .773. Rewards in this study refer to positive outcomes or incentives provided to academic staff in recognition of their achievements, efforts, or contributions. At the UDSM, rewards can take various forms, including tangible items, monetary compensation, recognition, or opportunities.

Table 4.3: Variables of Rewards

SN	Variable descriptions and code	Minimum	Maximum	Mean	Median	Std. Deviation
1	My ideas are valued in managerial decision-making (RW 1)	1	5	4.14	4	0.568
2	My work effort is valued and appreciated by the management (RW 2)	1	5	4.06	4	0.57
3	I am motivated to work hard when I feel valued and appreciated (RW 3)	1	5	4.37	4	0.612
4	In my work, I have been rewarded with leadership autonomy (RW 4)	1	5	4.28	4	0.677
5	I am satisfied with the rewards system used by the institution (RW 5)	1	5	3.67	4	0.773
6	Big efforts in my job will give higher rewards (RW 6)	1	5	4.06	4	0.724
7	The institution supports their staffs financially for their career development plan (RW 7)	1	5	4.15	4	0.534
8	The rewards and incentives I receive from the institution motivate me to work hard (RW 8)	1	5	4.07	4	0.672

Source: Data analysis (2024)

Based on the results in Table 4.3, majority "Agreed" with the statements that rewards are important in achieving a competitive advantage. The results of this study are in line with university efforts towards sustaining competitive advantage. As part of the rewards for various academic achievements at the university, every year UDSM provide academic promotion for academicians of various positions. Promotion is the process by which the Council members or the Appointments Committee at the University advance professional ranks or positions of academicians based on their

achievements, contributions, and qualifications. For example, on 25th September 2023 the Council approved promotions of three Associate Professors to Professors, 13 Senior Lecturers to Associate Professors, and 40 Lecturers to Senior Lecturers (UDSM, 2023c). These promotions were done based on 15 criteria for the promotion of academic staff, which can be summed up into the following: 1) Journal Paper; 2) Chapters in a Book; 3) Consultancy Reports; 4) Scholarly Books and Patents; and 5) Books for Lower levels, Published Book Reviews, Conference Papers, Case Reports and Extension Material (UDSM, 2016).

The results of this study are also consistent with Herzberg's Two Factor Theory of Motivation, which also recognizes success as intrinsic motivation and income and promotion (personal growth) as an extrinsic drive of employees. A motivated employee puts up a lot of effort to maintain a firm's competitiveness (Herzberg, 1966).

The statements of rewards that got "agree" responses include the value of ideas in managerial decision-making; value and appreciation of work effort by the management; motivation to work hard when valued, and appreciated; institution supports staff financially for career development; and the rewards and incentives from the institution motivates to work hard. The findings are consistent with previous reward-related studies. For instance, Zilincikova and Stofkova (2020) report the role of rewards in changing the company's demographic development in long-time and new employees; Buberwa (2015) found intrinsic and extrinsic motivation aspects

play an undeniable role in boosting academicians' performance; and Ajila and Abiola (2004) report the influence of rewards on workers performance.

4.3.2 The Effect of Employee Creativity in Achieving Competitive Advantage in Tanzania's Higher Education Institutions

Eight statements were asked to deduce variables that form employee creativity. Table 4.4 presents SPSS outputs of descriptive statistics (i.e. minimum, maximum, median, mean and standard deviation) for eight (8) statements which stands for "Neutral", and "agree", respectively. The results of the analysis, I always help my colleagues about work related knowledge (CR 7) yields with a high mean value M = 4.28, SD = .572 followed by, the transformational leadership style used by my department encourages me to be more creative with my work practice (CR 1) M = 4.25, SD = .567. In additional, I work creatively to get extra financial rewards, incentives and bonuses (CR 4) scored M = 4.25, SD = .552. The least item was I work creatively to get extra financial rewards, incentives and bonuses (CR 4) which scored M = 3.31, SD = .887. The mean for the majority of statements was 4 (Table 4.4).

Table 4.4: Variables of Employee Creativity

SN	Variable descriptions and code	Minimum	Maximum	Mean	Median	Std. Deviation
1	The transformational leadership style used by my department encourages me to be more creative with my work practice (CR 1)	1	5	4.25	4	0.567
2	The complexity of my job enhances creativity (CR 2)	1	5	4.12	4	0.595
3	I believe my role gives a significant achievement for my department (CR 3)	1	5	4.15	4	0.58
4	I work creatively to get extra financial rewards, incentives and bonuses (CR 4)	1	5	3.31	3	0.887
5	The organization's culture encourages employees' creativity (CR 5)	1	5	4.25	4	0.552
6	The autonomy in my job enables me to be more creative in my work (CR 6)	1	5	4.22	4	0.564
7	I always help my colleagues about work related knowledge (CR 7)	1	5	4.28	4	0.575
8	I always use various approaches to help my colleagues and students (CR 8)	1	5	4.1	4	0.481

Source: Data analysis (2024)

These findings are in line with university efforts towards sustaining the competitive advantage of the university. These include the establishment of the Directorate of Innovation and Entrepreneurship (DIEN), and the University of Dar Es Salaam Information and Communication Technologies Innovation (UDICTI) hub. The DIEN was established in 2015 to address observed challenges between knowledge generation and research at the University of Dar es Salaam vis—the application of

the knowledge and research output (UDSM, 2023d). The latter, which is UDICTI, is a platform for addressing social and corporate challenges by creating social solutions and commercial ventures. The platform is an umbrella innovation unit located in the College of Information and Communication Technologies (ICT) at the University of Dar es Salaam (UDSM, 2023e).

The study reveals factors that made academicians at UDSM become creative. These include, but are not limited to, encouragement from leadership, complexity of activities carried out, extra financial rewards, incentives and bonuses, and the organization's culture that encourages employees' creativity. A closer look at the factors indicates that the management of the university plays a significant role in promoting creativity. This observation is consistent with the ongoing efforts of the university to promote innovation. For instance, since 2015 the university has been organizing the Research and Innovation Week (RIW) formerly known as Research Week (RW). The RIW is for showcasing competitive research results and innovative products, processes and services (UDSM, 2023f). In addition, the university has been providing short courses on creativity and innovation to academic and non-academic staff. To safeguard the rights of innovators and creators, as well as research outputs from the UDSM, in 2008 the university enacted UDSM Intellectual Property Policy, 2008 (UDSM, 2008).

These findings are also consistent with the findings of other scholars who highlighted the importance of creativity in education and non-education sectors. For instance, Gaspar and Mabic (2015) concluded that teachers and students of the University of

Mostar are aware of the necessity of creativity in the teaching process. Matraeva et al., (2020) viewed creativity as an integrative attribute in the context of higher education. Its primary attributes are the capacity for original thought, result orientation, problem-solving skills in the real world, originality and quickness of thought, openness to new experiences, and tolerance for uncertainty.

4.3.4 The Effect of Employee Competence in Achieving Competitive Advantage in Tanzania's Higher Education Institutions

Table 4.5 presents SPSS outputs of descriptive statistics (i.e. minimum, maximum, median, mean and standard deviation) summarizing results of 11 statements of employee competence that were responded to by interviewees. The mean score for all statements were 3 (statements), and 4 (10 statements) implying "agree", and "strongly agree", respectively. The mean score was 4. The results of the analysis, I actively use the knowledge we have obtained in our career to improve work practice (CE 2) M = 4.44, SD = .623 followed by, our education has provided us with the highest analytical skills (CE 1) yields with a high mean value M = 4.39, SD = .589. In additional, I am aware of my professional code of conduct and why they are important to be followed in my work (CE 6) scored M = 4.34, SD = .542. The least item was Individuals use their analytical knowledge to solve problems that arise in their daily activities (CE 3) which scored M = 3.22, SD = 1.021. The findings of the study are also supported by Chogeet al., (2018) who showed that organization competencies positively affect competitive advantage in the banking sector in Kenya. Agha and Alrubaiee (2019) found that core competence has a strong and positive impact on competitive advantage.

Table 4.5 Variables of Employee Competence

SN	Variable descriptions and code	Minimum	Maximum	Mean	Median	Std. Deviation
1	Our education has provided us with the highest analytical skills (CE 1)	1	5	4.39	4	0.589
2	I actively use the knowledge we have obtained in our career to improve work practice (CE 2)	1	5	4.44	5	0.623
3	Individuals use their analytical knowledge to solve problems that arise in their daily activities (CE 3)	1	5	3.22	3	1.021
4	We are aware of the quality of education we should provide to students (CE 4)	1	5	3.97	4	0.741
5	My work experience enables me to be more effective in my work (CE 5)	1	5	4.01	4	0.608
6	I am aware of my professional code of conduct and why they are important to be followed in my work (CE 6)	1	5	4.34	4	0.542
7	Individuals need more education to be more competent in their area of work (CE 7)	1	5	4.29	4	0.59
8	Individuals analytical skills and knowledge matches their high performance (CE 8)	1	5	3.95	4	0.758
9	I enjoy working with students and treat every student with respect (CE 9)	1	5	4.14	4	0.664
10	I accept advice and constructive criticism from my supervisor to improve my work practice (CE 10)	1	5	4.11	4	0.652
11	I show professional work habits by keeping spoken and written information confidential, respecting others, using time well and being dependable (CE 11)	1	5	4.27	4	0.509

Source: Data analysis (2024)

The attributes of employee competencies at the university that contribute to its competitive advantage are possession of the necessary skills and expertise, innovation and creativity, adaptability (adaptability and ability to quickly respond to changes in the business environment), efficiency and effectiveness in their roles, and engagement and commitment to work. These attributes are also shared with Salman et al (2020), who termed as dimensions of competence, divided into hard and soft competence and further divided them into knowledge, skill and self-actualization-related competence.

The results in Table 4.5 highlighted statements that respondents responded "agree" or "strongly agree", which in turn made the university competitive. These include analytical skills - the ability to gather, interpret, and evaluate information to solve problems, make decisions, and develop insights; appropriate use of knowledge obtained in the career to improve work practice; awareness of the quality of education needed by the students; having sufficient working experience; and adherence to professional code of conduct – i.e., a set of guidelines and principles that govern the behaviour and ethical standards of individuals within a specific profession. In an academic arena like UDSM, analytical skills are a pre-requisite in improving academic performance and, hence are highly valued. They comprise critical thinking, data analysis, problem-solving, research skills, logical reasoning, data interpretation, strategic thinking, and communication skills (Permana *et al*., 2019).

4.4 Results of Correlation Analysis

4.4.1 Relationship between Employee Training and Competitive Advantage

Table 4.6 presents the relationship between employee training and teaching and learning environment. The results indicate a positive and strong relationship between employee training and TLE, which is statistically significant since its p-value is ($p = 0.000$) below a significance threshold of $p<0.05$ and Pearson correlation of 0.516. The existence of a positive relationship between training and the TLE implies that as one employee's training increases, the TLE tends to increase as well. According to Entwistle, et al (2002), TLE is defined as the social, cultural and political contexts within which higher education operates. It includes elements of the student enrolled in a given course, staff-student interactions, teaching and evaluating course material, and course design and organization. Based on the findings of this study, UDSM has favourable TLE for students to pursue their degrees because of the existence of the career development policy of the institution, and the existence of motivation to compensate academic staff to attend training. Kember et al (2010) also acknowledged the importance of TLE in motivating student learning.

Table 4.6: Relationship between Employee Training and TLE, ASR and FAC

		Employee training	TLE
Employee Training	Pearson Correlation	1	.516**
	Sig. (2-tailed)		.000
	N	299	299
TLE	Pearson Correlation	.516**	1
	Sig. (2-tailed)	.000	
	N	299	299
		Employee Training	**ASR**
Employee Training	Pearson Correlation	1	.477**
	Sig. (2-tailed)		.000
	N	299	299
ASR	Pearson Correlation	.477**	1
	Sig. (2-tailed)	.000	
	N	299	299
		Employee Training	**FAC**
Employee Training	Pearson Correlation	1	.490**
	Sig. (2-tailed)		.000
	N	299	299
FAC	Pearson Correlation	.490**	1
	Sig. (2-tailed)	.000	
	N	299	299

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Data analysis (2024)

Table 4.6 also shows the degree and direction of the relationship between employee training and ASR. The result indicated a moderated and positive relationship between employee training and ASR, which is statistically significant since its p-value is ($p = 0.000$) generated below a significance threshold of $p<0.05$ and a Pearson correlation of 0.477. The findings suggest that academic staff at UDSM are comfortable with the existing student-teacher ratio. As per Chapter 3 of the new structure of the academic units at UDSM, an academic staff/undergraduate student ratio (SSR) is 1:18 in the humanities and social sciences programmes and 1:12 in the natural sciences and engineering programmes. In addition, a technician/academic

staff ratio of 1:3 in the natural sciences and engineering. In postgraduate degrees, an annual enrolment is at least 20 postgraduate students (UDSM, 2023a). Generally, the ASR at UDSM is relatively low, suggesting that students receive more support from academic staff, in turn, increasing lecture-student interactions, hence, affecting students' educational achievement. Similarly, Organisation for Economic Co-Operation and Development (OECD), reports that students at schools receive more support and attention when the student-teacher ratio is low (OECD, 2019).

The results in Table 4.6 indicate a moderate and positive relationship between employee training and FAC, which is statistically significantly associated since its p-value is ($p = 0.000$) below a significance threshold of $p<0.05$ and Pearson correlation of 0.409. The finding implies that with increases in employee training, the FAC tends to increase as well. The FAC is defined as the ability to adapt to the changes in the higher education market, research and consultancy activities and effectively meet the new demand to satisfy customers/clients. The findings suggest that employee training enables academic staff to be more flexible and adapt to any change. According to the results, employee training enables trainees to meet the needs and aspirations of current and future students and to meet the market demand. Generally, the results show employees are positively and statistically affecting competitive advantage (TLE, ASR and FAC) at UDSM.

4.4.2 Relationship between Rewards and Competitive Advantage

Table 4.7 presents the degree and direction of the relationship between reward and TLE. The results indicate a positive relationship between the two variables, which is

strong and statistically significant with a p-value ($p = 0.000$) below a significance threshold of $p<0.05$ and Pearson correlation 0.792. The findings suggest that rewards provided by the university to academic staff significantly help to improve TLE. This is consistent with the findings of the study by Sigalingging (2023) in elementary schools who found the existence of a significant positive correlation between the frequency of receiving rewards and students' academic performance, implying that rewards are extrinsic motivators. However, the findings are in contrast with the findings of Rwothumio et al., (2023) who found a weak positive relationship between financial reward and academic staff teaching output ($r=0.282$, $p<0.01$) and research output ($r=0.211$, $p<0.01$) in public universities in Uganda.

Table 4.7 : Relationship between Reward and TEL, ASR and FAC

		Reward	TLE
Reward	Pearson Correlation	1	.792**
	Sig. (2-tailed)		.000
	N	299	299
TLE	Pearson Correlation	.792**	1
	Sig. (2-tailed)	.000	
	N	299	299
		Reward	**ASR**
Reward	Pearson Correlation	1	.694**
	Sig. (2-tailed)		.000
	N	299	299
ASR	Pearson Correlation	.694**	1
	Sig. (2-tailed)	.000	
	N	299	299
		Reward	**FAC**
Reward	Pearson Correlation	1	.646**
	Sig. (2-tailed)		.000
	N	299	299
FAC	Pearson Correlation	.646**	1
	Sig. (2-tailed)	.000	
	N	299	299

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Data analysis (2024)

The results in 4.7 indicate a strong and positive relationship between reward and ASR which is statistically significant since its p-value ($p = 0.000$) is below a significance threshold of $p<0.05$ and a Pearson correlation of 0.694. The main reason for the existence of the relationship between rewards and ASR is the fact that rewards can help to retain academic staff, hence maintaining their number in the

university. If the number of academic staff remains the same, it means the student-teacher ratio will therefore be maintained. Currently, as per the new structure of the academic units, ASR is 1:18 in the humanities and social sciences programmes and 1:12 in the natural sciences and engineering programmes. The document further reveals a technician/academic staff ratio, which is 1:3 in the natural sciences and engineering (UDSM, 2023a). Furthermore, Table 4.7 presents a strong and positive relationship between the reward and FAC that is statistically significant since its p-value ($p = 0.000$) below a significance threshold of $p<0.05$ and a Pearson correlation of 0.646. A positive correlation (coefficient > 0) means that as the reward increases, the FAC tends to increase as well. The findings suggest that the rewards motivated them to work hard, hence being able to be FAC.

4.4.3 Relationship between Employee Creativity and Competitive Advantage

The results in 4.8 indicate that employee creativity is statistically significantly and strongly correlated with the TLE. Its p-value ($p = 0.000$) is lower as compared to a significance threshold of $p<0.05$ and Pearson correlation is 0.754. The existence of the relationship implies that employee creativity improves TLE at the university, and can significantly impact the overall quality of education. It was revealed during the interviews that creativity is an essential aspect of engaging students, fostering critical thinking, and creating a dynamic learning environment. In addition, employee creativity is an important source of competitive advantage even in non-education sectors like companies because can enhance new service development performance (Yang et al., 2016).

