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FIRMS' COMPETITIVE STRATEGIES AND PROFITABILITY AMONG SELF-EMPLOYED VOCATIONAL AND NON-VOCATIONAL GRADUATES IN ARUSHA AND DAR ES SALAAM CITIES, TANZANIA

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ABSTRACT

The implementation of one or more competitive strategies promises higher profitability for small firms. However, it remains unclear whether self-employed vocational and nonvocational graduates adopt any particular strategies to achieve increased profitability. This study aimed at examining the influence of competitive strategies on firm profitability among self-employed graduates. In order to achieve this, a descriptive cross-sectional survey design was adopted, involving a sample of 384 respondents. Quantitative data were analysed using independent samples t-test and multiple linear regression, while qualitative data underwent constant comparison content analysis. The results of the independent samples t-test indicate a significant difference in gross profit and net earnings between the two groups (p < 0.05). Specifically, self-employed vocational graduates' gross profit and net earnings were higher than those of their counterparts. Furthermore, the findings on competitive strategies reveal that both categories of graduates' businesses' overall profitability performance were positively influenced by both cost-leadership and differentiation strategies (p < 0.05). Based on the outcomes of the independent samples t-test, it can be concluded that profitability between vocational and non-vocational graduates differs due to inadequate price control among non-vocational graduates. As a result, efforts to improve competitive price setting are necessary among non-vocational graduates. Moreover, this study concludes that selfemployed graduates can achieve higher profitability by simultaneously pursuing both costleadership and differentiation competitive strategies. To enhance firm profitability among selfemployed graduates, it is recommended that interventions focus on strengthening costleadership and differentiation strategies for both categories of graduates' businesses. By shedding light on the influence of competitive strategies on profitability performance among firms owned by self-employed vocational and non-vocational graduates, this study significantly contributes to the body of knowledge on profitability performance in the academic literature.

Keywords: Competitive strategy, Non-vocational graduates, Profitability performance, Selfemployed graduates, Vocational graduates. **Paper type**: Research paper

Type of Review: Peer Review

1. Introduction

In a world of growing global competitive pressure, the formulation of firms' strategies plays a pivotal role in shaping their decision-making processes (Owolabi and Obida, 2012; Drahokoupil, 2014). Previous studies contends that firms' competitive strategies are closely tied to their profitability performance (Kang and Montoya, 2014; Chatzoglou et al., 2018). As a result, to attain planned profitability, firms must continuously refine their strategies to adapt to the ever-changing external environment (Bayraktar et al. 2017; Rothaermel, 2017). Debates surrounding firms' competitive strategies and profitability have been prevalent among Micro, Small, and Medium Enterprises (MSMEs) in many developed countries (Spanos et al., 2004). It is



argued that each business possesses unique strategies that differentiate them from their competitors (Gupta et al., 2010; Toledo et al., 2010; Uçmak and Arslan, 2012).

According to Porter (1980), for a firm to secure long-term profitability, it must choose one or more strategies. For instance, a business employing a differentiation strategy must invest in expertise, specialised equipment, and highly knowledgeable employees to distinguish its products from those of its rivals (Allen and Helms, 2016; Widuri and Sutanto, 2018). This strategy is expected to enhance the firm's profitability through higher profit margins achieved by selling its products at premium prices to customers (Henandez-Perlines et al., 2016). Additionally, the differentiation strategy empowers the firm to command premium prices that compensate for the cost of differentiation, resulting in higher profit margins (Wu, Gao, and Gu, 2015; Allen and Helms, 2016).

On the other hand, firms implementing the cost-leadership strategy focus on attaining competitive advantage by reducing costs in the industry (Hoskission, Ireland, and Hitt, 2011). This strategy can be achieved through various means, such as bulk manufacturing, bulk delivery, economies of scale, know-how, product or service design, input costs, full capacity deployment of assets, and access to raw materials (Malburg, 2007; Hoskinsson et al., 2011; Acquaah, 2011; Banker, Mashruwala, and Tripathy, 2014). As a low-cost leader, the firm can create barriers against new market entrants who would require substantial funds to enter the market (Hyatt, 2008). However, the cost-leadership strategy has disadvantages in that it fosters limited consumer loyalty, and if the firm decreases prices too much, it may experience reduced revenues (Kanyagia, 2015).

In Sub-Saharan African (SSA) countries, competitive strategies and profitability have emerged as a consequence of economic transformations adopted by many developing economies over the past two decades (Amoako-Gyampah and Acquaah, 2008). These economic policies removed protective barriers, adopted free trade policies, established market-friendly institutions, and integrated their economies with international markets, consequently intensifying domestic market competition (Acquaah and Yasi-Ardekani, 2008). As a result, businesses face increased transaction costs, business risks, and competition due to consumers being exposed to a wide range of choices. This necessitates the adoption of different strategies to achieve higher profitability among MSMEs in developing economies (London and Hart, 2004; Ingenbleek et al., 2013). Consequently, the focus on product quality, cost reduction, and efficiency improvement becomes a deliberate priority among MSMEs in developing economies (Acquaah and Yasi-Ardekani, 2008).

