THE EFFECT OF EMPLOYEE TRAINING IN ACHIEVING COMPETITIVE ADVANTAGE IN TANZANIA'S HIGHER EDUCATION INSTITUTIONS

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ABSTRACT
This study is about the effect of employee training on competitive advantage in HEIs in Tanzania. The study was conducted at University of Dar es Salaam. The study employed positivism research philosophy and a descriptive survey design. Stratified random sampling techniques was used in this study to select academic staff as respondents. Primary data were collected through the self-administration of 299 questionnaires to academic staff. Data were analyzed using descriptive statistics, correlation and inferential statistics. The mean score of descriptive statistics was 4 indicating agree the statement employee training have effect on competitive advantage in terms of Teaching and Learning Environment, Academic Staff-Student Ratio, and Flexibility/Adaptation to Change. The result also show positive correlation between employee training and competitive advantages. The findings inferential statistics show the all five independent variables of employee training were positively influence competitive advantages. The study concludes ha 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. Therefore, the study recommends the need of providing of training to employees to enhance career development, acquisition of useful skills and being competent.

Keywords: Competitiveness, Human capital, Private universities, and Public Universities.

1. INTRODUCTION
All over the world, with market globalization, every organization is involved in some form of competition (Levy, 2005). Such competition is either in the form of finding customers for the products and services produced or on how to obtain raw materials. Organizations in the education sector including Higher Learning Institutions (HEIs) are not excluded in this competition (Knight, 2008; Rust and Kim, 2012).). These education organizations are competing for potential students from all over the world (Khodjaeva, 2023). Three global competitive forces are currently reshaping HEIs worldwide. These include 1) a global free market, 2) the impact of globalization, and 3) the development of the global "knowledge economy" (Kim, 2012). In addition, at the moment the educational market behaves like an entrepreneurial business, consequently, competition among HEIs is increasing all over the world (Levy, 2006). With this realization, every HEI is investing heavily in implementing strategies that place them at a competitive advantage to distinguish them from their competitors (other HEIs) and maintain continuity in a competitive market environment (Naik & Naik, 2019).

HEIs in Tanzania, like others in developed and developing countries, are not exempted from competition. Tanzania HEIs have experienced a tremendous expansion in recent years as their

number increased from 15 public fully fledged universities and colleges in the 1990s to 53 fully fledged universities, university colleges and campuses in Tanzania Mainland, of which 70% (N=38) were privately owned and managed (NBS, 2020). Student enrolments also continue to rise year after year. For example, in the 2005/2006 academic year, the number was 40,993; it increased to 206,305 in 2009/2010; 225,330 in 2015/2016) and 229,049 (2018/2019) (TCU, 2018a; 2018b; NBS, 2020). As HEIs increase within and outside the country, aspiring University students have a wide choice depending on the quality and the cost implication of the services (academic programs) offered, which creates stiff competition among HEIs to acquire students (Ayiro, 2023). Various scholars have shown ways in which Tanzanian universities can improve and prosper in the current competitive environment (Muya *et al*., 2020; David, 2021, Mkunde *et al*., 2022) concluded universities to emphasize ethical management, develop competent lecturers, practices cooperate with social responsibility, develop good learning environment, attend annual TCU exhibition, secondary school visitation, connect with effective shareholders and use of social media marketing.

However, those strategic activities can easily be imitable by competitors and cause an institution to lose its competitive advantage. Several strategic management scholars agree that human capital is the most challenging resource to imitate (Wardhani, 2021) in attaining and sustaining a competitive advantage (Ionita *et al*., 2021; Aminga, 2019). Recognizing the importance of human capital in gaining competitive advantage, Tanzanian HEIs are implementing various strategies, including training employees to impart knowledge, skills, abilities, and experiences (Subilaga, 2020; Iwatta *et al*., 2020). Nevertheless, it is unclear whether and how human capital investment like employee training affects achieving competitive advantage in Tanzania's higher education institutions.

The study used the University of Dar es Salaam (UDSM) as a case study. The university was selected because is one of the HEIs in Tanzania that has invested enough in human capital. The University has 1178 academic staff comprising Professors, Associate Professors, Senior Lecturers, Lecturers, Assistant Lecturers, and Tutorial Assistants. To improve the performance of employees, the University has been taking various measures such as promotions and training. In addition, the university has steadily been ranked among Africa's 40 best universities (TCU, 2021), and sustainably maintained its competitive advantages over the last six decades. Therefore, the study used UDSM to understand the effect of employee training in achieving a competitive advantage in Tanzania's HEIs.