Table 4.8: Relationship between Employee Creativity and TLE, ASR and FAC

		Employee creativity	TLE
Employee creativity	Pearson Correlation	1	.754**
	Sig. (2-tailed)		.000
	N	299	299
TLE	Pearson Correlation	.754**	1
	Sig. (2-tailed)	.000	
	N	299	299

		Employee creativity	ASR
Employee creativity	Pearson Correlation	1	.584**
	Sig. (2-tailed)		.000
	N	299	299
ASR	Pearson Correlation	.584**	1
	Sig. (2-tailed)	.000	
	N	299	299

		Employee creativity	FAC
Employee creativity	Pearson Correlation	1	.681**
	Sig. (2-tailed)		.000
	N	299	299
FAC	Pearson Correlation	.681**	1
	Sig. (2-tailed)	.000	
	N	299	299

**. Correlation is significant at the 0.01 level (2-tailed).

Source: Data analysis (2024)

Table 4.8 presents the degree and direction of the relationship between employee creativity and the ASR. The results indicate that employee creativity is strongly and positively correlated with ASR, which is statistically significant since its p-value (p =

0.000) is lower than a significance threshold of $p<0.05$ and a Pearson correlation of 0.584. The ASR, which represents the number of students per academic staff member, provides insights into the level of instructional support and personal attention students can receive. A reason why creativity positively affects ASR is creative solutions are needed to engage larger or smaller groups, such as using technology, collaborative activities, or adaptive teaching strategies (Lazar, 2015).

The results 4.8 indicate that employee creativity is strongly, positively and statistically significantly correlated with FAC since its p-value ($p = 0.000$) is lower than a significance threshold of $p<0.05$ a Pearson correlation of 0.681. The relationship between employee creativity and FAC indicates that creative individuals often play a key role in navigating and thriving in dynamic and changing work environments. This suggests that employee creativity and FAC are interconnected in different ways. These include but are not limited to, innovative problem-solving, openness to new ideas, risk-taking and experimentation, quick learning and skill development, resilience in the face of uncertainty, proactive response to change, and flexible work practices (Bousinakis and Halkos, 2021; Dongell, 2021; Waheed, et al., 2021).

4.4.4 Relationship between Employee Competence and Competitive Advantage

Table 4.9 contains the degree and direction of the relationship between employee competence and TLE. The results indicate that employee competence is positive, moderately and statistically significantly correlated with the TLE. Its p-value ($p = 0.000$) is smaller than a significance threshold of $p<0.05$. The findings suggest that

employee competence significantly improves TLE, which includes staff-student interactions, teaching and evaluating course material, and course design and organization. Generally, these two variables are mutually reinforcing; competent academic staff enhance the quality of the TLE, and a positive TLE, in turn, supports and amplifies academic staff competence, creating a synergistic effect that benefits both educators and students. In academic settings, the relationship between these variables can be manifested in different aspects. These include quality of instruction, student engagement and motivation, professional development, innovation in teaching, collaboration and teamwork, and student learning outcomes. These aspects also have been highlighted by Kuijpers et al (2011) and Mulang (2021).

Table 4.9: Relationship between Employee Competence and TLE, ASR and FAC

		Employee competence	TLE
Employee competence	Pearson Correlation	1	.474**
	Sig. (2-tailed)		.000
	N	299	299
TLE	Pearson Correlation	.474**	1
	Sig. (2-tailed)	.000	
	N	299	299

		Employee competence	ASR
Employee competence	Pearson Correlation	1	.308**
	Sig. (2-tailed)		.000
	N	299	299
ASR	Pearson Correlation	.308**	1
	Sig. (2-tailed)	.000	
	N	299	299

		Employee competence	FAC
Employee competence	Pearson Correlation	1	.242**
	Sig. (2-tailed)		.000
	N	299	299
FAC	Pearson Correlation	.242**	1
	Sig. (2-tailed)	.000	
	N	299	299

**. Correlation is significant at the 0.01 level (2-tailed).

The results in 4.9 indicate a positive relationship between employee competence and ASR and are statistically significant since its p-value ($p = 0.000$) is smaller than a significance threshold of $p<0.05$ but the correlation is weak. The reason why there is a positive and significant relationship is the fact that they can influence the overall educational experience and outcomes. The ASR is an important factor in higher education that reflects the number of academic staff available to support and teach

students. The competent academic staff members' capacity to provide high-quality instruction may be impacted by the academic staff-student ratio. HEIs, therefore, must retain and improve employee competence in addition to other aspects, such as the resources and overall support offered to academic staff, even if a smaller ratio frequently fosters a more individualized and successful learning environment (Patro, 2020).

Table 4.9 presents the degree and direction of the relationship between employee competence and FAC. The results indicate that employee competence is statistically significantly related to FAC since its p-value ($p = 0.000$) is less than a threshold of $p<0.05$ but the correlation is weak 0.242. The findings suggest that there is a synergistic relationship between employee competency and FAC. Proficient staff members who welcome modifications boost the institution's capacity to prosper in ever-changing circumstances, and flexibility is a crucial attribute that builds and maintains staff proficiency over time. It should be noted that in the quickly evolving business environment, these attributes are critical to the success of the academic institution.

4.5 Results of Inferential Statistics

4.5.1 Effect of Employee Training on Competitive Advantage in Achieving Competitive Advantage in Tanzania’s HEIs

Three ordered logistic regression models were carried out in assessing the effect of employee training on the competitive advantage; one model for every dependent variable namely Teaching and Learning Environment (TLE), Academic Staff-

Student Ratio (ASR) and Flexibility/Adaptation to Change (FAC) (Table 4.10). The performance of three models was statistically significant (p-values less than 0.05) implying that data adequately fitted the model and at least one of the predictors is significantly related to the response variable, which is a competitive advantage. The descriptive measures of goodness-of-fit (Table 4.11) also support that the three models fit the data well, implying that observed data are consistent with the fitted model. In addition, the results in Table 4.12 imply that variation in competitive advantage (i.e. TLE, ASR and FAC) was due to the five variables of employee training that were entered into the ordered logistic model.

Table 4.10: Model Fitting Information

Competitive advantage	Model	-2 Log Likelihood	Chi-Square	df	Sig.
Teaching and Learning Environment	Intercept Only	411.436			
	Final	154.004	257.431	5	.000
Academic Staff-Student Ratio	Intercept Only	384.375			
	Final	173.289	211.086	5	.000
Flexibility/Adaptation to Change	Intercept Only	386.369			
	Final	174.219	212.150	5	.000

Source: Data analysis (2024)

Table 4.11: Goodness-of-Fit

Competitive advantages		Chi-Square	df	Sig.
Teaching and Learning Environment	Pearson	1027.734	143	.000
	Deviance	122.511	143	.892
Academic Staff-Student Ratio	Pearson	287.890	143	.000
	Deviance	132.521	143	.724
Flexibility/Adaptation to Change	Pearson	1013.141	143	.000
	Deviance	129.277	143	.788

Source: Data analysis (2024)

Table 4.12: Pseudo R-Square

Teaching and Learning Environment	Cox and Snell	.577
	Nagelkerke	.699
	McFadden	.492
Academic Staff-Student Ratio	Cox and Snell	.506
	Nagelkerke	.604
	McFadden	.388
Flexibility/Adaptation to Change	Cox and Snell	.508
	Nagelkerke	.613
	McFadden	.403

Source: Data analysis (2024)

The results in Tables 4.13, 4.14 and 4.15 present parameter estimates, which give the level and direction of effect of every independent variable to the dependent variable, which is the TLE, ASR and FAC respectively and whether such effect is statistically significant. The direction of effect of independent variables on the dependent variable can be either positive or negative and is indicated by the (-) sign in β coefficient in the column labelled estimates. Tables 4.13, 4.14 and 4.15 show that all five (5) variables have positive β-values, which means increasing the value of these variables is increasing competitive advantages in terms of TLE (Table 4.13), ASR (Table 4.14 and FAC (Table 4.15).

Table 4.13: Parameter Estimates for Teaching and Learning Environment (TLE)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[TLE = 3.00]	25.466	2.678	90.445	1	.000	20.218	30.714
	[TLE = 4.00]	32.437	3.194	103.114	1	.000	26.176	38.698
Location	ET7	1.459	.256	32.377	1	.000	.956	1.961
	ET5	1.092	.308	12.563	1	.000	.488	1.695
	ET4	.957	.352	7.401	1	.007	.268	1.647
	ET6	2.583	.338	58.266	1	.000	1.920	3.246
	ET9	1.258	.296	18.094	1	.000	.678	1.838

Link function: Logit.

Source: Data analysis (2024)

Table 4.14 Parameter Estimates for Academic Staff-Student Ratio (ASR)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[ASS = 3.00]	19.677	2.104	87.467	1	.000	15.553	23.800
	[ASS = 4.00]	25.024	2.430	106.033	1	.000	20.261	29.788
Location	ET7	1.183	.213	30.788	1	.000	.765	1.601
	ET5	.893	.271	10.822	1	.001	.361	1.425
	ET4	.680	.305	4.959	1	.026	.082	1.279
	ET6	2.188	.316	48.046	1	.000	1.569	2.806
	ET9	.806	.267	9.130	1	.003	.283	1.329

Link function: Logit.

Source: Data analysis (2024)

Table 4.15: Parameter Estimates for Flexibility/Adaptation to Change (FAC)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[FAC = 3.00]	20.621	2.202	87.728	1	.000	16.306	24.936
	[FAC = 4.00]	26.465	2.575	105.645	1	.000	21.419	31.512
Location	ET7	1.193	.224	28.404	1	.000	.754	1.632
	ET5	.836	.277	9.102	1	.003	.293	1.379
	ET4	.876	.316	7.699	1	.006	.257	1.494
	ET6	2.183	.309	49.903	1	.000	1.577	2.789
	ET9	.927	.272	11.657	1	.001	.395	1.459

Link function: Logit.

Source: Data analysis (2024)

The findings correspond to Human Capital theory on the fact that by investing in employee education and training, organizations develop a workforce with specialized knowledge and skills. This expertise enables them to perform tasks more efficiently and effectively, giving them a competitive edge in the marketplace. The findings of this study are consistent with university efforts to improve TLE through the development of the careers of academic staff. The university through Continuing Education (CE) previously known as the Center for Continuing Education (CCE), offers 107 short courses to academic staff and other stakeholders (UDSM, 2023b). It should be noted that training can contribute to the development and enhancement of various competencies (i.e., knowledge, skills or abilities) (Salas, et al., 2012). Some general competencies that individuals often acquire after training include technical

skills, soft skills, critical thinking, digital literacy, creativity and innovation and leadership skills. It was argued by when employee Rycus and Hughes (2000) that when employees receive training, they become competent, hence improving their performance.

The findings of this study on the effect of training on competitive advantages are also consistent with Abd Al Aziz et al., (2021), Subilaga (2020) and Gwahula & Innocent (2021). In the study conducted by Abd Al Aziz et al., (2021) on competitiveness in the education sector, they concluded that when employees who received training will put greater effort into delivering good services, thus promoting a positive perception among customers towards the organization, hence competitiveness. Similarly, Subilaga (2020) found that human resources training and development greatly affects the bank's ability to create a competitive advantage and hence has a direct effect on performance as well. In addition, Gwahula & Innocent (2021)) have highlighted that academic staff are very aware of the importance of training and development in HEIs toward ensuring better education provision to the students.

The findings of this study have shown the importance of motivation ("ET4") in enhancing competitive advantages. This finding is consistent with many scholars who have shown the importance of motivation for instance, the findings of the study concur with the study conducted by Shahzadi et al (2014) in Pakistan who found that a significant and positive relationship exists between employee motivation and employee performance. The same study found that intrinsic rewards that employers provide to employees have a significant positive relationship with employee performance and employee motivation (Shahzadi et al., 2014). The presence of

motivation as one of the factors affecting competitive advantage is consistent with the opinion of those who oppose the Human Capital theory that it is not only education and training that affect productivity, the presence of motivation of employees also contributes to improved productivity (Tomer, 2016).

Moreover, results indicate that an increase in employee training increases competitive advantages by reducing staff Student Ratio (ASR). The plausible explanation for this is that academic staff are more likely to be attracted to institutions that invest in their professional growth and provide opportunities for career advancement. Similarly, institutions that prioritize career development are more likely to retain talented academic staff members, lowering ASR and ensuring continuity in staffing levels, hence increasing competitive advantage. This observation tallies with those of McDonald (2013) who showed the impact of lower ASR on learning outcomes, staff workloads and well-being, and organisation reputation and funding. However, the observation of lower ASR is contrary to the findings of Udoh and Atanda (2022) who found that ASR at the University of Ibadan is lower but has a negative relationship with education quality in the institution.

Furthermore, the variables coded "ET 7", "ET 5", “ET 4”, and "ET 9" (Table 4.15), increase competitive advantages in HEIs by positively affecting FAC. The plausible explanation is that training provides new skills, enhances resilience, sharpens problem-solving skills, encourages the uptake of new technologies, fosters the development of a growth mindset, acquires interdisciplinary skills, and encourages lifelong learning (Abd Al Aziz et al., 2021). Another plausible explanation is that

developing competencies through training improves people's capacity for flexibility and change management because it broadens skills, builds self-esteem, sharpens problem-solving abilities, builds resilience, eases the transition to new technologies, fosters a growth mindset, encourages cross-functional skills, and makes career advancement easier (Osagie et al., 2019). These advantageous outcomes make it possible for academic staff to flourish in dynamic and changing situations, successfully navigating change and taking advantage of fresh chances for personal development (Orinos, 2012). In addition, employees who receive training are motivated and are better able to adjust and shifting conditions and take advantage of fresh chances for personal and professional development (Junça Silva & Pinto, 2024).

The results of all three ordered regression models in Tables 4.13, 4.14 and 4.15 give the Wald statistics, which is commonly used to test the hypothesis in the logistic regression that a particular effect is zero (Kayunze, 2008). The Wald statistics in all three regression models were non-zero, which implied that there was interaction between the dependent and independent variables. In addition, all regression coefficients (β values) are positive and statistically significant. Based on these results, the hypothesis of **Objective 1**, which stated that "there is a positive relationship between employee training and competitive advantage in higher education institutions of Tanzania" is accepted.

4.5.2 Effect of Reward on Competitive Advantage in Achieving Competitive Advantage in Tanzania's HEIs

Table 4.16 presents the result on the determination of whether the model improves the ability to predict the outcome. These models were used to evaluate the effect of rewards on the TLE, ASR, and FAC, which are aspects of competitive advantage. The fact that the performance of all three models was statistically significant (p-values less than 0.05) indicates that the data fit the model well and that at least one predictor has a substantial relationship with the response variable, competitive advantage. Additionally, one model (ASR) matches the data well, according to the descriptive goodness-of-fit measurements (Table 4.17), suggesting that the fitted model and the observed data for the model are consistent. Furthermore, the results presented in Table 4.18 suggest that the five independent variables that represent rewards included in the model were the cause of the variation in competitive advantage.

Table 4.16 Model Fitting Information

Competitive advantage	Model	-2 Log Likelihood	Chi-Square	df	Sig.
Teaching and Learning Environment (TLE)	Intercept Only	451.734			
	Final	97.635	354.099	5	.000
Academic Staff-Student Ratio (ASR)	Intercept Only	416.874			
	Final	210.877	205.997	5	.000
Flexibility/Adaptation to Change (FAC)	Intercept Only	363.421			
	Final	177.013	186.408	5	.000

Source: Data analysis (2024)

Table 4.17: Goodness-of-Fit

Competitive advantages		Chi-Square	df	Sig.
Teaching and Learning Environment	Pearson	81.472	161	1.000
	Deviance	74.684	161	1.000
Academic Staff-Student Ratio	Pearson	217.238	161	.002
	Deviance	154.274	161	.634
Flexibility/Adaptation to Change	Pearson	159.888	161	.510
	Deviance	128.393	161	.972

Source: Data analysis (2024)

Table 4.18 Pseudo R-Square

Teaching and Learning Environment	Cox and Snell	.694
	Nagelkerke	.840
	McFadden	.677
Academic Staff-Student Ratio	Cox and Snell	.498
	Nagelkerke	.584
	McFadden	.359
Flexibility/Adaptation to Change	Cox and Snell	.464
	Nagelkerke	.567
	McFadden	.365

Source: Data analysis (2024)

The results in Table 4.19 provide SPSS outputs showing parameter estimates, which indicate the degree and direction of effect for each independent variable on the dependent variable, which is TLE as well as whether or not the effect is statistically significant. The results in Table 4.19 show that all 5 variables had positive signs statistically implying that they positively affect competitive advantage, which is TLE. The results in Table 4.20 are SPSS outputs showing parameter estimates for ASR. All five variables had positive β-values implying that they positively affect competitive advantage, which is ASR. All variables are statistically significant. Table

4.21 contains SPSS outputs showing parameter estimates for the Flexibility/Adaptation to Change (FAC). All five variables have positive β-values implying that they increase the likelihood of FAC and are statistically significant.

Table 4.19: Parameter Estimates for Effects of Rewards on Teaching and Learning Environment (TLE)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[TLE = 3.00]	40.722	4.620	77.704	1	.000	31.668	49.777
	[TLE = 4.00]	51.058	5.574	83.900	1	.000	40.133	61.984
Location	RW8	2.414	.418	33.393	1	.000	1.595	3.233
	RW2	1.633	.432	14.315	1	.000	.787	2.479
	RW3	3.336	.512	42.517	1	.000	2.333	4.338
	RW5	1.694	.330	26.330	1	.000	1.047	2.341
	RW7	2.584	.481	28.914	1	.000	1.642	3.526

Link function: Logit.