In Tanzania, as in many other developing economies, competition among firms intensified after the government implemented market liberalisation policies, which involved considerable reduction of the government's role in doing business (Kanaan, 2000; URT, 2003). Additionally, the government privatised state-owned businesses and allowed private entrepreneurs to establish their own firms in the economy (Mkubwa et al., 2008; Diao et al., 2020). The economic liberalisation policies increased the exposure of domestic firms that were formerly protected to competition from international businesses (Mkubwa et al., 2008). Therefore, it is imperative for domestic firms to develop viable competitive strategies in order to become competitive and profitable in the liberalised market environment (Anand et al., 2006).

Existing studies including the study by Tabari et al. (2013), Dahmen and Rodriguez (2014) and Myšková and Hájek (2017) indicate that linking firms' competitive strategies with profitability measures provides crucial insights into firms' profitability performance. According to Li's et al. (2009) viewpoint on the competitive advantage, the positive outcomes arise when a firm positions itself appropriately in the market based on its analysis of opportunities and threats in the competitive environment. Studies such as Voola et al. (2004), Allen and Helms (2006), Granados et al. (2019) and Diao et al. (2020) support the notion that low-cost and differentiation strategies lead to improved profitability performance. Given the significance of competitive strategies in enhancing firms' profitability in most developed countries' economies, the adoption of one or more of these strategies among VET and non-VET graduates would likely increase the

chances of improving businesses' profit levels and contribute to a country's economic development and self-employment creation.

Understanding a firm's profitability measures requires basic knowledge of financial statements, such as the statement of financial position and statement of comprehensive income (Dahmen and Rodriguez, 2014). Key elements of financial statements, such as sales levels, cost of sales, and expenses, are vital inputs in assessing firms' profitability and their relationship with competitive strategies using various methods of financial analysis (Ross et al., 2019). Ratio analysis stands out as a powerful tool for financial analysis, enabling the evaluation of firms' profitability based on product/service pricing and cost control strategies (Pandey, 2010). However, evaluating firms using ratios necessitates comparison with relevant standards, which may include past ratios from previous financial statements of the same business and competitors' ratios from selected similar businesses at a specific point in time (Pandey, 2010; Myšková and Hájek, 2017). Ratio analysis overcomes the difficulties associated with comparing businesses of different sizes, as it presents financial numbers in percentages, multiples, or time periods for meaningful comparisons (Berman et al., 2008; Ross et al., 2019).

The role of financial analysis in evaluating the financial strength and profitability strategies of businesses has garnered considerable attention in recent studies (Kotane and Kuzmna-Merlino, 2012; Brendea, 2014; Kubenka, 2016). Firms that evaluate their competitive strategies, profitability, and returns are more likely to outperform firms that do not engage in such evaluations (Dahmen and Rodríguez, 2014). However, financial figures alone may lack informative value in assessing firms' profitability (Hitz, 2007). Moreover, it has been argued that subjectivity in the narrative assessment of a firm's strategies can bias profitability evaluations. Consequently, financial data are often combined with narrative aspects of financial analysis to provide a highly accurate evaluation of a firm's competitive strategies and profitability, which is essential for managerial decision-making (Achim et al., 2016; Deaconu et al., 2016). Therefore, this study adopts a combination of both ratios and narrative elements to provide better insights into assessing businesses' profitability among VET and non-VET graduates, serving as a benchmark for comparing firms' performance.

Based on the factors identified to be constraining profitability performance of MSMEs, there is a pressing need for graduates to focus on a coherent competitive strategic orientation aimed at improving business profitability for their enterprises. As a result, this study aimed at assessing competitive strategies that influence profitability performance among VET and non-VET graduates in Arusha and Dar es Salaam cities, Tanzania. The study's objectives are to determine firms' profitability variables, compare firms' profitability variables, and analyse competitive strategies' influence on firms' profitability among VET and non-VET graduates in the study areas. Based on these objectives, the hypothesis posits that competitive strategies have no significant influence on firms' profitability between VET and non-VET graduates in the study areas.