Training in the human resources aspect is defined as activities to increase employee abilities to help performance (Bourini et al., 2020). Aziz *et al*., (2022) defined employee training as 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 to be able to 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 consists of an organization's planned efforts to help employees acquire job-related knowledge, skills, abilities, and behaviors, to apply on the job (Noe *et al*., 2019). Training is the use of systematic and planned instruction activities to promote the learning process (Armstrong, 2020). 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.

This study used human capital theory to explain the effect of employee training in achieving competitive advantage in HEIs. The theory dates back to the 1960s when two economists, Gary Becker and Theodore Schultz, pointed out that investment in education and training is imperative and could potentially increase productivity. The human capital theory argues that individual workers have skills that can be improved or accumulated through training. The human capital theory rests on the assumption that the provision of formal education and training is necessary to improve the productive capacity of a population. The theory assumes that effective human capability is a product of innate abilities and investment in human beings (Woodhall, 1997). The theory acknowledges the difference between human capital and other forms of capital that organizations require to increase productivity (Ross, 2021). The theory recognizes the difference between human and physical/structural or financial capital. It is well stated in the theory that the employees are the ones that own human capital, unlike the physical/structural or financial capital owned by the employer. This is because human capital refers to all resources possessed by people in the form of; skills, knowledge, experiences, capabilities, creativity and competence that significantly influence their productive capacity and determine individual employability (Tomer, 2016).

The current study established that the human capital theory could be utilized to understand effect of employee training in achieving competitive advantage in Tanzania's HEIs. The theory viewed training as one of the routes through which human capital is acquired. The basis of the human capital model is based on the premise that additional non-compulsory training and capacity building to employees in any organization increases their productivity in a perfectly competitive market (Omolo, 2013).

In this study, the conceptual framework was developed to explain the relationship between the interplay of independent variables and a dependent variable (Figure 1). The conceptual framework in this study was synthesized from the literature review and Human Capital Theory. The figure presents the intricate relationship between employee training 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 representing employee training are number of training (ET 1), acquired skills (ET 2), training relevance (ET 3), Motivation (ET 4), Competency (ET 5), Organization strategy (ET 6), career development (ET 7), training duration (ET 8), and work experience (ET 9). From these relationships, the study hypothesized that there is a positive and significant relationship between employee training and competitive advantage in HEIs in Tanzania.
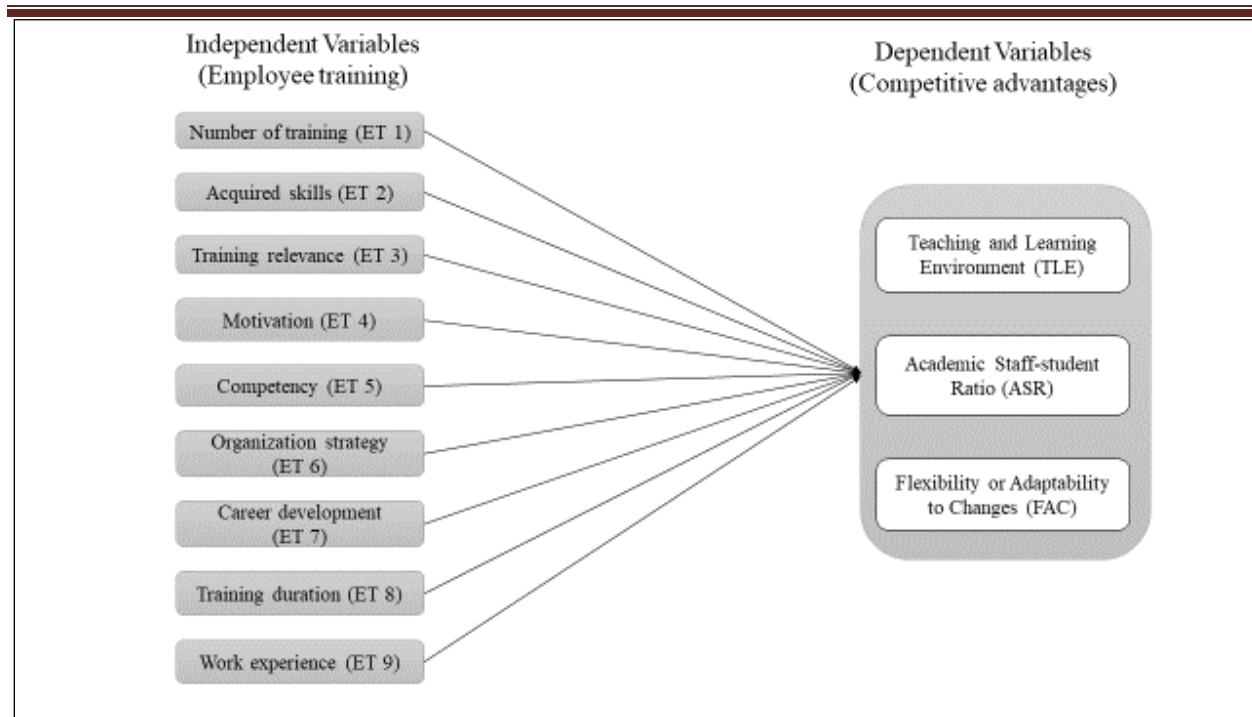
Figure 1: Conceptual framework underlying the study