Source: Data analysis (2024)

Table 4.20: Parameter Estimates for Effects of Rewards on Academic Staff-Student Ratio (ASR)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[ASR = 3.00]	18.288	1.942	88.669	1	.000	14.481	22.094
	[ASR = 4.00]	22.961	2.186	110.301	1	.000	18.676	27.246
Location	RW8	1.227	.243	25.396	1	.000	.749	1.704
	RW2	.537	.260	4.283	1	.038	.028	1.046
	RW3	1.525	.290	27.699	1	.000	.957	2.092
	RW5	.798	.204	15.280	1	.000	.398	1.198
	RW7	1.100	.290	14.397	1	.000	.532	1.668

Link function: Logit.

Source: Data analysis (2024)

Table 4.21: Parameter Estimates for Effects of Rewards on Flexibility/Adaptation to Change

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[FAC = 3.00]	17.406	1.944	80.206	1	.000	13.597	21.215
	[FAC = 4.00]	23.126	2.271	103.698	1	.000	18.675	27.578
Location	RW8	.938	.257	13.269	1	.000	.433	1.443
	RW2	1.273	.292	19.026	1	.000	.701	1.845
	RW3	1.289	.300	18.512	1	.000	.702	1.876
	RW5	.883	.221	15.952	1	.000	.450	1.317
	RW7	.898	.301	8.933	1	.003	.309	1.487

Link function: Logit.

Source: Data analysis (2024)

The results in Table 4.19, 4.20 and 4.21 show that all 5 variables had positive signs and were statistically significant implying that they positively affect competitive advantage, in terms of TLE, ASR and FAC. The positive regression value for this variable suggests that the provision of incentives and rewards for hard work are raising academic staff engagement, improving the calibre of instruction, encouraging collaboration, retaining talented academic staff, and creating a positive school climate, hence increasing the competitive advantages of HEIs. These findings are corresponding to Herzberg's Two-Factor Theory of Motivation (Herzberg, 1966). In theory, Herzebeg argued that are intrinsic to the job and lead to job satisfaction because they satisfy the needs for growth and self-actualization. The author identified motivators including level of recognition sense of performance and achievement, job status, level of responsibilities provided, an opportunity for advancement, personal growth and the job's meaningfulness. Motivators or internal rewards provide inherent satisfaction because of the need for growth and self-

actualization. Almost the same kind of motivation the UDSM is providing to its academic staff to increase competitiveness (UDSM, 2023c).

The findings that rewards positively influence competitive advantages by stimulating TLE, ASR and FAC are consistence with the study by Lavy (2007) who found that performance-based pay has helped to attract and retain the most productive teachers, hence improving the quality of teachers as well as the learning environment. Similarly, in the book titled "Motivation for Achievement: Possibilities for Teaching and Learning" (Alderman, 2013), reports the effect of extrinsic incentives on intrinsic motivation in improving classroom environment. Singh and Ahuja (2020) have concluded that monetary rewards have a positive significance on knowledge sharing among faculty, which as a result helps the education sector to attain a competitive advantage. There is a significant relationship between employee reward and employee performance (Mazllami, 2020).

The findings in Table 4.19, 4.20 and 4.21 further suggest rewards to academic staff create a lively, encouraging, and prosperous learning atmosphere that supports the well-being and scholastic achievement of all HEIs in Tanzania. This observation is consistent with Davidson (2007) who also observed the importance of motivation to academic staff in improving TLE. In his study, he found that a lack of motivation among teachers is affecting the quality of teaching in Tanzania. Oboreh et al., (2021) found that salary increases, cash bonuses, promotion, recognition and career development have significant effect on organizational performance, hence, improving competitiveness. In addition, the observation of this study also shares with

Kumburu (2020) who found that the financial incentives provided to staff have a positive relationship with organizational performance. Along with this, financial supports for career development attract highly qualified staff and retention of talented academic staff (Selesho & Naile, 2014), all of which can positively impact the ASR.

The positive regression coefficients of rewards indicate the role of rewards and incentives in increasing retention of academic staff, which in turn, reduces turnover rates among faculty members, ensuring continuity in teaching positions and contributing to a more stable ASR (Bussin et al., 2017). In addition, rewards and incentives indirectly contribute to maintaining or improving the ASR by enhancing teaching quality and efficiency as well as attracting talented faculty members and promoting collaboration within the institution (Thibault Landry, et al., 2017). In addition, rewards and incentives also reduce ASR. This is due to two reasons: 1) retention of academic staff, which stabilizes the ASR by assisting in preserving continuity in teaching jobs and lowering the requirement for regular hiring and training of new employees; and 2) talented people are more inclined to join the HEI that is renowned for valuing and appreciating their academic personnel (Do *et al*, 2020).

The results in Tables 4.19, 4.20 and 4.21 give the Wald statistics, which are non-zero, which implied that there was interaction between the dependent and independent variables. In addition, regression coefficients (β values) in all three models are positive and statistically significant. Based on these results, therefore, the

hypothesis of **Objective 2** which stated that "there is a positive and significant relationship between reward and competitive advantage of higher education institutions in Tanzania" is accepted.

4.5.3 Effect of Employee Creativity on Competitive Advantage in Achieving Competitive Advantage in Tanzania's HEIs

The results of three ordered logistic regression models are shown in Table 4.22. These models were used to evaluate the impact of employee creativity on the Teaching and Learning Environment (TLE), Academic Staff-Student Ratio (ASR), and Flexibility/Adaptation to Change (FAC), which are aspects of competitive advantage. All three models are statistically significant (p-values less than 0.05) suggesting that the data fit the model well and that at least one predictor has a substantial relationship with the response variable, competitive advantage. One model, ASR, matches the data well, according to the descriptive goodness-of-fit measurements (Table 4.23), suggesting that the fitted model and the observed data are consistent. Furthermore, the results in Table 4.24 suggest that the variables included in the model were the cause of the variation in competitive advantage.

Table 4.22: Model Fitting Information

Competitive advantages	Model	-2Log Likelihood	Chi-Square	df	Sig.
Teaching and Learning Environment	Intercept Only	455.631			
	Final	170.126	285.506	6	.000
Academic Staff-Student Ratio	Intercept Only	473.221			
	Final	311.219	162.002	6	.000
Flexibility/Adaptation to Change	Intercept Only	412.199			
	Final	201.523	210.676	6	.000

Source: Data analysis (2023)

Table 4.23: Goodness-of-Fit

Competitive advantages		Chi-Square	df	Sig.
Teaching and Learning Environment	Pearson	245.924	220	.111
	Deviance	136.028	220	1.000
Academic Staff-Student Ratio	Pearson	5360.012	333	.000
	Deviance	248.903	333	1.000
Flexibility/Adaptation to Change	Pearson	200.895	220	.818
	Deviance	145.325	220	1.000

Source: Data analysis (2024)

Table 4.24: Pseudo R-Square

Teaching and Learning Environment	Cox and Snell	.615
	Nagelkerke	.745
	McFadden	.546
Academic Staff-Student Ratio	Cox and Snell	.418
	Nagelkerke	.482
	McFadden	.269
Flexibility/Adaptation to Change	Cox and Snell	.506
	Nagelkerke	.612
	McFadden	.403

Source: Data analysis (2024)

The results in Tables 4.25, 4.26 and 4.27 present parameter estimates for the TLE, ASR and FAC respectively. Table 4.25 has 6 variables with positive β-values and statistically significant, which indicates that they increase the effect of independent variables on TLE. The results in Table 4.26 show that all six independent variables have positive values implying that they positively affect competitive advantage, which is the ASR and statistically significant. In Table 4.27, all six independent variables have positive β-values implying that they positively affect competitive

advantage, which is the FAC. All variables statistically affect competitive advantage, which is FAC.

Table 4.25 Parameter Estimates for Effects of Employee Creativity on Teaching and Learning Environment (TLE)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[TLE = 3.00]	32.370	3.443	88.398	1	.000	25.622	39.117
	[TLE = 4.00]	39.501	3.918	101.628	1	.000	31.821	47.181
Location	CR1	1.860	.383	23.551	1	.000	1.109	2.611
	CR2	2.691	.364	54.639	1	.000	1.978	3.405
	CR4	.754	.226	11.103	1	.001	.311	1.198
	CR5	.985	.339	8.431	1	.004	.320	1.651
	CR7	1.418	.323	19.288	1	.000	.785	2.050
	CR8	1.391	.377	13.606	1	.000	.652	2.131

Link function: Logit.

Source: Data analysis (2024)

Table 4.27: Parameter Estimates for Effects of Employee Creativity on Academic Staff-Student Ratio (ASR)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[ASR = 2.00]	13.400	1.812	54.673	1	.000	9.848	16.952
	[ASR = 3.00]	17.438	1.923	82.254	1	.000	13.669	21.206
	[ASR = 4.00]	21.335	2.078	105.420	1	.000	17.262	25.408
Location	CR1	.994	.274	13.139	1	.000	.457	1.531
	CR2	1.349	.254	28.246	1	.000	.852	1.847
	CR4	.433	.154	7.931	1	.005	.132	.734
	CR5	.774	.258	8.999	1	.003	.268	1.279
	CR7	.692	.245	7.953	1	.005	.211	1.172
	CR8	.621	.289	4.615	1	.032	.054	1.188

Link function: Logit.

Source: Data analysis (2024)

Table 4.27: Parameter Estimates for Effects of Employee Creativity on Flexibility/Adaptation to Change (FAC)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[FAC = 3.00]	21.327	2.276	87.775	1	.000	16.865	25.789
	[FAC = 4.00]	26.932	2.564	110.335	1	.000	21.906	31.957
Location	CR1	1.215	.312	15.153	1	.000	.603	1.827
	CR2	2.079	.297	48.868	1	.000	1.496	2.662
	CR4	.428	.183	5.460	1	.019	.069	.787
	CR5	.506	.292	3.012	1	.053	-.065	1.078
	CR7	1.166	.277	17.716	1	.000	.623	1.709
	CR8	.792	.328	5.823	1	.016	.149	1.434

Link function: Logit.

Source: Data analysis (2024)

All three ordered regression models show that employee creativity positively influences competitive advantages. This indicates that creative employees are more likely to generate novel ideas and solutions to problems. These innovations can lead to the development of new products, services, or processes that differentiate the organization from competitors and capture market share. The findings are linked to human capital theory, which emphasizes the importance of the creativity of employees to enhance organizational performance and competitive advantage. The findings are also consistent with the study of Sustano et al., (2023) on the influence of creativity boosting competitive advantage in Indonesia which confirms that creativity affects competitive advantage.

The positive relationship between employee creativity and competitive advantage reported in this study is consistent with Usilian et al., (2024) who found that employee creativity has a positive influence on competitive advantage. The same

findings were reported by Owhorji & Olomi (2023) who showed that there is a positive and statistically significant association between employee creativity and competitive advantage. The study concluded that organizations with creative employees have higher chances of achieving an edge over competitors, and therefore, recommended that management should consider employee creativity as a strategy for gaining competitive advantage.

The findings in this study revealed various factors that make employees creative. A transformation of leadership style is one of the factors. The transformation of leadership style refers to the process by which a leader evolves, adapts, or changes their approach to leadership in response to shifting organizational needs, environmental factors, or personal growth (Alqatawenh, 2018). This suggests that the employees are very impressed by the actions of the leadership styles that motivate them to be creative. In the same viewpoint, Nabil et al (2017) argued that to foster employee creativity, a company needs a flexible structure that guarantees a positive culture. This allows the leadership to create the ideal environment for its staff members, inspire and motivate them, and enable them to come up with creative ideas. The importance of the transformation of leadership style is also acknowledged in academic performance (Ngunyi, 2018; Kitur et al., 2020).

Getting extra financial rewards, incentives and bonuses is another factor of employee creativity that influences competitive advantage in terms of TLE, ASR and FAC. It was observed that extra financial rewards, incentives and bonuses are increasing motivation, attracting and retaining talented scholars in the field of education, and fostering a culture of innovation and creativity in the classroom. This finding is in

line with the study conducted by Nigusie and Getachew (2019) who found a strong and favourable relationship between employee innovation, intrinsic reward, and extrinsic reward. Similarly, the study by Kankisingi and Dhliwayo (2022) found that promotion within the organisation" and "monetary bonus rewards" had a positive and significant influence on innovation performance. Figlio & Kenny (2007) and Ndungu (2017) found a positive association between teacher incentives and student performance. Frey (1997) found that increasing financial incentives is one way for institutions to draw and keep outstanding people who are more inclined to stick with an institution that recognizes their achievements and provides attractive benefits.

This study also found that “organization culture encourages employees' creativity, hence, increases the competitive advantage of the organization. This indicates that an organizational culture that values creativity by promoting creativity, teamwork, flexibility, and student-centred learning can establish a more productive and enriching teaching and learning environment that benefits both teachers and students by encouraging a culture of innovation. The results compare well with many scholars' observations on the importance of organisational culture in stimulating creativity (Martins and Terblanche, 2003). Eskiler et al., (2016) found a positive relationship between organizational culture and Innovative Work Behaviour (IWB) and that organizational culture significantly predicts IWB. These findings are also related to Deverell and Olsson (2010) who found that organizational culture is a key factor in making an organization competitive because strong expert cultures that are less adaptable dominate the Semi-Adapting and Non-Adapting organizations.

Furthermore, the results in Tables 4.25, 4.26 and 4.27 give the Wald statistics, which are non-zero, which implies that there was an interaction between the dependent and independent variables, which is a competitive advantage. In addition, regression coefficients (β values) in all three models (6 independent variables) are positive and statistically significant. Based on these results, the hypothesis of **Objective 3** which stated that "there is a positive and significant relationship between employees' creativity and competitive advantage in higher education institutions in Tanzania" is accepted.

4.5.4 Effect of Employee Competence on Competitive Advantage in Achieving Competitive Advantage in Tanzania's HEIs

Table 4.28 reveals model-fitting information for three ordered logistic regression, which was used to evaluate the effect of employee competence on the TLE, ASR, and FAC, which are aspects of competitive advantage. All three models are statistically significant (p-values less than 0.05) indicating that the data fit the model well and that at least one predictor has a substantial relationship with the response variable, competitive advantage. In addition, one model (FAC) matches the data well, according to the descriptive goodness-of-fit measurements (Table 4.29), suggesting that the fitted model and the observed data are consistent. Furthermore, the results presented in Table 4.30 suggest that nine independent variables included in the model were the cause of the variation in the respective model.

Table 4.28: Model Fitting Information

	Model	-2 Log Likelihood	Chi-Square	df	Sig.
Teaching and Learning Environment	Intercept Only	501.616			
	Final	319.921	181.696	9	.000
Academic Staff-Student Ratio	Intercept Only	582.348			
	Final	511.513	70.835	9	.000
Flexibility/Adaptation to Change	Intercept Only	449.800			
	Final	363.926	85.874	9	.000

Source: Data analysis (2024)

Table 4.29 Goodness-of-Fit

		Chi-Square	df	Sig.
Teaching and Learning Environment	Pearson	384.191	459	.995
	Deviance	303.562	459	1.000
Academic Staff-Student Ratio	Pearson	562.934	693	1.000
	Deviance	474.840	693	1.000
Flexibility/Adaptation to Change	Pearson	526.713	459	.016
	Deviance	342.321	459	1.000

Source: Data analysis (2024)

Table 4.30: Pseudo R-Square

Teaching and Learning Environment	Cox and Snell	.455
	Nagelkerke	.551
	McFadden	.348
Academic Staff-Student Ratio	Cox and Snell	.211
	Nagelkerke	.240
	McFadden	.111
Flexibility/Adaptation to Change	Cox and Snell	.250
	Nagelkerke	.314
	McFadden	.181

Source: Data analysis (2024)

Table 4.31 contains parameter estimates for TLE, which indicate the effect of employee competence on the dependent variable, and whether or not statistically significant. The Table has 9 coefficients of independent variables, one variable, which is CE 9 had negative β-values implying that it negatively affects TLE and 8 with positive signs. Out of 9 variables, six (6) variables are statistically significant with $p < 0.05$. The results in Table 4.32 are parameter estimates for ASR with 9 variables of which two (2) had negative β-values implying that they negatively affect ASR, the rest have positive implying that they have a positive effect on ASR while five variables are statistically significant. Table 4.33 contains the estimated coefficients for the FAC. The model generated 9 variables of which two (2) have negative β-values implying that they negatively affect competitive advantage, which is the FAC while 7 had positive values implying that they increase the likelihood of FAC. The results in Table 4.33 show six variables statistically affect FAC

Table 4.31: Parameter Estimates for Effects of Employee Competence on Teaching and Learning Environment (TLE)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[TLE = 3.00]	21.183	2.480	72.965	1	.000	16.323	26.044
	[TLE = 4.00]	26.564	2.763	92.406	1	.000	21.148	31.980
Location	CE3	.359	.146	6.060	1	.014	.073	.644
	CE4	.651	.223	8.536	1	.003	.214	1.087
	CE5	.783	.277	7.997	1	.005	.240	1.326
	CE6	.815	.271	9.067	1	.003	.285	1.346
	CE7	1.884	.278	46.033	1	.000	1.340	2.428
	CE8	.130	.215	.362	1	.547	-.293	.552
	CE9	-.030	.231	.017	1	.896	-.482	.422
	CE10	1.062	.258	16.950	1	.000	.556	1.568
	CE11	.421	.300	1.975	1	.160	-.166	1.008

Link function: Logit.