2. Methodology

This study was conducted in the cities of Dar es Salaam and Arusha in Tanzania. These cities were chosen due to their distinct characteristics, including differences in population size, individuals' income levels, economic activities, and human development between the regions, among other factors (UNDP, URT, and ESRF, 2018). Furthermore, Dar es Salaam, being the largest city, has the oldest VET centers, while Arusha follows Dar es Salaam, among other cities, in terms of social services, public infrastructure, and investments in vocational institutions (VETA, 2010; Wenban-Smith, 2015, cited in Andreasen et al., 2017). As of 2015, Dar es Salaam had the highest number of VET centers, with a total of 75, whereas Arusha had 52 VET centers, more than any other major city in Tanzania (URT, 2016). The assumption underlying this selection was that there would be a higher proportion of self-employed graduates in these two cities compared to other cities in Tanzania.

A cross-sectional research design was employed due to its advantage of enabling data collection at the same time, while examining variables once at a single point in time (Bryman and Bell, 2011). Moreover, it allowed determination of relations between competitive strategy and profitability performance among graduates'

businesses. The study population involved VET graduates and non-VET graduates with different skills who were self-employed in Arusha and Dar es Salaam cities. The unit of analysis was an individual owner of a business under self-employment. The VET graduates were vocational education alumni (treatment), and non-VET graduates (control) were those without vocational education training certification. The choice of the two groups was justified in terms of fairly balanced characteristics such as age, types of business activities, business locations, and formal education, which were determined before piloting the research study. The total of 384 respondents involved in the study was determined by using the following formula by Cochran (1977):

$$n = \frac{z^2 p(1-p)}{\ell^2}$$
(1)

Where:

n = sample size

z = the abscissa of the normal curve

p = probability that the selected respondent in the population was a VET graduate

q = (1-p) probability that the selected respondent in the population was a non-VET graduate

 ℓ = the acceptable sampling error.

Therefore, using p = 0.5 (maximum variability), q = 1-0.5 = 0.5, z = 1.96, at the 95% confidence level and $\pm 5\%$ precision, the resulting sample was as follows:

 $n = \frac{(1.96)^2 (0.5)(1 - 0.5)}{(0.05)^2} = 384$ (2)

Therefore, 384 participants were involved in the study.

The respondents were distributed into two equal sizes based on maximum variability, where p = 0.5 and q = 0.5, according to Cochran (1977). One half (192) of the respondents were VET graduates, and the other half (192) were non-VET graduates. Cochran (1977) argues that the formula is appropriate in arriving at an adequate sample size if the population is infinite, and its degree of variability is not known.

Snowball sampling procedure was employed to collect data from individual graduates in Arusha and Dar es Salaam cities for interviews. The procedure enabled accessing respondents who were not easily accessible to the researcher through other sampling strategies (Babbie and Mouton, 2001). Nonetheless, the snowball sampling procedure has some critiques such as non-generalisable results due to the lack of a sampling frame (Morgan, 2008 cited by Kirchherr and Charles, 2018), lack of sample diversity and underrepresentation of respondents in the population (Shaghaghi et al., 2011). However, several studies refute the criticisms and some scholars hold it in high regard. For instance, Creswell (2005) and Noy (2009) argue that the intent of research is not only to generalize results to a population but also to develop an in-depth investigation of a central phenomenon, thereby producing a unique type of social knowledge. Therefore, this paper conceptualizes that competitive strategies have an influence on profitability among self-employed graduates in the two cities to gain a better understanding of the self-employment situation and their competitive strategies in achieving higher profitability among them.

In overcoming some of the snowballing weaknesses, the study used three key methodological approaches recommended to reduce the weaknesses (Creswell, 2005; Kirchherr and Charles, 2018). Among the methods, a key contact list of respondents was obtained from the Directorate of Labour Market Planning and Development (DLMPD) Chang'ombe, Dar es Salaam, colleges, and schools which served as the seeds for the snowball sampling method. The seeds sample sufficiently varied in terms of business categories where nine different businesses were included in the pool of seeds obtained from the respective institutions to solve the diversity and underrepresentation problems. Moreover, a face-to-face interview was conducted for it is claimed by many scholars that they generate trust required to gain referrals and decrease sampling bias (Noy, 2009; Sadler et al., 2010; Shaghaghi et al., 2011).

Quantitative data were collected using a survey approach with a structured questionnaire. From the total sample of 384 respondents, the population of Arusha (1,694,310) and of Dar es Salaam (4,364,541) as per Tanzania national census 2012 (URT, 2013), were used to find proportions of respondents that were determined to be approximately 28%, equivalent to 106 respondents from Arusha and 72%, equivalent to 278 respondents from Dar es Salaam. The first respondent from each of the two cities was obtained through referral and recommendations provided by the representative of the DLMPD at VETA Chang'ombe, Dar es Salaam, Colleges, and Schools. Qualitative data were collected using Key Informant Interviews (KIIs) where a total of four KIIs were held. The key informants (technical and administrative personnel) were selected based on their knowledge of vocational education and non-vocational graduates' employment status. For the institutions that were involved, College Principals, Heads of Academic Departments, and representatives of the DLMPD at VETA Head Office, Dar es Salaam, colleges, and schools were interviewed. Qualitative and quantitative methods of data collection complemented each other and thus increased the overall validity of the study findings through verification of respondents' answers, checking responses for uniformity of one method against the other and within methods, triangulation as recommended by Casey and Murphy (2009). The qualitative approach allowed for an in-depth probing and yielded detailed information (Saunders et al., 2009).