2. METHODS

The study employed positivism research philosophy, which was selected because of 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). Research approach in this study is a quantitative, which was because the approach 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). 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). Research design in this study is a descriptive survey, which is quantitative and supports hypothesis testing (Denscombe, 2010). The rationale for using the descriptive design is based on its usefulness in explaining causal-effect relationships between variables – dependent and independent. In addition, the survey design was used because it provided the study with reliable data.

This study was conducted at UDSM, which was purposively selected because of being the best case and special interest (Baškarada, 2013). 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 university was selected because for many years has been ranked among the best twenty Universities in Africa and consistently the first in Tanzania (TCU, 2021; uniRank, 2022). The

target population and sampling frame coincide with the academic staff of the University. The target population for the study comprises 1178 academic staff of different ranks (30 Professors, 69 Associate Professors, 163 Senior Lecturers, 397 Lecturers, 442 Assistant Lecturers and 95 Tutorial Assistants) obtained from the HR department at the University. In this study, the unit of analysis was UDSM.

Stratified random sampling techniques was used in this study to select academic staff as respondents because academic staff comprises four groups or strata; professors, lecturers including senior lecturers, assistant lecturers and tutorial assistants. 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). A sample size was 299 academic staff. Primary data in this study were therefore obtained through a self-administered 5-point Likert scale questionnaire. Structured questionnaires were administered to 299 academicians selected from the UDSM. The face validity and content validity of the study instrument was done through pre-testing and field testing. Cronbach's Alpha method was used to test the reliability of the study instrument adhering to the recommended threshold of 0.7 (Bricki and Green, 2007). Subsequently, the collected data underwent analysis using descriptive, correlation and ordered logistic regression analyses methods. The general ordered logistic regression model for estimating the influence of human capital investment on competitive advantages as proposed by Johnson & Albert (1999) was as follows:

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

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)

$\beta_i{}'s$ Represent explanatory indicators (coefficient estimates) of respective independent variables

ε = Normally Distributed Error Term

3. RESULTS
3.1 Results of demographic analysis
A total of 299 questionnaires were distributed to the respondents and all were completed and collected. The demographic analysis was based on respondents' sex, respondents' highest education level, respondent's working experience as an academician, respondent duration of working in the current university, and respondent's current position. Out of 299 respondents interviewed, 55.9% were male, and the rest, 44.1% were female. The results in Table 1 reveals that the majority (57.9%) of respondents had master's Degrees while 31.8% had Bachelor's degrees, and 10.4% had PhD. Regarding working experience, the results in Table 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%). In addition, the

result in Table 1 shows that 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. Furthermore, Table 1 presents the respondents' current position of which out 299 respondents in this study, 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%.