Source: Data analysis (2024)

Table 4.32: Parameter Estimates for Effects of Employee Competence on Academic Staff-Student Ratio (ASR)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[ASR = 2.00]	4.052	1.659	5.963	1	.015	.800	7.304
	[ASR = 3.00]	8.244	1.646	25.093	1	.000	5.018	11.470
	[ASR = 4.00]	10.902	1.702	41.006	1	.000	7.565	14.239
Location	CE3	.303	.118	6.584	1	.010	.072	.535
	CE4	.744	.182	16.626	1	.000	.386	1.102
	CE5	.493	.227	4.725	1	.030	.049	.938
	CE6	.309	.222	1.927	1	.165	-.127	.744
	CE7	.469	.207	5.122	1	.024	.063	.876
	CE8	.169	.175	.935	1	.334	-.174	.512
	CE9	-.006	.189	.001	1	.974	-.377	.365
	CE10	.253	.208	1.482	1	.223	-.155	.661
	CE11	-.492	.249	3.922	1	.048	-.980	-.005

Link function: Logit.

Source: Data analysis (2024)

Table 4.33: Parameter Estimates for Effects of Employee Competence on Flexibility/Adaptation to Change (FAC)

							95% Confidence Interval	
		Estimate	Std. Error	Wald	df	Sig.	Lower Bound	Upper Bound
Threshold	[FAC = 3.00]	9.045	1.915	22.296	1	.000	5.290	12.799
	[FAC = 4.00]	13.795	2.067	44.547	1	.000	9.744	17.846
Location	CE3	.204	.134	2.301	1	.129	-.060	.468
	CE4	.451	.210	4.637	1	.031	.041	.862
	CE5	-.053	.257	.042	1	.837	-.558	.452
	CE6	1.029	.257	15.989	1	.000	.524	1.533
	CE7	.672	.242	7.714	1	.005	.198	1.147
	CE8	.767	.211	13.167	1	.000	.353	1.181
	CE9	.223	.220	1.027	1	.311	-.209	.656
	CE10	.456	.240	3.613	1	.057	-.014	.926
	CE11	-.714	.286	6.256	1	.012	-1.274	-.155

Link function: Logit.

Source: Data analysis (2024)

Generally, the results are in Table 4.31. 4.32 and 4.33 indicate that competitive advantages positively influence competitive advantages. The findings suggest that competent academic staff are essential for delivering high-quality education. Their expertise, teaching skills, and ability to engage students contribute to the reputation of the institution. HEIs with competent academic staff are more likely to attract top students, leading to better academic outcomes and enhancing their competitive position. These findings align closely with the principles of human capital theory, which emphasizes the value of investing in the knowledge, skills, and abilities of employees to enhance organizational performance and competitive advantage. Similarly, the study of Manyu & Adiputra (2023) found that job competence has a positive and significant influence on competitive advantage.

The findings of this study also suggest that competent employees possess valuable knowledge and expertise that contribute to organizational success as well as the

enhancement of competitive advantage. This is also emphasized by human capital theory which indicates the importance of knowledge acquisition in driving innovation, productivity, and competitive advantage. The theory argues that employees with specialized competencies can leverage their expertise to solve complex problems, develop innovative solutions, and drive organizational growth. This also matches with the findings of Riatmaja & Shaddiq (2023) who found that small doses of Human Resources (HR) competence and entrepreneurial marketing have a significant positive impact on competitive advantage, whereas innovation does not have such an effect. In addition, Munishi et al., (2022) confirm the importance of employee competence dimensions on competitive advantage by showing that firms' staff and firms' skills influence the organizational performance of the salt mining industry.

The variable "using analytical knowledge to solve problems", which is coded as "CE 3" is among of variables with positive regression coefficients in all three models. This implies that the variable increased the likelihood of affecting competitive advantage, which means that increasing the use of analytical knowledge to solve problems improves the TLE, ASR and FAC. Analytical knowledge is defined as comprehension, abilities, and methods needed to analyze, evaluate, and resolve complicated issues. Such knowledge is crucial in many fields, including the social sciences, business, engineering, mathematics, and science (Brink & Stoel, 2019). The findings also show that "work experience enables one to become more effective in work (CE 5") and has a positive influence on improving employee competence. The

findings are consistent with the study conducted by Ratnawati et al (2020) who found that work experience has a positive and significant effect on employee performance.

Moreover, the results in Tables 4.31, 4.32 and 4.33 give the Wald statistics, which are non-zero. This implied that there was interaction between the dependent and independent variables. In addition, regression coefficients (β values) in all three models are either positive or negative. There are also significant and non-significant regression coefficients. Based on these results, the hypothesis of **Objective 4** which stated that "there is a positive link involving competence and competitive advantage in higher education institutions in Tanzania" is rejected.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Overview

This chapter presents the summary, conclusion and recommendations of the study titled "Effect of Human Capital Investment on Competitive Advantage in Higher Education Institutions in Tanzania: Case of University of Dar Es Salaam". The chapter is divided into four sections. Section 5.1 is an overview, section 4.2 is a conclusion, section 4.3 is recommendations and 4.4 is implications of the study.

5.2 Summary of the Findings

This study was guided by four specific objectives that were deduced from the overall objective of the study which is to investigate the effects of human capital investment on achieving a competitive advantage in HEI in Tanzania using the University of Dar es Salaam as a case study. To determine the effect of employee training, reward, creativity and employee competence in achieving competitive advantage in Tanzania's HEIs.

The findings of descriptive statistics on the effect of employee training in achieving competitive advantage in Tanzania's HEIs show that the majority of respondents agreed and strongly agreed with the statements that employee training affects competitive advantages. The findings of this study also revealed the existence of positive and a significant relationship between employee training and three aspects of competitive advantages namely TLE, ASR and FAC. The findings of inferential statistics also show that all five (5) variables have positive β-values, which means

increasing the value of these variables is increasing competitive advantage in terms of the TLE, ASR and FAC.

The findings on the effect of reward in achieving competitive advantage in Tanzania's HEIs show that the median for all eight (8) statements was 4 which stands for "agree". The findings indicate that it is true that reward affects competitive advantage. The findings of correlation revealed the existence of a positive and statistically significant relationship between rewards and three proxies of competitive advantages namely TLE, ASR, and FAC. The same findings were generated from inferential statistics conducted using ordered logistic models. According to the ordered logistic model, all 5 variables had positive signs statistically implying that they positively affect competitive advantage. In addition, descriptive statistics on the effect of employee creativity in achieving competitive advantage in Tanzania's HEIs show that the median for the majority was 4 (agree). The findings of correlation revealed the existence of a positive and statistically significant relationship between employee creativity and competitive advantages (TLE, ASR, and FAC). The findings of inferential statistics also show that all six independent variables have positive values implying that they positively affect competitive advantage and are statistically significant.

Furthermore, the findings of descriptive statistics on the effect of employee competence in achieving competitive advantage in Tanzania's HEIs show that the median for each statement was 2, 3, 4 and 5, implying "disagree", "neutral", "agree", and "strongly agree", respectively. However, the median for the 82% of statements

was 4, which is agreed. The findings of correlation revealed the existence of a positive and statistically significant relationship between employee competency and three proxies of competitive advantages (TLE, ASR, and FAC). The findings of inferential statistics show that out of 9 coefficients of independent variables, one variable, which is CE 9 had negative β-values implying that it negatively affects TLE and 8 with positive signs. Out of 9 variables, six (6) variables are statistically significant with $p < 0.05$. The parameter estimates for ASR with 9 variables of which two (2) had negative β-values implying that they negatively affect ASR, the rest have positive implying that they have a positive effect on ASR while five variables are statistically significant. The estimated coefficients for the FAC have two (2) negative β-values implying that they negatively affect competitive advantage, which is the FAC while 7 had positive values implying that they increase the likelihood of FAC which six variables statistically affect FAC.

5.3 Conclusion

The study has documented the effect of human capital investment on competitive advantage in Higher Education Institutions (HEIs) in Tanzania: a case of the University of Dar es Salaam. The findings on the effect of employee training in achieving a competitive advantage in Tanzania's HEIs suggest the importance of training in achieving a competitive advantage at UDSM. Employee training is useful for career development, acquisition of useful skills for their job and being competent in their area of work. The findings also revealed that all five (5) variables of employee training have a positive effect on three determinants of competitive advantages (TLE, ASR and FAC), which are statistically significant.

Therefore, it is concluded that employee training helps UDSM become more competitive on a national and international scale by encouraging innovation, developing a knowledgeable and talented workforce, and raising the standard of instruction and services. These findings confirm the hypothesis that there is a positive and significant relationship between employee training and competitive advantage in HEIs of Tanzania. Furthermore, these findings also conclude the importance of the Human Capital Theory used in this study which argued that the provision of formal education and training is necessary to improve the productive capacity of a population.

The findings regarding the effect of reward in achieving competitive advantage in Tanzania's higher education institutions revealed "agreed" and "strongly agreed" with the majority of the statements. Based on the findings, it is concluded that rewards are important in achieving a competitive advantage. The findings also revealed that all five (5) variables of rewards have positive β-values that are statistically significant, which means increasing rewards are increasing competitive advantage in terms of the TLE, ASR and FAC. This means that rewards provided by the university to academic staff significantly help to improve TLE, maintain ASR and be able to be FAC to any change. It is therefore concluded in this study that an intelligently designed and well-implemented incentive program can be a useful tool for drawing in, keeping, and inspiring top talent, which will increase the institution's competitive edge. These findings also confirm the hypothesis that the reward and competitive advantage of higher education institutions in Tanzania have a positive and significant association. The study further concludes that Herzberg's Two-Factor

Theory of Motivation fits well with the findings of this study. The study has shown the existence of both motivators, which are intrinsic to the job and lead to job satisfaction, and hygiene are external rewards which motivate employees toward their jobs.

The study revealed the effect of employee creativity in achieving a competitive advantage in Tanzania's HEIs. The findings of this study show that respondents acknowledge the importance of employee creativity in achieving a competitive advantage in Tanzania's HEIs. It is revealed in this study that employee creativity plays a significant role in academic institutions, fostering innovation, problem-solving, and intellectual growth. It is a proven truth that fostering and supporting creativity in the academic setting can result in improvements in TLE, ASR and FAC. Furthermore, the creation of new knowledge and the building of an informed society are seen as dependent on creativity. The findings also revealed that all six (6) variables of employee creativity have a positive effect on three determinants of competitive advantages (TLE, ASR and FAC), which are statistically significant. It is therefore concluded that employee creativity can position the institution as a leader in academic innovation and contribute to sustained competitive advantage. This confirms the hypothesis that there is an existence of positive and significant associations between employees' creativity and competitive advantage in HEIs in Tanzania. The importance of employee creativity in improving competitive advantage is also well articulated in Human Capital Theory

Furthermore, the study revealed the effect of Employee Competence in achieving competitive Advantage in Tanzania's Higher Education Institutions. The findings show that employee competence affects achieving a competitive advantage. Employee competence includes multiple expertise, knowledge, capabilities, experiences and skills. Skills of importance revealed in this study include analytical skills which enable employees to be competent in gathering, interpreting, and evaluating information to solve problems, make decisions, and develop insights. Based on the findings, employee competence is a critical factor in achieving a competitive advantage for HEIs in Tanzania. It influences various aspects of the institution, from teaching and research to administrative operations and internationalization efforts. Institutions that prioritize hiring, developing, and retaining competent employees are better positioned to succeed in a competitive higher education landscape. Furthermore, the findings revealed that two variables (2) and seven (7) variables of employee competency have negative and positive effects on three determinants of competitive advantages (TLE, ASR and FAC), respectively. Based on the finding, the null hypothesis that "there is a positive link involving competence and competitive advantage in HEIs in Tanzania" is rejected

5.4 Recommendations as per findings

Based on the conclusions of this study, the following are recommendations to achieve a competitive advantage in HEIs in Tanzania:

1. Provision of training to employees to enhance career development, acquisition of useful skills and being competent.

The findings of descriptive statistics have shown that the majority of respondents agree with the statements that employee training affects competitive advantages. Similarly, analysis of ordered logistic regression revealed positive regression coefficients showing that an increase in employee training, increases competitive advantage. Therefore, the study recommends that HEIs provide training to their employees. There are several reasons why employee training is important for HEI to be competent. These include enhancing teaching and learning; advancements in research methodologies, the understanding of emerging trends for researchers; adaptation to technological changes; fostering a culture of innovation and creativity among staff; alignment with accreditation standards; internationalization efforts; and talent attraction and retention. These outcomes contribute significantly to the competitive advantage of HEIs in a dynamic and evolving educational landscape.

2. Enhancing the provision of rewards to academic staff in recognition of their achievements, efforts, or contributions.

The findings of this study on descriptive statistics show that academic staff at UDSM have agreed on the statements that rewards influence competitive advantage. Yet, the university is providing academic promotion for academicians of various positions as part of the reward. The findings of ordered logistic regression also revealed positive regression coefficients, which means that an increase in the rewards, increases competitive advantage. Generally, reward systems play a significant role in achieving a competitive advantage in Tanzania's HEIs. This is because of the following reasons: talent attraction and retention; employee motivation and engagement; employee loyalty and commitment; enhancing job satisfaction; and

attraction of external funding. Therefore, for Tanzania's HEIs to attract, retain, and motivate a high-performing workforce, they should have a well-designed reward and incentive system. In turn, this enhances the institution's overall competitiveness by guaranteeing the effective use of resources, promoting innovation, and building a positive culture.

3. Promoting employee creativity through creating a conducive environment that encourages innovation, experimentation, and the free flow of ideas.

The findings of this study show that employee creativity is important in achieving a competitive advantage in Tanzania's HEIs. There are also findings of ordered logistic regression showing positive regression coefficients, which means that an increase in employee creativity increases competitive advantage in HEIs. There are several strategies to foster and promote creativity among employees in HEIs. These include cultivating a supportive organizational culture, providing opportunities for professional development, recognizing and rewarding creativity, establishing innovation labs or centres, encouraging continuous learning and providing resources for creative projects.

4. Emphasizing employee competence through creating a supportive and conducive environment for ongoing learning, skill development, and professional growth.

In this study, employee competence is important in achieving a competitive advantage. It is also shown to have a positive relationship with TLE, ASR and FAC, which suggests that employee competence increases competitive advantage. Employee competence can be achieved through establishing a professional

development program, supporting advanced degrees and certifications, creating mentorship programs and offering in-house training programs. Other strategies include recognizing and rewarding competence, investing in technology and infrastructure, aligning training with institutional goals and creating a learning culture. These strategies will help academic staff gain and improve the skills required to succeed in their positions while also elevating the standard of the institution as a whole.

5.5 Implications of the study

The study is about documenting the effect of human capital investment on competitive advantage in Higher Education Institutions (HEIs) in Tanzania: a case of the University of Dar es Salaam. The findings of this study have implications for theory (theoretical implications), practice (practical implications), methods (methodological implications) and future research (implications for future research).

The study found that employee training, rewards, employee creativity and employee competence have positive effects on competitive advantages. This implies that increasing employee training, rewards, employee creativity, and employee competence improves the TLE, ASR and FAC in HEIs, and therefore, the HEIs become more competitive in the academic arena. These findings on the role of employee training, creativity and competent support human resource theory that emphasizes on importance of investing in the knowledge, skills, and abilities of employees to enhance organizational performance and competitive advantage. The theory suggests that employees are a valuable asset, and investing in their skills

development can yield long-term benefits for HEIs. In addition, the findings on the rewards support Herzberg's Two Factor Theory of Motivation. The theory recognizes the importance of rewards (motivation) in enhancing the performance of employees in the organization, hence, making such organizations competitive. The study contributes to the body of knowledge by integrating Human Capital Theory and Herzberg's Two-Factor Theory, demonstrating their applicability in the context of higher education.

The integration of Human Capital Theory and Herzberg's Two-Factor Theory provides a comprehensive framework for understanding how various aspects of human capital investment contribute to competitive advantage. Human Capital Theory emphasizes the importance of developing employees' skills, knowledge, and abilities, suggesting that such investments lead to higher productivity, innovation, and overall organizational performance. This theory is particularly relevant in the context of higher education, where the quality of academic staff directly impacts the institution's reputation, research output, and student success.

Herzberg's Two-Factor Theory, on the other hand, distinguishes between hygiene factors (which can cause dissatisfaction if absent) and motivators (which can enhance satisfaction and motivation when present). In the context of this study, rewards are seen as a key motivator that can drive employee performance and engagement. By recognizing and rewarding achievements, HEIs can foster a culture of excellence and motivation, which in turn enhances their competitive position.