In the determination of variables affecting profitability, profitability ratio analysis was used to evaluate business performance in terms of gross profit margin, cost of goods sold (COGS), operating expenses, net profit margin, and return on capital employed (ROCE). The overall profitability ratio analysis involved the appropriate selection of the ratios and their calculations for the reporting period, based on the formulas and description of the ratios provided in Table 1.

Ratio	Formula	Description				
Gross profit margin	margin Sales - Costs of goods sold A metric measure which reflects the efficiency					
	Sales	which owners produce and sell each unit of a product				
		or service.				
Costs of goods sold	Costs of goods sold	Provides sales information which have been consumed				
	Sales	by the costs of production.				
Operating expenses	Operating expenses	Provides information on the number of sales consumed				
	Sales	by operating costs.				
Net profit margin Net earnings Provides information on business profitability.						
	Sales					
Return on capital	Net earnings	Provides information on earnings achieved for each				
employed	Capital employed	unit of capital employed in the business.				

Table 1: Profitability performance ratios

Source: Adapted and modified from Pandey (2010)

To determine whether or not there was any difference in profitability variables among VET and non-VET graduates, an independent samples t-test was conducted on profitability variables (revenue, cost of goods sold, gross profit, expenses, and net profit) between VET and non-VET graduates. The test was appropriate as the two groups were different in terms of one having a VET qualification, while the other did not have such qualification prior to getting into self-employment. The effect size statistics (Eta squared and Cohen's D) were employed to provide a clue of the extent of the differences between the two groups. Eta squared values range from 0 to 1 which represents the proportion of variance (Pallant, 2011). The interpretation of Eta squared value was made using the guidelines proposed by Cohen (1992) that 0.01 equals a small effect; 0.06 equals a moderate effect, and 0.14 is equivalent to a large effect. The computation of Eta squared is indicated in equation 3.

Eta squared = $\frac{t^2}{t^2 + (n_1 + n_2 - 2)}$ (3) Where: t^2 = t-test score n_1 = VET graduates sample size (treated group) n_2 = non-VET graduates sample size (control group) Lastly, in analysing the influence of competitive strategies on profitability, three variables were examined: firm profitability, differentiation, and cost-leadership strategies. Profitability encompasses earnings attained by a firm over a specific period of time (Mendoza-Ramirez and Toledo-Lopez., 2014). Thus, in this paper, profitability was measured in terms of net earnings attained by each category of self-employed graduates for the year ended 2017. Differentiation strategy for both categories of graduates was measured on a 5-point index summated scale from one, not important, to five, very important. Cost-leadership strategy for both categories of graduates was measured in terms of respective businesses' product price, production costs, and operational costs. Among the competitive strategies, differentiation strategy in the study was used to measure actions taken by each category of business owner with regard to their perception of offering unique and different products as well as services. Then cost-leadership strategy was measured by actions taken to reduce products/services costs and offer lower selling prices than rivals with the overall aim of improving the firms' profitability. Factor analysis was employed to assess whether or not the differentiation strategic practices would load as expected into Porter's (1980, 1985) generic strategies. By using principal component analysis and Kaiser-Meyer-Olkin (KMO) normalization with a varimax rotation, construct validity was assessed for both categories of graduates' businesses. The results indicated a KMO = 0.836 with a significant Bartlett's test of sphericity (p < 0.001) for VET and a KMO = 0.737 with a significant Bartlett's test of sphericity (p < 0.001) for non-VET graduates (Table 2). The result for VET graduates explained 60.49% of the variance with an Eigenvalue of 3.02 while 55.34% of the variance with an Eigenvalue of 2.77 was observed among non-VET graduates (Table 2). The results of factor analysis presented in Table 2 were found to conceptually correspond with Porter's (1980, 1985) generic strategy.

Differentiation strategies	VET graduates	Differentiation strategies	Non-VET graduates
Better customer service	0.871	Improved advertising	0.847
Innovation marketing	0.852	Better customer service	0.843
Upgrading of products	0.696	Upgrading of products	0.785
New product offering	0.534	Innovation marketing	0.772
Improved advertising	0.403	New product offering	0.760
Cronbach's Alpha	0.786	Cronbach's Alpha	0.862
Kaiser-Meyer-Olkin	0.836	Kaiser-Meyer-Olkin	0.727
Bartlett's test	0.000	Bartlett's test	0.000
Variance explained	60.487	Variance explained	55.338

	Table 2:	Construct	reliability	and	validitv	analysis
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Note: The variables loadings for both cases were greater than 0.50 and the Alpha values were greater than 0.60 which are considered reasonable.