Table 1: Respondents' characteristics

Respondents' characteristics	Frequency	Percent
Sex		
Male	167	55.9
Female	132	44.1
Total	299	100
Highest Education Level		
Bachelor	95	31.8
Masters	173	57.9
PhD	31	10.4
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

Data analysis (2024)

3.2 Results of descriptive analysis
The employee training and its effects on the competitive advantage of UDSM was assessed by asking respondents to rank 9 statements categorically through a five-point Likert scale (i.e. 1=

Strongly Disagree; 2= Disagree; 3= Neither Agree nor Disagree; 4= Agree; 5= Strongly Agree). Table 2 presents SPSS outputs of descriptive statistics indicating the results of each statement. The statistic of importance in this case was the mean, which 4 for each statement, which stands for "agree".

Table 4.2: SPSS Outputs of Descriptive Statistics for Variables of Employee Training

SN	Variable Code	Variable description (Statements)	N	Mean	Median	Std. Deviation
1	ET 1	# of training provided yearly	299	4	4	0.64
2	ET 2	Acquire useful skills	299	4	4	0.81
3	ET 3	Relevance of training provided	299	4	4	0.78
4	ET 4	Motivation to attend training	299	4	4	0.52
5	ET 5	Competency acquired after training	299	4	4	0.58
6	ET 6	Training is part of organization strategy	299	4	4	0.56
7	ET 7	Training with the career development	299	4	5	0.79
8	ET 8	Training duration is sufficient	299	4	4	0.78
9	ET 9	Work experience	299	4	4	0.59

Data analysis (2024)

3.2 Results of correlation analysis

Table 3 presents the relationship between employee training and competitive advantages namely TLE, ASR, and FAC. The results indicate positive relationship between employee training and TLE, ASR and FAC which is statistically significantly with p-value is below a significance threshold of $p<0.05$.

Table 3: Relationship between Employee Training and TLE, ASR and FAC

Correlation	Pearson Correlation	Sig. (2-tailed)	N
Employee Training versus TLE	.516**	0.000	299
Employee Training versus ASR	.477**	0.000	299
Employee Training versus FAC	.490**	0.000	299

Data analysis (2024)

3.3 Factor analysis (Principal Component Analysis)

Before the analysis of the ordered logistic model, Factor analysis (Principal Component Analysis) for each Independent variable (i.e., employee training) was conducted to reduce the complexity in a set of data. In factor analysis, a cut-off criterion (eigenvalues) was greater than 0.5. KMO test is 0.84, which is above 0.80 and statistically significant. A Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy for independent variables in this study was 0.84, which is above 0.8 and statistically significant indicating that variables are correlated. Table 4 presents a rotated component matrix showing the factor loadings for each variable of employee training. Out of 9 factors constructed from 9 statements, 5 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 4: Rotated Component Matrix for Independent Variables

Factors	Component				
	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

Data analysis (2024)

3.4 Results of ordered logistic regression analysis

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 TLE, ASR and FAC. SPSS outputs for model fitting information give values of -2 log-likelihood for the intercept-only and final models and chi-square to test the difference between the -2LL for the three models. The statistically significant chi-square statistics ($p<0.05$) for all three models indicate that the final model gives a significant improvement over the baseline intercept-only model as shown in Table 5.

Table 5: 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

Data analysis (2024)

The results Goodness-of-Fit, which gives Pearson's chi-square statistic show that all three models (i.e. TLE, ASR and FAC) have large p-values which suggests the acceptance of the null hypothesis, which means observed data are consistent with the fitted model. Cox & Snell R Square, and the Nagelkerke R Square and McFadden values in the model summary indicate the amount of variation in the dependent variable explained by the model (from a minimum value of 0 to a maximum of approximately 1). These are described as pseudo R square statistics, which are TLE = 0.577, ASR = 0.604 and FAC = 0.613), suggest that about 57.7%, 60.4% and 61.3% variation in TLE, ASR and FAC respectively was due to the nine variables of employee training that were entered in the model.

Table 6 contains the estimated coefficients for the TLE. The table gives the coefficients (β), their standard errors, the Wald test and associated p-values (Sig.), and the 95% confidence interval of the coefficients. Table 6 showed that the Wald statistics were non-zero, which implied that there was interaction between the dependent and independent variables. Table 6 further contains regression coefficients (β values) that are either positive or negative. All five variables had positive β-values implying that they positively affect TLE. Furthermore, the results in Table 6 shows that all five variables were statistically significant affect competitive advantage, which is LTE (Table 6).