The combined application of these theories in the study underscores the multifaceted nature of human capital investment. It highlights the need for HEIs to not only focus on developing their employees' skills and competencies but also to create an

environment where employees feel valued and motivated. This dual approach can lead to a more committed and productive workforce, ultimately driving competitive advantage.

The findings of this study have practical implications. First, HEIs in Tanzania might consider providing regular training to employees to enhance their career development, acquisition of useful skills and being competent. Second, the provision of rewards to academic staff in recognition of their achievements, efforts, or contributions should be prioritized in HEIs and guided by policies that are known to members of academic staff. Third, HEIs might consider investing in the establishment of a conducive environment that encourages innovation, experimentation, and the free flow of ideas. Fourth, top management of HEIs could use these findings to create a supportive and conducive environment for academic staff to acquire competency through attending various training.

The methodological implications of this study are a robust design and large sample size strengthen the validity of the findings. Future research could explore the method's effectiveness in different subjects or educational levels (e.g., competitive advantage in Advanced or Ordinary level secondary schools) to generalize the findings. Implications for Future Research of this study include: 1) Further research is needed to study the Effect of Human Capital Investment on Competitive Advantage in HEI in Tanzania by comparing the best university (i.e., UDSM) and the worst state university in the country; 2) to study the Effect of Human Capital Investment on Competitive Advantage in HEI in Tanzania by using multiple data

collection methods; and studies could also investigate the role of supporting staff in HEIs in Tanzania in achieving competitive advantages.

5.6 Limitations of the Study and Suggestions for Further Research

The study suffers from three limitations which open up new avenues for future research. First, this study was conducted in only one university, UDSM, which is the oldest and leading university in Tanzania. The university has attained a competitive advantage as it has been ranked among the best forty universities in Africa at the 36th slot and consistently the first in Tanzania (TCU, 2021; UniRank, 2022).

Second, the research design of this study is used descriptive survey design. Descriptive survey design is quantitative and supports hypothesis testing. The utility of the descriptive design in illuminating the causal linkages between the variables under investigation—training, competence, reward, innovation, and competitive advantage—justifies its application. The main tool for data collection in this study is a questionnaire. The study did not use of multiple methods or data sources (triangulation) to validate and enhance the credibility and reliability of findings. Other data collection that could be used include focus group discussions and in-depth interviews with key informants.

Third, the target population in the assessment of the effect of human capital investment on the competitive advantage of higher education institutions in Tanzania using experiences from UDSM was the academic staff. It is well known that academic staff often focus on academic matters, and supporting staff contribute significantly to the efficient operation and success of the institution. They play key

roles in administrative support, student services, financial management, human resources management, information technology (IT) support, library services, facilities and maintenance, security and safety, marketing and public relations, internationalization support, and research support. In this study, supporting staff was not included sampling strategy of respondents.

Based on these three main limitations of the study, the following are recommendations for future studies.

1. To study the Effect of Human Capital Investment on Competitive Advantage in HEI in Tanzania by comparing the best university (i.e., UDSM) and the worst state university in the country.
2. To study the Effect of Human Capital Investment on Competitive Advantage in HEI in Tanzania by using multiple data collection methods like focus group discussion and in-depth interviews.
3. To study the role of supporting staff in HEIs in Tanzania in achieving competitive advantages.

REFERENCES

A, A., Arshad, A., & Hoorian. (2023). Cognizance of Development of Human Capital and Success of Higher Education Institution. *Bulletion of Business and Economics Vol 12 (4)*, 518-526.

A, D. B., B, P. G., C, P. I., D, M. V., & Sahoo, A. (2023). Effects of Creativity and Innovation on the Entreprenurial Performance of the Family Business with Special Reference to Banking Sector. *International Journal of Proffessional Business Review Vol 8 No 4*, 1-14.

Abd Al Aziz, M., Al-Shami, S. S., & Abdul Halim, M. A. S. (2021). Shaping education sectors to be more competitive through training and development. *International Journal of Management Studies*, 28(2), 45-67.

Abdalnabi. (2022). Investing Human Capital in Education for Unlimited Excellence in KSA. *The Business Management Review Vol 13 (1)*.

Abdelli, M. E., Chemma, N., Ahlem, S., Maliki, a. B., & Singh, G. (2024). Competitive Advantage, Strategy and Innovation in Africa *:Issues and Applications* . New York: Routledge Research in Strategic Management.

Abdurrahman, S., Hefri, Y., Yanti, B., Sugiarti, & Iwan, H. ,. (2023). Adaptive Human Resource Management in Confrontation of Globalization's Challenges. *Jurnal Ekonomi, Volume 12, No 02, ,* 1761.

Abdurrahman, S., Karim, A., & Latif, M. (2023). Globalization and higher education: Competitive dynamics in a changing market. *Journal of Education and Research, 45(2), 123-135*.

Abiwa, T., Moyo, J., & Makumbe, A. (2022). Talent management as a source of sustainable competitive advantage for higher education during the pandemic in South Africa. *African Journal of Business Management, 16(7), 245-258.*

Abiwu, L., & Martins, I. (2022). Talent development as a source of sustainable competitive advantage for higher education institutions during the COVID-19 pandemic;. *SA Journal of Human Resource Management 20 (0),* 1-10.

Adaobi, C.C. &Owusuaa-Konadu, C. (2022). Employees Training and Development on Organisational Performance. *Scholars Journal of Science and Technology*, 3(4), pp. 749-764

Agha, S and Alrubaiee, L (2019). Effects of core competence on Competitive Advantage and Organizational. *Journal of Business Management* Vol 7(1)

agné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. Journal of Organizational Behavior, 26(4), 331-362.

Agrawal, A. (2013). Emplee Development and its Effect on their Performance. *International Journal of Marketing, Financial Services & Management Research*, 2(4); 99-108.

Agrawal, A. (2013). Training and development: Emerging issues and challenges in the Indian banking industry. *Asian Journal of Management,* 4(1), 56-63.

Akhtar, I. (2016). Research design. In Research in Social Science: Interdisciplinary Perspectives (pp. 68-84). New Delhi: Jamia Millia Islamia.

Al Haraisa, Y. E. (2024). Examining the role of ethical leadership and employees' creativity on organizational pride. *Journal of Business Ethics*, 140(1), 135-150.

Al_Refaei, A. A.-A., Alawi, N. A., Alsamawi, M. A., & Bahaj, M. H. (2021). An Investigation On The Impact Of Training and Development On Service Quality In The Higher Education Sector. *Journal of Critical Review Vol 08, Issue 03*.

Aldahhan, S. A., Enzi, A., & Ahmed, A. M. (2020). The Impact of Human Capital on Business Organization Competitive Advantage by Mediating the Effect of Organization Committment. *Journal of Xian University of Architecture and Technology Vol xii Issue iii*.

Alqatawenh, A. S. (2018). Transformational leadership style and its relationship with change management. Verslas: teorija ir praktika, 19(1), 17-24.

Alsharif, F. (2020). Kuwait University Ranking in the Light of International Universities. Ranking Standard an Analytical Evaluation Study. *Journal of Educational Studies Vol 33 (3)*, 627-648.

Amar, A., & Naik, N. (2022). Strategic human capital investment and competitive advantage in higher education. *Journal of Higher Education Policy and Management*, 42(2), 123-138.

Armstrong, M., & Taylor, S. (2020). Armstrong's handbook of human resource management practice. Kogan Page Publishers.

Asaari, M.M.A.H., Desa, N.M. &Subramaniam, L. (2019). Influence of Salary, Promotion, and Recognition toward Work Motivation among Government Trade Agency Employees. *International Journal of Business and Management*; 14(4); 48-59.

Asian University Ranking (2020). *The Asia University Ranking* . China: Asian University Ranking.

Ayiro, P. (2023). The evolution of higher education in East Africa: Challenges and opportunities. *African Journal of Education and Development*, 12(3), 45-60.

Babalola, J. B. (2003). Budget preparation and expenditure control in education. Teacher Education and Practice Journal, 6(2), 103-114.

Babbie, E. (2021). The practice of social research (15th ed.). Cengage Learning.

Bamberger, P., Biron, M., & Meshoulam, I. (2014). Human resource strategy: Formulation, implementation, and impact. Routledge.

Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.

Barney, J. B., & Wright, P. M. (1998). On becoming a strategic partner: The role of human resources in gaining competitive advantage. Human Resource Management, 37(1), 31-46.

Basadur, M., Gelade, G., & Basadur, T. (2014). Creative problem-solving process styles, cognitive work demands, and organizational adaptability. *The journal of applied behavioral science*, 50(1), 80-115.

Becker, G. (1962). Investment in Human Capital: A Theoretical Analysis. *Journal of Political Economy*, 70(5), 9-49. http://dx.doi.org/10.1086/258724

Becker, G. S. (1964). Human capital: A theoretical and empirical analysis, with special reference to education. University of Chicago Press.

Becker, G. S. (1993). Human capital: A theoretical and empirical analysis, with special reference to education (3rd ed.). University of Chicago Press.

Bhattacherjee, A. (2021). Social science research: Principles, methods, and practices (3rd ed.). University of South Florida Scholar Commons.

Blundell, R., Dearden, L., Meghir, C., & Sianesi, B. (1999). Human capital investment: The returns from education and training to the individual, the firm, and the economy. *Fiscal Studies, 20(1), 1-23.*

Bontis, N., Keow, W. C. C., & Richardson, S. (2000). Intellectual capital and business performance in Malaysian industries. *Journal of Intellectual Capital, 1(1), 85-100.*

Bousinakis, D., & Halkos, G. (2021). Creativity as the hidden development factor for organizations and employees. Economic Analysis and Policy, 71, 645-659.

Brink, H., van der Walt, C., & van Rensburg, G. (2019). Fundamentals of research methodology for healthcare professionals (4th ed.). Juta and Company Ltd.

Brink, W. D., & Stoel, M. D. (2019). Analytics knowledge, skills, and abilities for accounting graduates. In Advances in accounting education: Teaching and curriculum innovations (Vol. 22, pp. 23-43). Emerald Publishing Limited.

Bryman, A. (2020). Social research methods (5th ed.). Oxford University Press.

Bucata, G., & Tileaga, C. (2023). The Role of Human Capital in the Universities Management Efficiency Process . *Land Force Academy Review Vol XXVII No 2 (110).*

Capelli, P. and Singh, H. (1992). Integrating strategic human resources and strategic management, in Lewin, D., Mitchell, D. and Shewer, P. (Eds), *Research Frontiers in Industrial Relations and Human Resources*, Madison University of Wisconsin, Industrial Relations Associations, Madison, WI.

Carr, D. (2003). Philosophy and the Meaning of Education. *Theory and Research in Education*, 1(2), 195–212. https://doi.org/10.1177/1477878503001002003

Chen, B. (2022). The Impact of Human Capital on Enterprise Managemnet. *SHS Web of Conference*.

Cherono, J. (2017). Employee development and organizational performance of Unilever tea Kenya Ltd in Kericho County (Master Dissertation, Kenyatta University, Kenya).

Chircop, D., Karakas, C., & Kiss, M. (2020). *The Future of Tertiary Education in Europe.* United Kingdim: Europaen Parlianment Report.

Choge, P. J., Namusonge, G., Makokha, E. N., &Musau, E. G. (2018). The Effect of Organisational Competencies on Organizational Competitive Advantage of the Banking Sector in Kenya. *International Journal of Academic Research in Business and Social Sciences,* 8(10), 739–760.

Clough, C. E. (1991). Improving Staff Development in South County Community College District, California.

Coff, R., & Kryscynski, D. (2011). Drilling for micro-foundations of human capital-based competitive advantages. *Journal of Management,* 37(5), 1429-1443.

Coff, R., and Kryscynski, D. (2011). Invited editorial: Drilling for micro-foundations of human capital–based competitive advantages. *Journal of management*, 37(5), 1429-1443.

Cooke, P. (2001). Regional innovation systems, clusters, and the knowledge economy. *Industrial and Corporate Change*, 10(1), pp.945–973.

Cox, D.R. (1958). The regression analysis of binary sequences (with discussion). *J R Stat Soc B.* ***20*** *(2): 215–242. JSTOR 2983890.*

Creswell J, W, Clark, Plano V, L. (2011). *Designing and conducting mixed methods research*. 2nd ed. Thousand Oaks, CA: Sage.

Creswell, J. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. Thousand Oaks, California: Sage Publications.

Creswell, J. W., & Creswell, J. D. (2020). Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.

Crook, T. R., Todd, S. Y., Combs, J. G., Woehr, D. J., & Ketchen Jr, D. J. (2011). Does human capital matter? A meta-analysis of the relationship between human capital and firm performance. *Journal of Applied Psychology*, 96(3), 443-456.

Daoud, J. I. (2017, December). Multicollinearity and regression analysis. In Journal of Physics: Conference Series (Vol. 949, No. 1, p. 012009). IOP Publishing.

David, A., & Naik, N. (2021). Strategic initiatives for competitive advantage in higher education institutions. *International Journal of Educational Management*, 35(4), 678-694.

Davidson, E. (2007, June). The pivotal role of teacher motivation in Tanzanian education. In The educational forum (Vol. 71, No. 2, pp. 157-166). Taylor & Francis Group.

Dawson, A. J. (1994). Professional codes of practice and ethical conduct. *Journal of Applied Philosophy,* 11(2), 145-153.

Deming, D. J. (2017). The growing importance of social skills in the labor market. *The Quarterly Journal of Economics*, 132(4), 1593-1640.

Deverell, E., & Olsson, E. K. (2010). Organizational culture effects on strategy and adaptability in crisis management. Risk Management, 12(2), 116-134.

Dimnwobi, S. K., Ekesiobi, C. S., &Mgbemena, E. M. (2016). Creativity, innovation and competitiveness in nigeria: an economic exploration. *International Journal of Academic Research in Economics and Management Sciences*, 5(3), 29-52.

Dongell, C. (2021). Creativity in a Changing World: How Personality, Work Environment, and Flexibility Affect Employee Creativity (Doctoral dissertation, Arizona State University).

Duarte, M. V., Machado, V. T., Filho, L. C., & Cunha, F. A. (2020). Training And Development as a Competitive Advantage in the Company. *International Journal of Development Research Vol 10 Issue 6*, .36654-36658.

Economic Sciences • Vol. 7 (56) No 1.

Easterby-Smith, M., Thorpe, R., Jackson, P. R., & Jaspersen, L. J. (2018). *Management and business research* (6th ed.). SAGE Publications.

Encarnacion, P. C., Razak, H. B., & Hosie, T. P. (2023). Competence and Employees Attitude in Private Hospitals in Colorado State, USA. J*ournal of Human Resource and Leadership Volume 7, Issue 3,* 1-11.

Entwistle, N., McCune, V., & Hounsell, J. (2002). Approaches to studying and perceptions of university teaching-learning environments: Concepts, measures and preliminary findings. Occasional report, 1, 1.

Eskiler, E., Ekici, S., Soyer, F., & Sari, I. (2016). The relationship between organizational culture and innovative work behaviour for sports services in tourism enterprises. Physical culture and sport. Studies and research, 69(1), 53-64.

Evans, N.N., Bosire, J. & Ajowi, J. (*2016).* Analysis of the Challenges Faced by Principals in the Management of Support Staff in Public Secondary Schools in

Nyamira County, Kenya. *Journal of Research in Humanities and Social Science, 4; pp: 41-50*

Falola, H. O., Osibanjo, A. O., & Ojo, S. I. (2021). Effective of Training and Development on Employees' Performance and organization Competitiveness in Nigerian Banking Industry. *Economic Sciences • Vol. 7 (56) No 1*.

Falsa, A. A.-B. (n.d.). Human Capital and its Effect in Achieving Competitive Advantag: From the Perspective of Academic Leaders in Jordan Universities in Northen Region. *2020*.

Falsal, M., Tunina, G., & Riyanto, A. (2020). Human capital investment and its impact on higher education competitiveness. *Journal of Global Business and Economic Research, 28(1), 89-102.*

Farrel, P. (2021). The Competition Outlook for Higher Education In Austaria. Austratlia.

Field, A. (2020). Discovering statistics using IBM SPSS statistics (5th ed.). SAGE Publications.

Fitz-Enz, J. (2009). The ROI of human capital: Measuring the economic value of employee performance. AMACOM.

Fowler, F. J. (2014). Survey research methods (5th ed.). SAGE Publications.

Freeman, R. (1976). *The Overeducated American.* New York: Academic Press.

Freeman, R. B. (1976). The overeducated American. Academic Press.

Frey, B. S. (1997). On the relationship between intrinsic and extrinsic work motivation. International journal of industrial organization, 15(4), 427-439.

Garavan, T. N., Morley, M., Gunnigle, P., & Collins, E. (2001). Human capital accumulation: The role of human resource development. *Journal of European Industrial Training*, 25(2/3/4), 48-68.

Githaiga, P. N. (2020). Human Capital, Income diversfication and Bank Performance. An Emperical Study of East African Banks. *Asian Journal of Accounting Research vol 6 (1)*.

Gunta, G. Z., & Andra, Z. (2020). Digital Readiness and Competitiveness of Europe Higher Education Instistution. The Covid-19 Pandemic Impact. *Emerging Science Journal Vol 4, No 4*.

Gwahula, R., & Innocent, W. (2021). The Contribution of Employee's Training and Development in Higher Education Institution Towards Enhsncing Organization Performance in Tanzania . *International Journal of Business Management and Economic Review Vol. 4, No. 06; 2021 ISSN: 2581-4664*.