In determining the influence of the competitive strategies on firms' profitability, a multiple regression model was adapted since the dependent variables were continuous. The model assumptions, among others, included sample size adequacy, normality, linearity, outliers, and multicollinearity (see Pallant, 2011). Sampling adequacy was tested using Tabachnick and Fidell's (2007) formula for the minimum sample size, given by 50 + 8 (m), where "m" is the number of variables, and at least there should be 20 responses per variable. Therefore, with 3 independent variables for each category of business, the minimum sample size (50 + 8 (3)) = 74 was needed. The study used a sample with 359 respondents in total after adjusting for outliers.

Variables were checked for normality using the Kolmogorov-Smirnov (K-S) test for normality; they all indicated significant p values (p < 0.05) with a positively skewed distribution. Except for profitability performance for VET graduates, which was transformed using a square root function, all other variables were transformed using a base ten logarithm function as recommended by Field (2018) for transforming positively skewed variables to normal distributions. After transformation, all the variables were checked for normality using the same K-S test; all indicated insignificant p values (p > 0.05). All independent variables were checked for correlation among themselves to assess whether they met an acceptable level of multicollinearity (r \leq 0.80), as recommended by Field (2018). Moreover, multicollinearity was checked during data analysis by computing Variance Inflation Factors (VIFs) and tolerance levels (Table 5). In both

cases, product price indicated a strong correlation with the production costs variable, and thus, one variable (production cost) was removed from the model. The remaining independent variables were all within the acceptable multicollinearity range. Interpretation of regression results was based on group statistics including Beta coefficients, t-values, R square values, adjusted R square values, F statistics, and significance (p-values). The multiple regression formula employed is given as:

$$Y = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + e$$
 (4)

- Y = earnings attained by each category of graduate
- a = intercept of the equation
- $b_1 \dots b_3$ = regression coefficients
- x₁ = product price variable
- x₂ = operational cost variable
- x₃ = differentiation variables

3. Findings and Discussion

3.1 Profitability measures among VET and non-VET graduates

In determining business profitability variables among businesses owned by VET and non-VET graduates, ratio analysis was employed, while in comparing profitability performance between the two groups inferentially, an independent samples t-test was used. Lastly, multiple linear regression analysis was employed in identifying competitive strategies variables, which had significant influence on profitability among graduates. The results are as detailed in the next sub-sections.

3.2 Profitability variables comparison using ratio analysis among graduates

Profitability variables that were compared included sales revenue, cost of goods sold, gross profit margin, operating business expenses, and capital employed in businesses. The respective ratios presented in Table 3 were all computed with respect to sales.

5	5		0		
Variable/Datia	VET (n = 192)	Non-VET (n = 1	Non-VET (n = 192)		
variable/Katio	Mean (TZS)	Ratio (%)	Mean (TZS)	Ratio (%)	
Sales/revenue	10 479 093.8		9 798 908.9		
Costs of goods sold	5 048 026.0	48.2	5 461 526.0	55.7	
Gross profit margin	5 431 067.7	51.8	4 335 299.5	44.2	
Business expenses	1 958 368.9	18.7	1 782 921.9	18.2	
Net earnings	3 075 800.9	29.4	2 278 268.2	23.3	
Return on capital employed	4 676 776.0	65.8	4 272 270.8	53.3	

Table 3: Profitability and ratio analysis between VET and non-VET graduates

Results of the profitability variables analysis using ratios assessed the businesses' ability to generate gross profit margin, control production and operational costs, achieve earnings levels, and efficiently utilise assets relative to firms' revenues. The findings, presented in Table 3, indicate that VET graduates achieved a higher gross profit margin ratio of 51.8% compared to the 44.2% attained by non-VET graduates. The relatively higher gross profit margin for VET graduates suggests that they were able to produce products and services at a lower cost, as evidenced by the costs of goods sold ratio of 48.2% compared to 55.7% for non-VET graduates (Table 3). This indicates that VET graduates were more efficient in producing each unit of product or service sold in the market, compared to their counterparts. While other factors may also contribute to this situation, VET skills and entrepreneurship training integrated into the VET system could be among the reasons that led to lower production costs and improved product and service quality.