Table 6: Parameter Estimates for Teaching and Learning Environment (TLE)

		Estimate	*Std. Error*	*Wald*	*df*	*Sig.*	*95% Confidence Interval*	
							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

Data analysis (2024)

Table 7 contains the estimated coefficients for the ASR which shows that the Wald statistics are non-zero, which implies that there was interaction between the dependent and independent variables. The table further shows that all five independent variables (Table 7) had positive β-values implying that they positively affect Competitive advantage, which is the ASR. Furthermore, the results in Table 7 show all five independent variables of employee training were statistically affect ASR.

Table 7: Parameter Estimates for Academic Staff-Student Ratio (ASR)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							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

Data analysis (2024)

Table 8 contains the estimated coefficients for the FAC. Table 8 shows that the Wald statistics are non-zero, which implies that there was interaction between the dependent and independent variables. The table further shows that out of all five independent variables (Table 8), had positive β-values implying that they positively affect competitive advantage, which is the FAC. Furthermore, the results show that all five variable of employee training were statistically affect competitive advantage.

Table 8: Parameter Estimates for Flexibility/Adaptation to Change (FAC)

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							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

Data analysis (2024)

4. DISCUSSION

The purpose of this study was to examine the effect of employee training in achieving competitive advantage in Tanzania's HEIs. The findings indicate that the mean of all 9 statements in Table 2 was 4, which imply "agree". In the context of this study, "agree" imply acceptance, which means that the majority of the respondents acknowledged the importance of training in achieving a competitive advantage at UDSM. The findings of this study are in line with university efforts towards sustaining competitive advantage at UDSM. According to UDSM Vision 2061, the

university is committed to investing in postgraduate training by allocating resources to staff development, infrastructural development and academic programmes to produce more academics to serve as lecturers at UDSM and for other universities in Tanzania (UDSM, 2023). 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).

In addition, 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 findings are also consistent with the findings of Portnuru and Sahoo (2017) who investigated the role of training towards competitive advantage in India. In their findings, they showed that training programs equipped staff with knowledge and skills, enhancing their innovation and creativity, and consequently leading to competitive advantage (Portnuru and Sahoo, 2017). In addition, the findings in Table 2 show the majority of respondents "agree" with the statements that training has an effect in achieving competitive advantage. This is 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 the finding of Subilaga (2020) in financial sector who found that Training and Development (T&D) affects the bank's ability to create a competitive advantage.

The results in Table 3 show the existence of a positive relationship between training and the TLE, ASR and FAC, meaning that as one employee's training increases, the TLE, ASR and FAC 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. The study by Kember *et al* (2010) also acknowledged the importance of TLE in motivating student learning.

The existence of a positive relationship between employee training and the ASR 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, this observation also shares with 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 positive relationship between employee training and FAC implies that with increases in employee training, the FAC tends to increase as well. The FAC is 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.

Factor analysis was conducted to reduce the complexity in a set of data. In the factor analysis where Principal Component Analysis was employed, the cut point (i.e., eigenvalues) was 0.5. This means that all factors greater than 0.5 were extracted and used for further analysis. A Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy for independent variables was 0.84 and statistically significant indicating that variables are well correlated. The findings also revealed five factors that met the cut-off criterion (extraction method) and were mostly loaded. These include training with career development (ET 7), competency acquired after training (ET5), Motivation to attend training (ET4), Work experience (ET9), and Training as part of organization strategy (ET6) (Table 4). Therefore, only five variables were included in the analysis of the ordered logistic model.

Table 5 presents the results of three ordered logistic regression models that were carried out to assess the effects of five variables of employee training on three dimensions of competitive advantage: TLE, ASR, and FAC. 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 also support that the three models fit the data well, implying that observed data are consistent with the fitted model. In addition, the results show that variation in competitive advantage was due to the five variables of employee training that were entered into the model.

Table 6 shows 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 of the university. In addition, the effect of all five variables of employee training on TLE is statistically significant. Closer look of the variables show that training with career development (ET 7) has a positive

contribution in improving TLE. Effects of training in career development on the TLE include enhancement of pedagogical skills, increase of motivation and engagement, and promotion of lifelong learning as academic staff are likely to seek opportunities for professional growth and development. The enhancement of pedagogical skills helps academic staff gain new pedagogical techniques, teaching strategies and approaches to student engagement, which leads to more dynamic and effective classroom environments where students are actively involved in the learning process. The findings of this study are consistent with university efforts to develop 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).