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. Organizational Behavior and Human Performance, 16(2), 250-279.

Hamis, C. (2021). New Frointner of Higher Education Competition. *Times Higher Education*.

Heckman, J. J., & Kautz, T. (2012). Hard evidence on soft skills. Labour Economics, 19(4), 451-464.

Herzberg, F. (1965). The motivation to work among Finnish supervisors. *Personnel Psychology*, *18*, 393–402.

Herzberg, F. (1966). Work and the nature of man. World Publishing Company.

Herzberg, F. (1966). Work and the nature of man. World Publishing Company.

Herzberg, F., Mausner, B., & Snyderman, B. B. (1959). The motivation to work (2nd ed.). John Wiley & Sons.

Hitak, M., Alzbeta, K., Peter, S., & Zanrta, B. (2019). Knowledge and Human Capital as Sustainable Competitive Advantage in Human Resource Management. *Digital Publishing Institute Vol 11 (18)*, 4985.

Hoffmann, T. (1999). The meanings of competency. *Journal of European Industrial Training*, 23(6), 275-286.

Hussein, K., & Abdalla, A. M. (2022). Training and support for Sudanese teachers and scientists: challenges and solutions. In EDULEARN22 Proceedings (pp. 1696-1699). IATED.

Iryan, T., Pryakhina, K., & Bilyk, M. (2021). Management of Competitive Advantage in Higher Education Institutions. *IEEE International Comference on Modern Electrical and Energy System (MEES)*, 1-5.

Iwatta, J. J and Hoskin, R (2020). Management of intellectual Capital held by Tanzania's Higher Learning Institutions: Challenges and Strategies. *South African Journal of Information Management vol* 22(1).

Jaffo, S.S. (2021). Influence of economic and social-cultural forces on academic performance of ordinary level public secondary schools in Tanzania: a mediating role of management practices (Doctoral Thesis, University of Dodoma, Dodoma, Tanzania)

Jain, A., Gupta, B. &Bindal, M. (2019). A Study of Employee Motivation in Organization. International. *Journal of Engineering and Management Research*, 9(6), 65-68.

Jain, R., Kumar, S., & Singla, H. K. (2019). Strategic management practices and competitive advantage: A review of empirical studies. *International Journal of Management*, 10(2), 21-32.

Jao, J., & Buenaventura, V. P. (2022). The Mediating Effect of Contextual Characteristics on the Relationship between Work Conditions and Performance of TLE Teachers. *European Journal of Education Studies*.

Jeng, S. P. (2018). Enhancing the creativity of frontline employees: The effects of job complexity and customer orientation. *The International Journal of Logistics Management*, 29(1), 387-408.

Jibir, A., Abdu, M., & Buba, A. (2022). Does Human Capital Halour Productivity? Evidence from Nigerian Manufacturing and Service Firms. *Journal of Knowledge Economy Vol 14*, 805-830.

Johnson, B., & Christensen, L. (2020). Educational research: Quantitative, qualitative, and mixed approaches (7th ed.). SAGE Publications.

Johnson, V. E., & Albert, J. H. (1999). *Ordinal data modeling*. New York: Springer.

Justice, M., & Gunta, S. (2023). Strategic human resource management in higher education: A case study of African universities. *Journal of Higher Education Policy and Management,* 42(2), 123-138.

K.G, S., & Yajurvedi, N. (2022). Enhancing The Efficacy of Organisational Competitive Advantage hrough Employee Empowerment. *Journal of Positive School Psychology Vol 6 No 3*, 5457–5465.

Kalenuk, I. &Dyakon, A. (2016). Competitive advantages of the national higher education system in the context of globalization. *Economics and Education*, 01(01), 7-10

Kalleberg, A. L. (2011). Good jobs, bad jobs: The rise of polarized and precarious employment systems in the United States, 1970s to 2000s. Russell Sage Foundation.

Kang, E. & Lee, H. (2021). Employee Compensation Strategy as Sustainable Competitive Advantage for HR Education Practitioners. Sustainability 13(3):1049.

Kankisingi, G. M., & Dhliwayo, S. (2022). Rewards and innovation performance in manufacturing small and medium enterprises (SMEs). Sustainability, 14(3), 1737.

Kassa, E.T.(2021) Examining employees creativity in commercial bank of Ethiopia Woldia branches. *J Innov Entrep***10**, 39 (2021). https://doi.org/10.1186/s13731-021-00178-0

Kassa, S. (2021). The role of human capital in enhancing competitiveness: Evidence from higher education. *Journal of Business and Economic Research*, 39(1), 55-68.

Keeley, B. (2007). Human capital: How what you know shapes your life. OECD Publishing.

Khodjaeva, G. (2023). Competitive strategies in higher education: Lessons from emerging markets. *Educational Research and Development Journal*, 56(1), 112-128.

Khodjaeva, S. A. (2023). Improvement of the Methodology of Development of Marketing Strategy of Higher Education Institutions in the Conditions of Competition of Educational Services. *Best Journal of Innovation in Science Research and Development Volume:2 Issue:10|2023*, 646.

Kireeva, N., Slepenkova, E. Shipunova, T. &Iskandaryan, R. (2018). Competitiveness of higher education institutions and academic entrepreneurship. *Education*, 39(23).

Kitur, K., Choge, J., & Tanui, E. (2020). Relationship between principals' transformational leadership style and secondary school students' academic performance in Kenya Certificate of Secondary Education in Bomet County, Kenya.

Kiyabo, K and Isaga, N (2019). Strategic entrepreneurship, competitive advantage and SME performance in the welding industry. *Journal of Global entrepreneurship* 9(62)

Kothari, C. R. (2004). *Research Methodology and Techniques*. New Age International (P) Limited, New Delhi, India

Krakowski, S., Luger, J and Raisch, S. (2021). Artificial intelligence and the changing sourcesof competitive advantage. *Strategic Management Journal*, Special Issue Article. https://.doi.10.1002/smj.3387

Kreitner, R., & Kinicki, A. (2013). Organizational behavior (10th ed.). McGraw-Hill.

Krejcie, R. V., and Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Journal of Educational and Psychological Measurement*, 30, 607-610.

Kumar, R. (2020). Research methodology: A step-by-step guide for beginners (5th ed.). SAGE Publications.

Kumburu, T. N. (2020). Rewarding employees for organizational performance: Does it matter in the 21st century? Evidence from Tanzania. *Journal of Human Resource Managemen*t, 18(4), 87-103.

Kwinlinski, A. (2023). Competitiveness of Higher Education System. Exploring the Role of Migration Flow. *Journal of Infrastucture Policy and Development Vol 8 (2)*.

Kwinlinski, R., & Gunta, S. (2023). European universities and the competitive landscape: A comprehensive analysis. *Journal of European Higher Education*, 48(2), 91-105.

Laposhin, R., & Israel, M. (2020). Assessing the Rating of Innovation Activities of Higher Educational Institution. On the Example of Israel. *Journal Research on Trade, MAnagement and Economic Development Vol 1 (13)*, 59-70.

Lee, J., Kim, S., Lee, J., & Moon, S. (2019). Enhancing employee creativity for a sustainable competitive advantage through perceived human resource management practices and trust in management. *Sustainability*, 11(8), 2305.

Lepak, D. P., & Snell, S. A. (1999). The human resource architecture: Toward a theory of human capital allocation and development. Academy of Management Review, 24(1), 31-48.

Locke, E. A., & Latham, G. P. (2004). What should we do about motivation theory? Six recommendations for the twenty-first century. Academy of Management Review, 29(3), 388-403.

Luthans, F., Luthans, B. C., & Luthans, K. W. (2015). Organizational behavior: An evidence-based approach (13th ed.). Information Age Publishing.

Lymo, B. J., & Kallape, E. (2022). Human Capital on Performance of Financial Institutions in Tanzania. *Olva Academy School of Reseacher Vol 4 issue 1*, 96-104.

Maadan, M., Sharma, R., & Choudhary, P. (2021). Competitive advantage through training and development in hospitality industry with special reference to The Imperial, New Delhi. *Hospitality and Tourism Management Journal*, 6(2), 112-125.

Madaan, S., & Bhatnagar, D. V. (2021). A Study of Competitive Advantage through Training and Development in Hospitality Industry with special reference o The Imperial, New Delhi. *International Journal of Business and Management Research (IJBMR) Volume 9, Issue 2*, 194-200.

Mahdi, M., & Vasiliev, A. (2021). The role of human capital in achieving competitive advantage in higher education. *Global Journal of Educational Research,* 39(1), 55-68.

Manyu, A., & Adiputra, I. G. (2023). The Influence of Job Stress, Competence, and Employee Job Recognition on Achieving Competitive Advantage. *International Journal of Social Science and Human Research Volume 06 Issue 12*, 7893-7903.

Marczewska, M., Jaskanis, A., & Kostrzewski, M. (2020). Knowledge, Competences and Competitive Advantage of the Green-Technology Companies in Poland. *Sustainability 12*.

Martini, E., Suryana, Y., & Soegoto, A. S. (2023). The link between employee competency, creativity, and performance in generating product competitiveness in the weaving industry in Indonesia. *Journal of Business Strategy,* 34(1), 78-95.

Martinia, I. A., Arsawanb, I. W., Saria, D. M., & Muna, N. (2023). Increasing product competitiveness in weaving SMEs: The role of competency, creativity,and performance. *Uncertain Supply Chain Management 11*, 855–866.

Mashenene, R., & Kumburu, N. P. (2023). Performance of Small Businesses in Tanzania: Human Resource Based View. *Global Business Review vol 24 (5)*, 887–901.

Mashenene, R., Kilewo, P., & Mneney, E. (2020). Factors affecting the performance of small businesses in Tanzania using a human resource-based approach. *Journal of Small Business Management*, 58(3), 342-356.

Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, *50*, 370–396;

Maslow, A. H. (1954). *Motivation and personality*. New York: Harper.

Matimbwa, H. andMasue O S (2021). Determinants of Human Resource Information System Effectiveness in Local Government Authorities in Tanzania (Doctoral Thesis, Mzumbe University, Morogoro, Tanzania)

Mazllami, M. (2020). The relationship between employee rewards and employee performance in SMEs in the Polog Region of the Republic of North Macedonia. Business Management Dynamics, 10(1), 34-46.

Mba, P. N., Mba, C. N., Ogbuabor, J. E., & Ikpegbu, C. N. (2013). The impact of training and development on worker productivity in public service: A case study of Enugu State, Nigeria. *Global Journal of Management and Business Research Administration and Management*, 13(6), 22-30.

Mehdi, E.K, Edan, A and Oudah, B.K (2019). Human Resource Training and Development Strategy and its Role in achieving the competitive advantage of business. *Portal de RevistasCrenticas and Humanisticas Journal Vol35(2)*

Mertens, D. M. (2020). Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods (5th ed.). SAGE Publications.

Mgaiwa, S., & Munishi, J. (2023). Higher education and competitiveness: The Tanzanian experience. *Journal of African Educational Studies*, 25(2), 67-83.

Misook, Y., Kuhuan, W., & Bang, W. (2020). The Effect of Internal Market on Competitive Advantage as Organization Couching. The Mediating Effect of Service Innovation. *Journal of System and Management Vol 10 (1)*, 62-71.

Mkunde, C., & David, A. (2022). The impact of human capital on competitive advantage in higher education: The case of Tanzanian universities. *Journal of Educational Management and Leadership*, 30(4), 145-160.

Mnzava, G. (2018). Challenges and opportunities in higher education: The case of Tanzania. *Journal of African Educational Studies*, 25(2), 67-83.

Mohammed, S. A. (2022). Impact of training on employees' performance in a technology-focused academic institution. *Journal of Education and Learning*, 11(4), 29-45.

Moshi, S., Mollel, E., & Likwea, M. (2023). The influence of entrepreneurial competence on SMEs' profitability: Evidence from sunflower oil processing firms in Dodoma, Tanzania. *Journal of Entrepreneurship and Innovation*, 9(2), 123-138.

Mulang, H. (2021). The effect of competencies, work motivation, and learning environment on human resource performance. Golden Ratio of Human Resource Management, 1(2), 84-93.

Munishi, E. J., Khatr, H., & Pastory, D. (2022). Influence of Firms' Staff and Skills on the Organizational Performance: A Case of the Salt Mining Industry in Tanzania. *East African Journal of Education and Social Sciences Vol. 3, No. 5*, 91-103.

Munishi, S., & Ndunguru, P. (2022). Influence of firm staff and firm skills on organizational performance in the salt mining industry in the Coast Region of Tanzania. *Journal of Mining and Geology*, 60(2), 147-159.

Murithi, P., & Justice, M. (2023). Political interference and graduate unemployment in African universities. *Journal of African Political Economy*, 14(3), 89-105.

Muya, J., & Subilaga, M. (2020). Training and development in higher education: Implications for competitive advantage. *Journal of Human Resource Management and Development*, 12(3), 213-227.

Mzirya, G. (2020). The influence of employee training on organizational performance in restaurants in Arusha. *Journal of Hospitality and Tourism Research*, 24(3), 151-167.

Mzirya, H. (2020). Influence of employee training on organizational performance in restaurants in Arusha. International *Journal of Hospitality and Tourism Studies*, 5(4), 210-223.

Naik, M.S. &Naik, B.S. (2019). An Overview of Higher Education: In Context of Legislative & Institutional Regulations. *Journal of Emerging Technologies and Innovative Research (JETIR)*, 6(3); 171-175

Naik, N., & Naik, A. (2019). The global higher education market: Trends and challenges. *Journal of International Education*, 35(3), 178-190.

Nama, K., Daweti, B., Lourens, M., & Chikukwa, T. (2022). The Impact of Training and Development on Employee Performance and Service Delivery at a Local Municipality in South Africa. *Problems and Perspectives in Management, Volume 20, Issue 4*.

National Bureau of Statistics. (2020). Higher education statistics: A report on Tanzania's educational landscape. NBS Publications.

Niti, C., & Ravi, K. (2022). The Influence of Human Capital, Organizational and Relational Capital of University on their Performance. A Developing Economy Perspective. *Journal of Inttelectual Capital*.

Noe, R. A., Hollenbeck, J. R., Gerhart, B., & Wright, P. M. (2017). Human resource management: Gaining a competitive advantage. McGraw-Hill Education.

Noe, R. A., Hollenbeck, J. R., Gerhart, B., & Wright, P. M. (2017). Human resource management: Gaining a competitive advantage. McGraw-Hill Education.

Oboreh, J. S., & Ugochukwu, P. (2021). Effect of reward on organizational performance in universities in Edo State, Nigeria. Journal of Higher Education, 12(2), 167-179.

Oboreh, L. E., & Arukaroha, J. (2021). Rewards Management and Organizational Performance. *International Journal of Innovation Social Science and Humanities Research Vol 9 (2):April-June*, 96-104 .

Odhong, E. A., Were, S., & Omolo, J. (2014). The effect of human capital management drivers on organizational performance. *Journal of Human Resource and Sustainability Studies*, 2(2), 26-31.

OECD (2019), Education at a Glance 2019: OECD Indicators, OECD Publishing, Paris, https://doi.org/10.1787/f8d7880d-en.

OECD. (2019). The future of education and skills: Education 2030. OECD Publishing.

OECD. (2019). The future of education and skills: Education 2030. OECD Publishing.

OECD. (2020). Skills outlook 2020: Thriving in a digital world. OECD Publishing.

Okwuise, Y., & Ndundi, F. (2023). Reward System and Organizational Performance. *International Journal of Management Sciences and Business Research, ISSN (2226-8235) Vol-12, Issue 6*.

Omolo, J. (2013). The role of human capital in the economic development of Kenya. African Journal of Economic and Management Studies, 4(2), 153-164.

Oriaku, A. L., & Oriarewo, D. O. (2024). Effect of Employee Competencies on Competitiveness of Selected Deposit Money Banks in Makurdi-Benue State. *IInternational Journal of Business Systems & Economics Vol 14, Issue 6*, 54-68.

Oriaku, S. O., Okoro, C., & Okwara, I. (2024). Examining the effect of employees' competence on competitiveness of selected deposit money banks in Makurdi metropolis, Nigeria. *Journal of Banking and Finance*, 16(3), 81-97.

Owhorji, E., & Ogidi, A. (2023). Relationship between employee creativity and competitive advantage in hotels in Port Harcourt, Nigeria. *Journal of Management and Strategy*, 14(1), 98-114.

Owhorji, S., & Olomi, P. O. (2023). Employee Creativity and Competitive Advantage of Hotels in Port Harcourt, Rivers State, Nigeria. *Nigerian Journal of Management Sciences Vol. 24, Issue 2b*, 215-221.

Packer, H. (2024). *Austrlias Universities Can Boost Soft Power in Competitive.* Sidney: The Pie News.

Patro, C. S. (2020). An Evaluation of Employees' Competence Towards the Development of a Learning Organization. *International Journal of Knowledge Management (IJKM)*, 16(4), 26-41.

Ratnawati, E., Sukidjo, S., & Efendi, R. (2020). The effect of work motivation and work experience on employee performance. *International Journal of Multicultural and Multireligious Understanding*, 7(8), 109-116.