The operating expenses ratio provides a measure of a business's operating efficiency. The results in Table 3 indicate that 18.7% of sales were consumed by operating expenses for VET graduates, while 18.2% of sales were consumed by operating expenses for non-VET graduates. Non-VET graduates were slightly better at managing business operating expenses than VET graduates. Both types of firms, however, efficiently managed business expenses, leaving them with sufficient net earnings for survival in the market. Furthermore, the net profit/earnings ratio establishes a relationship between profit and sales and indicates

management's efficiency in production, administration, and selling of products or services. The results in Table 3 indicate that 29.4% of each shilling of sales by VET graduates turned into net profit, compared to 23.3% for non-VET graduates.

Despite a small difference in operating expenses (0.5%) in favour of non-VET graduates, there was a more significant difference in production costs (7.5%) in favour of VET graduates. As a result, VET graduates had a higher net profit per cent of each shilling of sales. This suggests that VET graduates are better equipped to withstand adverse economic situations, such as falling selling prices, rising production costs, or declining demand for products or services, compared to their counterparts. Additionally, VET graduates can make better use of favourable economic conditions, such as rising selling prices or falling production costs, as these would enable them to increase profit levels at a higher rate than non-VET graduates with relatively lower profit margin ratios.

The return on capital employed ratio (ROCE) shows how much profit is generated from each shilling of capital invested in the business. Results in Table 3 indicate that VET graduates generated 65.8% profit for each shilling invested in their business, while non-VET graduates generated 53.3% of profit for each shilling of capital employed in their businesses. This implies that VET graduates were more efficient in utilising the capital at their disposal than non-VET graduates. This efficiency can likely be attributed to the vocational skills and entrepreneurship training integrated into the VET curricula, enabling VET graduates to make better use of the assets they own in generating more revenues and, consequently, realising profits for their businesses.

The findings from this study shed light on the role of vocational education and training in wealth creation and poverty reduction as Tanzania continues to implement its industrialisation agenda. The relatively higher mean net income among VET graduates compared to non-VET graduates indicates the importance of technical skills acquired by VET graduates in transforming various sectors of the economy in rural and urban areas through self-employment. This is attributed to the VET technical training and skills acquired, which enhance better production techniques. According to Cedefop (2011), well-established VET and apprenticeship systems lead to higher returns among VET graduates. Given that the results for selfemployed VET graduates were better than those of non-VET graduates, it implies that the VET systems in the two cities are fairly well-established to warrant higher returns, as informed by Cedefop (2011).

3.3 Net profit variables comparison among VET and non-VET graduates

In order to compare whether the mean net profits differ or not between VET and non-VET graduates, an independent samples t-test was performed. Moreover, for variables that affect net profits, other independent samples t-tests were conducted on means for sales revenue, costs of goods sold, gross profit margin, and business operating expenses to determine any differences in means of those variables between the two groups and the effects of those variables on business net profits for businesses owned by both graduates' categories. As indicated in Table 4, VET graduates reported numerically slightly higher means for net profit margin, gross profit margin, sales revenue, and operating expenses but lower mean for costs of goods sold than non-VET graduates. A confidence test score for the variables was conducted between both groups conducting different types of businesses in Arusha and Dar es Salaam cities. Table 4 presents the results of the independent samples t-test between the two groups.

Variable	Category of graduates	n	Log of mean profitability variable	Log of Standard deviation	Levine'stestt-test for equalityforof meansequalityof		lity		
					variand	ce			
					F	Sig	t	df	sig
Sales	VET	185	6.794	0.375	0.293	0.588	1.67	367	0.096
	Non-VET	184	6.727	0.396					
Cost of goods sold	VET	185	6.386	0.479	0.035	0.851	-0.539	369	0.590
	Non-VET	186	6.412	0.471					
Gross profit	VET	188	6.542	0.349	0.655	0.419	2.888	373	0.004*
	Non-VET	187	6.434	0.373					
Expenses	VET	186	6.055	0.477	1.199	0.274	1.235	370	0.218
	Non-VET	186	5.993	0.499					
Net profit	VET	183	6.275	0.344	2.631	0.106	2.857	369	0.005*
	Non-VET	183	6.169	0.374					
Return on Capital	VET	186	6.285	0.350	0.427	0.514	2.307	370	0.022*
Employed	Non-VET	186	6.129	0.364					

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* Significantly different at the 5% level of significance

Since the distributions of VET and non-VET graduates were positively skewed, a base ten logarithm function was used to transform the variables, as recommended by Field (2018). The resulting distributions were sufficiently normal for the purpose of conducting t-tests, with the skewness and kurtosis falling within the acceptable range (|skew| < 2.0 and |kurtosis| < 9.0) (Schemider et al., 2010). In addition, the assumption of homogeneity of variance was not violated; the Levine's F-test, F (369) = 2.631, p = 0.106, for net earnings and other variables used in the computation of net profit, as indicated in Table 4. This shows that the variances of the two populations were approximately equal, and thus, the standard t-test was appropriate.