The competency acquired after training, which is coded "ET 5" in Table 6, has a positive sign in β coefficient and significantly (p = 0.000) increased likelihood of affecting TLE. The plausible explanation of the positive regression value for "ET5" is the fact that "Competent" academic staff have the ability – that is, the requisite knowledge and skills – to proficiently perform their jobs (Rycus and Hughes, 2000). It should be noted that the acquisition of competencies through training positively impacts the TLE by improving instructional quality, student engagement, academic achievement, teacher-student relationships, classroom management, critical thinking skills, and fostering a culture of continuous improvement and innovation. The variable coded "ET4", which is motivation to attend training (ET4) in Table 6 significantly (p = 0.007) increases the likelihood of affecting TLE. The positive regression indicates that an increase in motivation to attend training increases the likelihood of the TLE. The plausible explanation is that an increase in motivation attracts many academic staff to attend training. Lai (2011) defined motivation as a complex psychological state that drives individuals to initiate and sustain actions towards the attainment of goals. The findings implies that the provision of extrinsic motivation, such as rewards (income) and recognition or promotion improves TLE at the university. The findings of the study concur with the study conducted by Shahzadi et al (2014) in Pakistan who found that a significant and positive and significant relationship exists between employee motivation and employee performance.

Table 6 further shows that the variable with a code "ET 6", which is training is part of organization strategy (ET 6) increases likelihood of affecting TLE. This implies that when training is incorporated as a strategic component of an organization's overall strategy, improves TLE at the university. A plausible explanation is that when training is part of the organization's strategy, it drives targeted professional development, optimizes resource allocation, promotes a culture of continuous learning, garners leadership support, and leads to sustained improvement in the TLE. Furthermore, the result in Table 6 shows that work experience (ET 9) significantly (p = 0.000) increases the likelihood of affecting the TLE. The findings suggest that work experience enriches the TLE by providing expertise, practical application, role modelling, adaptability, problem-solving skills, access to networks and resources, and a commitment to continued growth and renewal. Experienced academic staff play a vital role in shaping a dynamic, inclusive, and effective learning environment that prepares students for success in school and beyond. Similar findings were reported in the study conducted by Wulandari (2017) and Wahyudi (2018) who found that work experience had a positive influence on performance in academic and non-academic settings,

respectively.

The results in Table 7 present parameter estimates for the ASR. The ASR is a metric used in educational institutions to measure the number of academic staff members available in relation to the number of enrolled students. It is a key indicator of the level of instructional support and personal attention that students may receive. The ratio is typically expressed in terms of the number of students per academic staff member. The variable coded "ET 7", which is training with the career development (ET 7) increases the likelihood of affecting ASR with regression value $\beta = 1.183$. The positive regression indicates that an increase in training with career development increases the likelihood of ASR. The plausible explanation is training with career development can indirectly attracting and retaining talented faculty, and optimizing resource allocation. 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, and was not an explanation for the high education quality in the institution.

The variable coded "ET 5", which is competency acquired after training in Table 7 has a positive sign in β coefficient and significantly increased likelihood of affecting ASR. The plausible explanation of the positive effect is the fact that the acquisition of competencies through training can have several positive effects on the ASR. The motivation to attend training (ET4), which is coded "ET 4" in Table 7, increases the likelihood of affecting ASR. The reason for this is the fact that motivation to attend training indirectly affects teaching efficiency, student support services, teaching strategies, faculty retention, and collaboration can contribute to maintaining a favourable ASR and ensuring that academic staffing levels are aligned with institutional needs and priorities. If there is a favourable ASR, it means academic staff members have a lower number of students to attend to, which positively affects the capacity of the university to provide quality education to the students. It is therefore important to note that efforts of academic staff to attend training so that he/she can be promoted to another position as motivation, increases ASR, hence affecting competitive advantage.