Riatmaja, D. S., & Shaddiq, S. (2023). The Effect of Human Resource Competence and Innovation on Employee Competitive Advantage:An Emperical Study in Small Medium Enterprise. *International Quality Conference*.

Riyanto, A., & Falsal, M. (2021). Human capital and competitive advantage in higher education. Journal of Strategic Management, 32(2), 102-116.

Robbins, S. P., & Judge, T. A. (2019). Organizational behavior (18th ed.). Pearson.

Ross, S. A. (2021). The theory of human capital. In Economics of human capital (pp. 1-21). Springer.

Rwothumio, J., Mbirithi, D. M., & Itolondo, W. (2020). Role of financial rewards in enhancing academic staff performance in public universities in Uganda. East African Journal of Interdisciplinary Studies, 2(1), 207-223.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55(1), 68-78.

Rycus, J. S., & Hughes, R. C. (2000). What is competency-based in-service training? Institute for Human Services, Available at http://www. narcouw. org/TRAINet/Resource% 20Paper, 201.

Saunders, M., Lewis, P. & Thornhill, A. (2012). *Research Methods for Business Students 6th edition*. Pearson Education Limited.

Saunders, M., Lewis, P., & Thornhill, A. (2020). Research methods for business students (8th ed.). Pearson.

Schultz, T. W. (1971). Investment in human capital: The role of education and of research. The Free Press.

Selesho, J. M., & Naile, I. (2014). Academic staff retention as a human resource factor: University perspective. *International Business & Economics Research Journal*, 13(2), 295-304.

Sibagarian, S. A., Milfanyethi, S., zainuddin, Z., & Lubis, Z. (2023). Human Capital in Higher Education (A Theoratical and Empirical Review). *Edutec Vol 6 iss 4*.

Sigalingging, R., Nababan, H., Putra, A., & Nababan, M. (2023). Enhancing Learning Motivation in Elementary Schools: The Impact and Role of Rewards. *Jurnal Ilmu Pendidikan dan Humaniora*, 12(1), 01-13.

Singh, A., & Gupta, S. (2020). Impact of rewards on knowledge sharing in the education sector in India. Knowledge Management Research & Practice, 18(3), 226-237.

Singh, D., & Ahuja, D. A. (2020). A Study on the Impact of Rewards on Knowledge Sharing in Education Sector. *UGC Care Journal Vol 4 issue 27*.

Skinner C.J (2016). *Probability Proportional to size (PPS) Sampling*. Wiley StatsRef: Statistics Reference Online

Spector, P. E. (2022). Industrial and organizational psychology: Research and practice (8th ed.). John Wiley & Sons.

Statista. (2023). *Number of Colleges in China in 2022.* China: Statista.

Steven, M. (2022). The Revolution of Higher Education is Already Underway.

Subilaga, M. (2020). Human capital development in the banking sector: Lessons for higher education. Journal of Business and Economic Research, 27(3), 145-160.

Subilaga, M. (2020). Impact of human resource training and development in creating competitive advantage in the Tanzanian banking sector. *Tanzanian Journal of Economic and Management Studies*, 12(2), 115-130.

Subilaga, M. (2020). *The impact of HR Training and Development in Creating Competitive Advantage in Tanzana Banking Sector. A case of Exim Bank Tanzania Ltd*. (Masters' thesis Open University of Tanzania, Dar es Salaam, Tanzania)

Susanto, Y., Lian, B., & Marisya, F. (2023). Creativity and Innovative Behavior to Enhance Competitive Advantage with the Moderating Role of Digital Leadership. *International Journal of Economics, Business and Accounting Research (IJEBAR) Vol7, Issue*.

Sustano, R., & Ramli, M. (2023). Influence of creativity in boosting competitive advantage in Indonesian SMEs. *International Journal of Business and Management Studies,* 15(2), 142-159.

Tabachnick, B.G. & Fidell, L.S. (2013). Using multivariate statistics (6^{th} ed). Boston: Pearson Education.

Takawira, B., Kanyangale, M., & Mutambara, E. (2023). Competencies of strategic leadership towards business sustainability in emerging pharmaceutical business

of South Africa: A case of Alpha distribution. *Cogent Social Sciences,9:2, 2275443, DOI: 10.1080/23311886.2023.2275443*, 1-16.

Takawira, P., & Mhlanga, F. (2023). Strategic leadership skills and responsibilities in maintaining competitive advantage in the pharmaceutical industry in Durban, South Africa. Journal of Leadership Studies, 17(1), 99-115.

Tanzania Commission for Universities. (2021). Annual report on higher education institutions in Tanzania. TCU Publications.

Tanzania Commission of Universities. (2019). *List of Approved Universities Institutions in Tanzania as per 4th February 2019*. Dar es salaam, Tanzania.

Tesluk, P. E., Farr, J. L., & Klein, S. R. (1997). Influences of organizational culture and climate on individual creativity. *The journal of creative behavior*, 31(1), 27-41.

Tietjen, M. A., & Myers, R. M. (1998). Motivation and job satisfaction. Management Decision, 36(4), 226-231.

Tohidi, H & Jabbari, M.M. (2012). The effects of motivation in education. *Procedia-Social and Behavioural Sciences*, Vol. 31, pp. 820 – 824

Tomer, J. F. (2016). Intangible capital: Its contribution to economic growth, well-being and rationality. Edward Elgar Publishing.

Torrington, D., Hall, & Taylor, S., 2008. *Human Resource Management*. London: Financial Times Prentice Hall.

Udoh, U. S., & Atanda, A. I. (2022). Staff-students'. atio and education quality of the undergraduate programme at the University of Ibadan. *African Journal of Educational Research and Development (AJERD)*, 13(2), 40-62.

Umar, G., Padhi, H., Nazir, H., & Zainuddin, R. (2017). Effect of Human Capital and Leadership on Institutional Performance and Competitive Advantage. *IRA-International Journal of Management and Social Science Vol 107 (3)*.

UniRanks (2022). *Top Universities by Region*. Accessed from https://www.uniranks.com/ on 23rd August, 2022.

UniRanks (2023). *Top Universities by Region*. Accessed from https://www.uniranks.com/ on 26rd march, 2024.

University of Dar es Salaam (UDSM) (2008). UDSM Intellectual Property Policy. Directorate of Research & Publication. University of Dar es Salaam.

University of Dar es Salaam (UDSM) (2016): Guidelines for the Assessment of Academic Staff Performance. Issued By the Office Of The Deputy Vice Chancellor(ACADEMIC).https://www.udsm.ac.tz/web/index.php/schools/sol/promotion-guidelines-udsm-final---march-2016

University of Dar es Salaam (UDSM) (2018). ANNUAL REPORT2016 – 2017. February 2018.

University of Dar es Salaam (UDSM) (2023a). Press Release on Academic Promotion September2023.https://www.udsm.ac.tz/web/index.php/announcements/academic-promotion---september-2023

University of Dar es Salaam (UDSM) (2023b). Continuing Education. University of Dar Es Salaam Directorate of Public Services (DPS). https://www.udsm.ac.tz/web/index.php/directorates/dps/continuing-education-(ce)

University of Dar es Salaam (UDSM) (2023d). Directorate of Innovation & Entrepreneurship(DIEN).https://www.udsm.ac.tz/web/index.php/directorates/dien/about-dien

University of Dar es Salaam (UDSM) (2023e). University of Dar Es Salaam ICT Innovation hub. https://udicti.udsm.ac.tz/aboutus?tab=about

University of Dar es Salaam (UDSM) (2023f). 8TH RESEARCH AND INNOVATION WEEK. Impactful Research and Innovation for Socio-economic well-being in Tanzania. 23rd - 25th May 2023. https://www.udsm.ac.tz/upload/20230522_033711_RIW%202023%20Programme.pdf

Usilian, Y., & Syah, A. (2024). Contribution of employee creativity and job involvement to competitive advantage in PT Nesinak Industries, Indonesia. Journal of Industrial and Commercial Training, 46(4), 320-335.

Usliani, & Setyaningrum, R. P. (2023). The Influence of Employee Creativity and Job Involvement on Competitive Advantage Mediated by Strategic Planning at PT Nesinak Industries. *urnal MANDIRI: Ilmu Pengetahuan, Seni, dan Teknologi, Vol. 7, No. 2*.

Uzhegowa, D., Guilym, C., Samatha, M., Sophia, A., & Chi, B. (021). *Shifting Focus for International Higher Education in Australia.* Melbourne: Melboroune Centre for Higher Education

Valdmir, M. M., Tatyana, V. S., & Mugena, S. (2022). Quntitative Comparative Analysis of Country University Competitiveness. The Case of the Near East and South East Asian Countries. *Journal of Scientometric Research Vol 11 (3)*, 350-357.

Waheed, J., Jun, W., Yousaf, Z., Radulescu, M., & Hussain, H. (2021, July). Towards employee creativity in the healthcare sector: Investigating the role of polychronicity, job engagement, and functional flexibility. In Healthcare (Vol. 9, No. 7, p. 837). MDPI.

Wen, L., Maani, S. A., & Dong, Z. (2023). Educational job mismatch, job satisfaction, on-the-job training, and employee quit behaviour: a dynamic analytical approach. Applied Economics, 1-22.

Woodhall, M. (1997). Human capital: Educational aspects. In International encyclopedia of the social & behavioral sciences (pp. 6924-6930). Pergamon.

Wool, M. (2021). *Examples of human capital: driving growth and innovation*. Betterup. Accessed from https://www.betterup.com/blog/human-capital-examples on August 6, 2022.

Word Economic Forum. (2023). *Asian Univerities Rise up to the World University Ranking.* cologny: World Economic Forum.

Wright, P. M., & McMahan, G. C. (2011). Exploring human capital: Putting 'human' back into strategic human resource management. *Human Resource Management Journal*, 21(2), 93-104.

Wright, P. M., Dunford, B. B., & Snell, S. A. (2001). Human resources and the resource-based view of the firm. *Journal of Management,* 27(6), 701-721.

Yichang, Z. (2024). A Study of Competitiveness of Asian Universities Using Different University Ranking as Examples. *Lecture Notes in Education Pyschology and Media 41 (1),* 162-169.

Yildiz, F. (2019). Effective leadership style, employee creativity, and organizational innovation in Boehringer Ingelheim (BI) pharmaceutical company. *Journal of Management and Business Studies*, 25(2), 183-200.

Yılmaz, C., & Özgener, Ş. (2021). Competitive Intelligence and Competitiveness in Accommodation Businesses: the Role of employee Training Effectiveness. *Current Issues in Tourism, DOI: 10.1080/13683500.2021.2012432*.

Zhang, Q.; Ma, Z.; Ye, L.; Guo, M.; Liu, S. (2021). Future Work Self and Employee Creativity: The Mediating Role of Informal Field Based Learning for High Innovation Performance. *Sustainability*, 13, 1352. https://doi.org/10.3390/su13031352

Zilincikova M and Stofkova K.R (2020). Motivational Elements of Employees as a competitive advantage of Companies in the Conditions of Globalization. *International Journal of Management Science and Business Administration vol 6(5) page 16-24*

APPENDICES

Appendix 1: Questionnaire for Academic Staff-University of Dar Es Salaam

Dear respondent,

I am a student of Open University of Tanzania pursuing a PhD degree in Business Management. As part of the program's requirements; I have to conduct a research study. The study is titled *'**Effects of human capital investment on competitive advantage in higher education institutions in Tanzania: Experience from university of Dar es Salaam'.*** This questionnaire has been designed for the sole purpose of collecting data on above mentioned topic, therefore, I request you to respond to the best of your knowledge. The data you provide will be treated highly confidential and solely used for academic purposes and not otherwise. Your participation is highly appreciated. By completing this questionnaire, you will be making an important contribution to policy and practical debate about the importance of human capital investment for competitive advantage of HEIs in Tanzania, and ultimately an improved management of human capital in HEIs.

Instructions:

You are required to put [√] in box provided in each statement/sentence OR fill the blanks.

You are allowed to excuse yourself at any time

SECTION A: RESPONDENTS' DEMOGRAPHIC INFORMATION

1. Sex
   - i. Male ( )
   - ii. Female ( )
2. Your highest level of education attained
   - i. Bachelor ( )
   - ii. Masters ( )
   - iii. PhD ( )
3. For how long have you been working as an academician
   - i. 0-2 years ( )
   - ii. 3-5 years ( )
   - iii. 6-10 years ( )
   - iv. 11-20 years ( )
   - v. 21+ years ( )
4. Duration in the current University
   - i. 0-2 years ( )
   - ii. 3-5 years ( )
   - iii. 6-10 years ( )
   - iv. 11-20 years ( )

v. 21+ years ( )

5. Your current position
   i. Tutorial Assistant ( )
   ii. Assistant Lecturer ( )
   iii. Lecturer/Senior Lecturer ( )
   iv. Associate Professor/Professor ( )

SECTION B: EMPLOYEE TRAINING

Please rank the following statements as applied in the analytical review of employee training and its effects on competitive advantage of UDSM. Provide √ tick where appropriate in the given 5-point Likert scale statements: 1. strongly disagree (SDAG) 2. Disagree (DAG) 3. Neither agrees nor disagrees/neutral (NAND) 4. Agree (AG) 5. Strongly agree (SAG)

S/N	Statement	SCORE				
1	The number of training provided yearly are sufficient for career development	1	2	3	4	5
2	Training conducted in the institution enable staffs to acquire useful skills for their job	1	2	3	4	5
3	Training provided by the organization is relevant for our field of work	1	2	3	4	5
4	Employees are compensated in order to motivate them to attend training	1	2	3	4	5
5	Training provided has enable individuals to be more competent in their area of work	1	2	3	4	5
6	The institution considers training as part of their organization strategy	1	2	3	4	5
7	Training provided are in line with the career development policy of the institution	1	2	3	4	5
8	Time duration for the training program is sufficient	1	2	3	4	5
9	Our work experience enables us to be more effective in my work	1	2	3	4	5

SECTION C: COMPETENCE OF EMPLOYEE

Please rank the following statements as applied in the analysis of educating employee and competitive advantage derived by UDSM. Provide √ tick where appropriate in the given 5-point Likert scale statements: 1. strongly disagree (SDAG) 2. Disagree (DAG) 3. Neither agrees nor disagrees/neutral (NAND) 4. Agree (AG) 5. Strongly agree (SAG)

S/N	Statement	SCORE				
1.	Our education has provided us with highest analytical skills	1	2	3	4	5
2.	I actively use knowledge we have obtained in our career to improve work practice	1	2	3	4	5
3.	Individuals use their analytical knowledge to solve problems arises in their daily activities	1	2	3	4	5
4.	We are aware of the quality of education we should provide to students	1	2	3	4	5
5.	My work experience enables me to be more effective in my work	1	2	3	4	5
6.	I am aware of my profession code of conducts and why they are important to be followed in my work	1	2	3	4	5
7.	Individuals need more education to be more competent in their area of work	1	2	3	4	5
8.	Individuals analytical skills and knowledge matches their high performance	1	2	3	4	5
9	I enjoy working with students and treat every student with respect	1	2	3	4	5
10	I am aware the profession code of conduct demanded by the institution work policy	1	2	3	4	5
11	I accept advice and constructive criticism from my supervisor to improve my work practice	1	2	3	4	5
12	I show professional work habit by keeping spoken and written information confidential, respect others, use time well and is dependable	1	2	3	4	5

SECTION D: REWARDS

Please rank the following statements as applied in the analysis of effect of employee motivation on competitive advantage of UDSM. Provide √ tick where appropriate in the given 5 point Likert scale statements: 1. strongly disagree (SDAG) 2. Disagree (DAG) 3. Neither agrees nor disagrees/neutral (NAND) 4. Agree (AG) 5. Strongly agree (SAG)

S/N	Statement	SCORE				
1	My ideas are valued in managerial decision making	1	2	3	4	5
2	My work effort is value and appreciated by the management	1	2	3	4	5
3	I am motivated to work hard when I feel value and appreciated	1	2	3	4	5
4	In my work I have been rewarded with leadership autonomy	1	2	3	4	5
5	I am satisfied with the rewards system used by the institution	1	2	3	4	5
6	Big efforts in my job will give higher rewards	1	2	3	4	5
7	The institution supports their staffs financially for their career development plan	1	2	3	4	5
8	The rewards and incentives I receive from the institution motivates me to work hard	1	2	3	4	5

SECTION E: EMPLOYEE CREATIVITY

Please rank the following statements as applied in the analysis of effects of employee development on competitive advantage of UDSM. Provide √ tick where appropriate in the given 5-point Likert scale statements: 1. strongly disagree (SDAG) 2. Disagree (DAG) 3. Neither agrees nor disagrees/neutral (NAND) 4. Agree (AG) 5. Strongly agree (SAG)

s/n	Statement	SCORE				
1	The transformational leadership style used by my department encourages me to be more creative with my work practice	1	2	3	4	5
2	The complexity of my job enhances creativity	1	2	3	4	5
3	I believe my role give a significant achievement for my department	1	2	3	4	5
4	If, I work creatively to get extra financial rewards, incentives and bonuses	1	2	3	4	5
5	The organization culture encourages employees creativity	1	2	3	4	5
6	The autonomy in my job enables me to be more creativity in my work	1	2	3	4	5
7	I always help my colleagues with regards to work related knowledge	1	2	3	4	5
8	I always use various approach to help my colleagues and students	1	2	3	4	5

SECTION F: COMPETITIVE ADVANTAGE

Please rank the following statements as applied in the analysis of human capital investment and competitive advantage. Provide √ tick where appropriate in the given 5-point Likert scale statements: 1. strongly disagree (SDAG) 2. Disagree (DAG) 3. Neither agrees nor disagrees/neutral (NAND) 4. Agree (AG) 5. Strongly agree (SAG)

S/N	Statement	SCORE				
TEACHING AND LEARNING ENVIRONMENT						
1.	ICTs for teaching and learning are adequate at the university (computer, projector)	1	2	3	4	5
2.	The university has the best environment for teaching students in the classrooms	1	2	3	4	5
3.	University helps students to obtain secure place for learning such as library/laboratory/workshops	1	2	3	4	5
ACADEMIC STAFF-STUDENT RATIO						
4.	Teaching workload is heavy for me (marking and examination setting inclusive)	1	2	3	4	5
5.	Individuals are able to get time to do other things apart from teaching	1	2	3	4	5
6.	The university makes sure that I use all my time for teaching and no time for research and consultancy	1	2	3	4	5
FLEXIBILITY/ADAPTATION TO CHANGE						
7.	The university warrants the employees material and moral support to meet the needs and aspirations of current and future customers (students)	1	2	3	4	5
8.	The university develop the academic staffs and improve their knowledge as required by the market	1	2	3	4	5
9.	The university put efforts to understand market features for formulation of strategies and tactics appropriate for any situation possible at the current and future periods	1	2	3	4	5

THANK YOU FOR YOUR TIME

Appendix 2: Operationalization of Variables

1. Dependent Variable

For this proposed study the dependent variable; competitive advantage will be measured using teaching and learning environment, academic staff-student ratio, and flexibility/adaptability to change in **5 Point Likert Scale:** 1= Strongly Disagree; 2= Disagree; 3= Neither Agree Nor Disagree; 4= Agree; 5= Strongly Agree; as summarised in Table below.