The results of the independent samples t-test were associated with a significant effect on net profit margin, t (369) = 2.857, p = 0.005. Thus, VET graduates had higher business earnings (n = 183, M = 6.275, SD = 0.334) in comparison to business earnings observed among non-VET graduates (n = 183, M = 6.169, SD = 0.374) (Table 4). However, Cohen's d was estimated at 0.022, indicating that the group means differed by 0.022 standard deviations, which is considered a small effect size based on Cohen's (1992) guidelines. The independent samples t-test results for variables used in the computation of net profit indicated that there were no significant differences in means for sales revenue, cost of goods sold, and business operating expenses between VET and non-VET graduates, as indicated in Table 4. However, the results of the independent samples t-test on gross profit margin indicated a significant difference, t (373) = 2.888, p = 0.004 (Table 4), which implies that the mean gross profit margin for VET graduates (n = 188, M = 6.542, SD = 0.349) was significantly higher than the mean gross profit margin observed from non-VET graduates (n = 187, M = 6.434, SD = 0.373). The results provide more information that the observed differences in profitability were partly due to higher gross profit margins attained by VET graduates in comparison to gross profit margin attained by non-VET graduates.

Furthermore, the independent samples t-test results on ROCE show a significant difference, t (370) = 2.307, p = 0.022 (Table 4), implying that the mean ROCE for VET graduates (n = 186, M = 6.285, SD = 0.350) was significantly higher than the mean ROCE observed from non-VET graduates (n = 186, M = 6.129, SD = 0.364). Based on these results, there is enough evidence that the mean net profits for VET differed significantly from the mean net profits for non-VET graduates.

3.4 Relationships between competitive strategies and firms' profitability

To test the hypothesis that competitive strategies have no significant influence on firms' profitability between VET and non-VET graduates, a multiple linear regression analysis was employed. Among the independent variables, product pricing was highly correlated with production cost beyond the acceptable correlation of 0.80 (Table 5). Thus, the production variable was removed from the list of variables for

multiple regression analysis. Results in Table 5 show that businesses owned by the graduates had an R = 0.676 (67.6%), an R² = 0.457 (45.7%), an adjusted R² = 0.452 (45.2%), and p = 0.000. The results show that the overall fit of the models was statistically significant (p = 0.000), indicating that the model had enough explanatory power to predict the influence of competitive strategies on profitability performance for businesses owned by VET and non-VET graduates. The coefficient of determination (R² = 0.452) implies that the variables entered into the model accounted for 45.2% of the influence of competitive strategies on firms' profitability.

To examine the hypothesis that competitive strategies exert no significant influence on firms' profitability between VET and non-VET graduates, a multiple linear regression analysis was conducted. Due to high correlation beyond the acceptable threshold of 0.80 (Table 5) between product pricing and production cost, the production variable was excluded from the list of independent variables for the multiple regression analysis. The results presented in Table 5 indicate that businesses owned by the graduates yielded an R of 0.676 (67.6%), an R² of 0.457 (45.7%), an adjusted R² of 0.452 (45.2%), and p = 0.000. These findings demonstrate that the overall fit of the models was statistically significant (p = 0.000), indicating that the model possessed sufficient explanatory power to predict the influence of competitive strategies on the profitability performance of businesses owned by VET and non-VET graduates. The coefficient of determination (R² = 0.452) implies that 45.2% of the variation in firms' profitability can be explained by the variables included in the model.

Independent Variables	Unstandardized Coefficients	Unstandardized Coefficients			Collinearity Statistics		earity ics
VET graduates	β	S. E	β	t	Sig.	VIF	Tolerance
Constant	2.320	0.240		9.669	0.000		
Product price	0.524	0.050	0.579	10.441	0.000	2.008	0.498
Operation costs	0.085	0.040	0.118	2.132	0.034	2.008	0.498
Differentiation	0.077	0.028	0.106	2.714	0.007	1.000	1.000

Dependent variable = firm profit; R = 0.676; adjusted R2 = 0.452; ANOVA: MD = 6.239; F =99.567; p = 0.000

The multiple linear regression results revealed that a combination of both cost-leadership (product pricing and operational costs) and differentiation scale (existing product upgrade, new product offering, improved advertising, innovation marketing, and customer service) strategies significantly and favourably contributed to the profitability performance of firms owned by graduates (p < 0.05). Product competitive pricing exhibited the highest influence on firm profitability performance ($\beta = 0.579$), followed by operational costs ($\beta = 0.118$) and differentiation strategy scale ($\beta = 0.106$). These findings imply that as both categories of graduates increased product price by one unit, business profitability increased by 0.579 units, while a unit increase in brand differentiation scale resulted in a 0.106 unit increase in firm profitability, with the respective other predictor variables held constant. However, a decrease of one unit in operational expenses led to a 0.118 decrease in firm profitability performance. Thus, achieving optimal firm profitability performance necessitates striking a balance between individual strategic practices and the required profitability levels for both graduates' businesses.