The variable coded "ET 6", which is training is part of organization strategy (ET 6) in Table 7 increases the likelihood of affecting ASR. The plausible explanation is that when training is incorporated into an HEI's plan, it can improve institution retention, and collaboration among members, increase teaching effectiveness, improve student support services, and develop creative teaching and learning methods. All these have a beneficial effect on the ASR. Furthermore, the findings in Table 7 show that the variable coded "ET 9", which is work experience (ET 9) significantly increases the likelihood of affecting ASR. The reason for the positive effect is the fact that the work experience of academic staff is improving student support services, boosting teaching effectiveness, allocating resources as efficiently as possible, encouraging faculty collaboration and mentoring, and encouraging creativity and adaptability among academic staff

members. Institutions can efficiently manage student enrollment, maintain a favourable ASR, and guarantee the quality of education for every student by utilizing the knowledge and experience of academic staff.

Results in Table 8 contain the estimated coefficients for the FAC. The variable coded "ET 7", which is training with career development (ET 7) in Table 8 is significantly increase the likelihood of affecting FAC. The plausible explanation is that the development improves people's capacity for FAC by giving them new skills, enhancing their resilience, sharpening their problem-solving skills, encouraging the uptake of new technologies, fostering the development of a growth mindset, acquiring interdisciplinary skills, and encouraging lifelong learning. These beneficial consequences make it possible for people to flourish in dynamic and changing work situations, embracing new chances for personal growth and development and skillfully managing change. In addition, the variable coded "ET 5", which is competency acquired after training significantly increases the likelihood of affecting FAC. This indicates that an increase in competency increases the likelihood of the FAC. In this context, FAC refers to an individual's ability to adjust, evolve, and thrive in response to changing circumstances, environments, or demands. In this case, the competency acquired after training increases the likelihood of academic staff at UDSM to adapt or change. The 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.

Table 8 further revealed that the motivation to attend training (ET4), which is coded "ET 4" increases the likelihood of affecting FAC. The positive coefficient indicates that the likelihood of the FAC increases for every unit change of "ET 4". The reason for this is the fact that motivation to participate in training improves FAC by boosting confidence, fostering a growth attitude, boosting learning retention, and strengthening problem-solving abilities. People with motivation are better able to adjust to shifting conditions and take advantage of fresh chances for personal and professional development. The variable coded "ET 6", which is training is part of organization strategy (ET 6) in Table 8 significantly increases the likelihood of affecting FAC. The positive regression suggests that the inclusion of training as HEI strategy promotes proactive learning, skill acquisition, problem solving, and confidence building. These outcomes empower academic staff in such HEIs with training as a strategy to successfully manage transitions, grasp novel prospects, and prosper in ever-changing and dynamic surroundings both in one's personal and professional life.

Furthermore, the findings in Table 8 show that the variable coded "ET 9", which is work experience increases the likelihood of affecting FAC. This suggests that job experience improves flexibility and the ability to adjust to change by encouraging learning agility, strengthening interpersonal skills, strengthening problem-solving abilities, creating resilience, and promoting strategic thinking. HEIs with academic staff who have work experience are better able to adapt to changing conditions and take advantage of new chances for personal and professional advancement.

The results of all three ordered regression models in Tables 6, 7 and 8 gave the Wald statistics, which is commonly used to test the null 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 null hypothesis of this study, which stated that "there is a positive and significant relationship between employee training and competitive advantage in higher education institutions of Tanzania" is accepted in favour of the alternative hypothesis that employee training has either negative or positive effect on competitive advantage in terms its three aspects: Teaching and Learning Environment (TLE), Academic Staff-Student Ratio (ASR), and Flexibility/Adaptation to Change (FAC).

5. CONCLUSION AND RECOMMENDATIONS
5.1 Conclusion
The study has documented the effect of employee training on competitive advantage in HEIs in Tanzania. 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 results also reveal the existence of a significant relationship between employee training and three aspects of competitive advantages namely TLE, ASR and FAC. 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.

5.2 Recommendation
Based on the conclusions of this study, the study recommend the need of providing of training to employees to enhance career development, acquisition of useful skills and being competent. The findings have shown that positive relationship between employee training and all three aspects of the competitive advantage namely TLE, ASR and FAC. Analysis of ordered logistic regression also revealed positive regression coefficients showing that an increase in employee training, increases competitive advantage. There are several reasons why employee training is important for HEI to be complete. These include enhancing teaching and learning; advancements in research methodologies, data analysis, and 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.

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