Table 1: Summary of the Definition of Dependent Variable: Competitive Advantage

Variable	Variable Type	Expected Sign	Measurement	Comments	Reference
Teaching and learning environment	Categorical	+	Ordinal: **5 Point Likert Scale:**	The availability or presence of necessary infrastructure, tools and equipments for smooth teaching and learning process at the university	Ngaruko et al., 2014; Kalenuk&Dyakon, 2016
Academic staff-student ratio	Categorical	+	Ordinal: **5 Point Likert Scale:**	Number of academic staffs at UDSM compared to number of students at the UDSM	Ngaruko et al., 2014; Kalenuk&Dyakon, 2016; The Citizen (2020)
Flexibility/adaptability to change	Categorical	+	Ordinal: **5 Point Likert Scale:**	Ability to adapt to the changes in the higher education market, research and consultancy activities and effectively meet the new demand to satisfy customers/clients	Johnson, Lee, Saini &Grohmann (2003), Agha &Alrubaiee (2012)

Source: Theories and empirical literature review, 2022

2. Independent variables

For this proposed study, four constructs with 37 statements, which are proxy of independent variables, will be hypothesized to affect the dependent variable. These constructs/independent variables include training, competence, reward and creativity.All statements in the independent variables will be recorded as categorical variables using 5 point Likert scale. Therefore, only the four constructs will be displayed as shown in the Table below (the statements are shown in the questionnaire in Appendix 1). KEY: **5 Point Likert Scale:** 1= Strongly Disagree; 2= Disagree; 3= Neither Agree Nor Disagree; 4= Agree; 5= Strongly Agree

Table 2: Summary of the Definition of Independent Variables

Variable	Variable Type	Expected Sign	Measurement	Comments	Reference
Training (9 statements)	Numeric generated for Likert scale	+	Ordinal: **5 Point Likert Scale:**	Imparting a specialized skill, knowledge, ability and experience or behavior to an employee for doing a particular job	Torrington *et al* (2008), Mehdi *et al* (2019)
Competence (12statements)	Numeric generated for Likert scale	+	Ordinal: **5 Point Likert Scale:**	Attainment of competence, logical reasoning intellect and analytical skills and knowledge, and uses them to successfully perform critical functions in HEI such as teaching, consultancy and/or research, which form the basis of HEIs' competitiveness	Li, 2015); Carr (2003); Naziev (2017)
Rewards (8 statements)	Numeric generated for Likert scale	+	Ordinal: **5 Point Likert Scale:**	Intrinsic and extrinsic stimulations that influence academic staffs to devote more effort in their work to create competitive advantages for the respective HEI.	Tohid and Jabbari (2012) Forgas, Williams and Laham (2005) and Jain et al. (2019)
Creativity (8 statements)	Numeric generated for Likert scale	+	Ordinal: **5 Point Likert Scale:**	Utilization of skills, knowledge, experiences, abilities, and competencies that education and training have given them.	Antonacopoulou (2000);Agrawal (2013) and Hameed &Waheed (2011).

Source: Theories and empirical literature review, 2022

Appendix 3: SPSS outputs of correlation coefficients of employee training

		ET 1	ET 2	ET 3	ET 4	ET 5	ET 6	ET 7	ET 8	ET 9
ET 1	r	1	.342**	.276**	.239**	.610**	0.07	.280**	.328**	.213**
	Sig.		0	0	0	0	0.23	0	0	0
	N	299	299	299	299	299	299	299	299	299
ET 2	r	.342**	1	.738**	.180**	.306**	0.001	.806**	.793**	.124*
	r	0		0	0.002	0	0.98	0	0	0.032
	N	299	299	299	299	299	299	299	299	299
ET 3	r	.276**	.738**	1	.143*	.298**	0.013	.831**	.834**	.139*
	Sig.	0	0		0.014	0	0.823	0	0	0.016
	N	299	299	299	299	299	299	299	299	299
ET 4	r	.239**	.180**	.143*	1	0.103	-0.034	.245**	.258**	.128*
	Sig.	0	0.002	0.014		0.075	0.558	0	0	0.027
	N	299	299	299	299	299	299	299	299	299
ET 5	r	.610**	.306**	.298**	0.103	1	0.106	.295**	.341**	.162**
	Sig.	0	0	0	0.075		0.067	0	0	0.005
	N	299	299	299	299	299	299	299	299	299
ET 6	r	0.07	0.001	0.013	-0.034	0.106	1	-0.012	-0.035	.396**
	Sig.	0.23	0.98	0.823	0.558	0.067		0.835	0.544	0
	N	299	299	299	299	299	299	299	299	299
ET 7	r	.280**	.806**	.831**	.245**	.295**	-0.012	1	.835**	0.093
	Sig.	0	0	0	0	0	0.835		0	0.109
	N	299	299	299	299	299	299	299	299	299
ET 8	r	.328**	.793**	.834**	.258**	.341**	-0.035	.835**	1	.116*
	Sig.	0	0	0	0	0	0.544	0		0.045
	N	299	299	299	299	299	299	299	299	299
ET 9	r	.213**	.124*	.139*	.128*	.162**	.396**	0.093	.116*	1
	Sig	0	0.032	0.016	0.027	0.005	0	0.109	0.045	
	N	299	299	299	299	299	299	299	299	299

Appendix 4: SPSS outputs of correlation coefficients of Reward

		RW 1	RW 2	RW 3	RW 4	RW 5	RW 6	RW 7	RW 8
RW 1	r	1	.513**	.390**	.412**	.160**	.348**	.272**	.353**
	Sig.		0	0	0	0.006	0	0	0
	N	299	299	299	299	299	299	299	299
RW 2	r	.513**	1	.310**	.408**	.304**	.325**	.256**	.261**
	Sig.	0		0	0	0	0	0	0
	N	299	299	299	299	299	299	299	299
RW 3	r	.390**	.310**	1	.654**	.345**	.520**	.307**	.510**
	Sig.	0	0		0	0	0	0	0
	N	299	299	299	299	299	299	299	299
RW 4	r	.412**	.408**	.654**	1	.352**	.666**	.261**	.549**
	Sig.	0	0	0		0	0	0	0
	N	299	299	299	299	299	299	299	299
RW 5	r	.160**	.304**	.345**	.352**	1	.304**	.408**	.230**
	Sig.	0.006	0	0	0		0	0	0
	N	299	299	299	299	299	299	299	299
RW 6	r	.348**	.325**	.520**	.666**	.304**	1	.212**	.613**
	Sig.	0	0	0	0	0		0	0
	N	299	299	299	299	299	299	299	299
RW 7	r	.272**	.256**	.307**	.261**	.408**	.212**	1	.224**
	Sig.	0	0	0	0	0	0		0
	N	299	299	299	299	299	299	299	299
RW 8	r	.353**	.261**	.510**	.549**	.230**	.613**	.224**	1
	Sig.	0	0	0	0	0	0	0	
	N	299	299	299	299	299	299	299	299

Appendix 5: SPSS outputs of correlation coefficients of employee creativity

		CR 1	CR 2	CR 3	CR 4	CR 5	CR 6	CR 7	CR 8
CR 1	r	1	.309**	.387**	0.085	.399**	.419**	.270**	.376**
	Sig.		0	0	0.142	0	0	0	0
	N	299	299	299	299	299	299	299	299
CR 2	r	.309**	1	.589**	.220**	.295**	.481**	.421**	.169**
	Sig.	0		0	0	0	0	0	0.003
	N	299	299	299	299	299	299	299	299
CR 3	r	.387**	.589**	1	.247**	.331**	.535**	.366**	.294**
	Sig.	0	0		0	0	0	0	0
	N	299	299	299	299	299	299	299	299
CR 4	r	0.085	.220**	.247**	1	.124*	.158**	0.109	.185**
	Sig.	0.142	0	0		0.032	0.006	0.059	0.001
	N	299	299	299	299	299	299	299	299
CR 5	r	.399**	.295**	.331**	.124*	1	.318**	.219**	.119*
	Sig.	0	0	0	0.032		0	0	0.041
	N	299	299	299	299	299	299	299	299
CR 6	r	.419**	.481**	.535**	.158**	.318**	1	.328**	.389**
	Sig.	0	0	0	0.006	0		0	0
	N	299	299	299	299	299	299	299	299
CR 7	r	.270**	.421**	.366**	0.109	.219**	.328**	1	.189**
	Sig.	0	0	0	0.059	0	0		0.001
	N	299	299	299	299	299	299	299	299
CR 8	r	.376**	.169**	.294**	.185**	.119*	.389**	.189**	1
	Sig.	0	0.003	0	0.001	0.041	0	0.001	
	N	299	299	299	299	299	299	299	299

Appendix 6: SPSS outputs of correlation coefficients of employee competence

		CE 1	CE 2	CE 3	CE 4	CE 5	CE 6	CE 7	CE 8	CE 9	CE 10	CE 11
CE 1	r	1	.447**	-0.043	0.046	0.086	0.046	.576**	0.079	-0.096	.143*	0.09
	Sig.		0	0.462	0.431	0.136	0.431	0	0.173	0.098	0.013	0.121
	N	299	299	299	299	299	299	299	299	299	299	299
CE 2	r	.447**	1	-0.062	.170**	.294**	.164**	.416**	.221**	0.048	.239**	0.077
	Sig.	0		0.288	0.003	0	0.004	0	0	0.41	0	0.186
	N	299	299	299	299	299	299	299	299	299	299	299
CE 3	r	-0.043	-0.062	1	0.019	.252**	0.101	0.112	0.109	-0.005	.187**	0.022
	Sig.	0.462	0.288		0.75	0	0.082	0.053	0.061	0.938	0.001	0.706
	N	299	299	299	299	299	299	299	299	299	299	299
CE 4	r	0.046	.170**	0.019	1	.336**	.154**	0.099	.224**	.357**	.244**	.247**
	Sig.	0.431	0.003	0.75		0	0.008	0.087	0	0	0	0
	N	299	299	299	299	299	299	299	299	299	299	299
CE 5	r	0.086	.294**	.252**	.336**	1	.125*	0.051	.387**	.189**	.303**	.233**
	Sig.	0.136	0	0	0		0.03	0.382	0	0.001	0	0
	N	299	299	299	299	299	299	299	299	299	299	299
CE 6	r	0.046	.164**	0.101	.154**	.125*	1	.168**	0.097	0.083	.218**	0.038
	Sig.	0.431	0.004	0.082	0.008	0.03		0.004	0.096	0.153	0	0.516
	N	299	299	299	299	299	299	299	299	299	299	299
CE 7	r	.576**	.416**	0.112	0.099	0.051	.168**	1	.173**	0.001	.216**	.184**

	Sig.	0	0	0.053	0.087	0.382	0.004		0.003	0.992	0	0.001
	N	299	299	299	299	299	299	299	299	299	299	299
CE 8	r	0.079	.221**	0.109	.224**	.387**	0.097	.173**	1	0.066	.418**	.172**
	Sig.	0.173	0	0.061	0	0	0.096	0.003		0.254	0	0.003
	N	299	299	299	299	299	299	299	299	299	299	299
CE 9	r	-0.096	0.048	-0.005	.357**	.189**	0.083	0.001	0.066	1	0.044	.218**
	Sig.	0.098	0.41	0.938	0	0.001	0.153	0.992	0.254		0.453	0
	N	299	299	299	299	299	299	299	299	299	299	299
CE 10	r	.143*	.239**	.187**	.244**	.303**	.218**	.216**	.418**	0.044	1	.236**
	Sig.	0.013	0	0.001	0	0	0	0	0	0.453		0
	N	299	299	299	299	299	299	299	299	299	299	299
CE 11	r	0.09	0.077	0.022	.247**	.233**	0.038	.184**	.172**	.218**	.236**	1
	Sig.	0.121	0.186	0.706	0	0	0.516	0.001	0.003	0	0	
	N	299	299	299	299	299	299	299	299	299	299	299

Appendix 7: **Descriptive statistics of testing outliers**

			Statistic	Std. Error
Employee training	Mean		4.1338	.03046
	95% Confidence Interval for Mean	Lower Bound	4.0738	
		Upper Bound	4.1937	
	5% Trimmed Mean		4.1486	
	Median		4.0000	
	Variance		.277	
	Std. Deviation		.52664	
	Minimum		3.00	
	Maximum		5.00	
	Range		2.00	
	Interquartile Range		.00	
	Skewness		.141	.141
	Kurtosis		.342	.281
Reward	Mean		4.1839	.03229
	95% Confidence Interval for Mean	Lower Bound	4.1204	
		Upper Bound	4.2475	
	5% Trimmed Mean		4.2044	
	Median		4.0000	
	Variance		.312	
	Std. Deviation		.55829	
	Minimum		3.00	
	Maximum		5.00	
	Range		2.00	
	Interquartile Range		1.00	
	Skewness		.037	.141
	Kurtosis		-.126	.281
Employee creativity	Mean		4.1237	.02771
	95% Confidence Interval for Mean	Lower Bound	4.0692	
		Upper Bound	4.1783	
	5% Trimmed Mean		4.1375	
	Median		4.0000	
	Variance		.230	
	Std. Deviation		.47917	
	Minimum		3.00	
	Maximum		5.00	
	Range		2.00	

	Interquartile Range		.00	
	Skewness		.339	.141
	Kurtosis		.943	.281
Employee competence	Mean		4.0836	.02143
	95% Confidence Interval for Mean	Lower Bound	4.0414	
		Upper Bound	4.1258	
	5% Trimmed Mean		4.0708	
	Median		4.0000	
	Variance		.137	
	Std. Deviation		.37051	
	Minimum		3.00	
	Maximum		5.00	
	Range		2.00	
	Interquartile Range		.00	
	Skewness		.967	.141
	Kurtosis		3.582	.281
Teaching and Learning Environment (TLE)	Mean		4.2140	.03388
	95% Confidence Interval for Mean	Lower Bound	4.1474	
		Upper Bound	4.2807	
	5% Trimmed Mean		4.2378	
	Median		4.0000	
	Variance		.343	
	Std. Deviation		.58591	
	Minimum		3.00	
	Maximum		5.00	
	Range		2.00	
	Interquartile Range		1.00	
	Skewness		-.078	.141
	Kurtosis		-.380	.281
Academic Staff – Student Ratio (ASR)	Mean		4.2776	.03545
	95% Confidence Interval for Mean	Lower Bound	4.2078	
		Upper Bound	4.3474	
	5% Trimmed Mean		4.3084	
	Median		4.0000	
	Variance		.376	
	Std. Deviation		.61295	
	Minimum		3.00	
	Maximum		5.00	
	Range		2.00	

	Interquartile Range		1.00	
	Skewness		-.244	.141
	Kurtosis		-.606	.281
Flexibility or Adaptability of Changes	Mean		4.2375	.03419
	95% Confidence Interval for Mean	Lower Bound	4.1702	
		Upper Bound	4.3047	
	5% Trimmed Mean		4.2638	
	Median		4.0000	
	Variance		.349	
	Std. Deviation		.59116	
	Minimum		3.00	
	Maximum		5.00	
	Range		2.00	
	Interquartile Range		1.00	
	Skewness		-.118	.141
	Kurtosis		-.461	.281

Research Clearance Letter