In this section the influence of firms' competitive strategies on profitability were examined. Several notable findings provide evidence of the influence of competitive strategies (cost-leadership and brand differentiation) on profitability performance. Both categories of businesses indicated a greater emphasis on cost-leadership strategy by managing product pricing and operational costs to achieve the desired level of profitability. As indicated in the findings presented in Tables 5, product pricing strategy exhibited a strong link with firms' profitability. It is not surprising that graduates strived to use low-cost operational facilities and low-cost labour to reduce operating costs while charging competitive prices to ensure their products were sold to the final consumers. These findings are consistent with the narratives provided by a key informant who was a VET student on practical training at a welding workshop at Chang'ombe in Dar es Salaam City, who pointed out that:

"During my practical training programme at the workshop, despite working from morning to the evening, I am not paid anything by the owner. Rather, it is covered in the VET training fee structure paid by my parents during the whole period of my practical training..." (VET student-Chang'ombe, March, 2018).

Previous studies such as Allen and Helms (2006), Amoako-Gyampah and Acquaah (2008), Li et al. (2009), Granados et al. (2019), Tavalaei and Santalo (2019) and Sandberg et al. (2023) have reported similar findings, indicating that combining cost-leadership and differentiation strategic practices positively influence firms' performance in terms of sales, production, and profitability growth. This combination of strategies is known as the hybrid strategy, an evolving method that integrates cost-leadership and differentiation for improved firm performance that cannot be achieved by using a single strategy alone. This approach allows firms owned by graduates to be more flexible and respond appropriately and timely to ever-changing market conditions, gaining competitive advantage in the marketplace (Almeida et al., 2022; Angeles et al., 2022).

The firm's competitive strategy concerning brand differentiation showed a significant influence on firms' profitability among firms owned by the graduates. The probable reasons for this could be related to the fact that both VET and non-VET graduates consider product differentiation an essential aspect for their products to succeed in the market. Aspects related to upgrading existing product quality, offering new products based on market demand, ensuring product visibility to customers, and providing excellent customer services are among the critical aspects of differentiation strategy that influence firms' profitability. Additionally, obtaining quality certifications from authorities such as the Tanzania Bureau of Standards (TBS) or other available standards is of paramount importance for profitability performance of both graduates. Consistent product quality is expected to make their products more attractive to final consumers and differentiate them better compared to firms without such certifications. This is likely to create brand loyalty among customers and, consequently, repeated purchases, further increasing business profitability performance.

3.5 Theoretical results

As expected from Porter's (1980, 1985) theory of competitive strategy, a strong association existed between competitive strategies and firms' profitability for both categories of graduates' businesses. Both cost-leadership and differentiation strategies influenced profitability for firms owned by both graduates. Among the cost-leadership strategies, product price was observed to have the highest influence on profitability, followed by business operational costs. On the other hand, differentiation strategy had the lowest contribution to profitability, possibly because non-VET graduates lack entrepreneurship training, while VET graduates acquire aspects of differentiation strategies and integrate them into their businesses more effectively compared to non-VET graduates, who have little knowledge in this area.

4. Conclusion and Recommendations

Based on the results of the ratio analysis, it can be concluded that firms owned by VET graduates perform better than firms owned by non-VET graduates in terms of profitability variables, except for operational costs. Therefore, it is recommended that interventions aimed at improving firms' profitability for graduates' businesses should focus more on enhancing the variables that yield maximum profitability for each category of graduates' businesses. Given that the gross profit and net profit of VET graduates are significantly higher than those of non-VET graduates, it is suggested that VET graduates are better able to manage product prices and control production costs compared to non-VET graduates. Therefore, efforts to improve competitive product pricing and cost control among graduates should be strengthened. This can be achieved by conducting basic marketing research in the market to compare prices and costs with those of competitors, in order to strike a balance that leads to optimal profitability.

Furthermore, it can be concluded that both categories of graduates implement both cost-leadership and differentiation strategies to influence their firms' profitability levels. Thus, it is recommended that more efforts should be invested in improving the necessary requirements for setting competitive prices and reducing operational costs across all areas of their business operations. Additionally, both categories of

graduates should focus on managing differentiation strategy variables, such as ensuring better product quality and implementing effective marketing activities, among others. Building appropriate capabilities in these areas should be given priority consideration. Moreover, stakeholders like the Tanzania Bureau of Standards (TBS) should play a role by providing product quality certifications for graduates' products, as this can differentiate them in the market and lead to increased profitability compared to firms without such certifications.

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