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# Under Performance; Why Intrapreneurial Strategies and Operating Environment Matter in Fixing Performance of Public Universities in Kenya

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**Abstract:** *The Kenyan government in 2023 unveiled a new funding model aimed at promoting affordable and equal access to higher education as well as breath life to public universities that would otherwise collapse due to financial challenges. Improvements in performance is seen through intrapreneurial strategies and that is the focus of this study. The unit of analysis was 20 public universities and the unit of observation was 400 participants. A combination of descriptive and explanatory research designs was used. A semi-structured questionnaire was used to collect primary data; which was analysed using descriptive and inferential statistics and content analysis. Multiple regression models were used to test the association between variables. The study found a statistically significant ( $\beta=0.620$ ,  $p=0.000<0.05$ ) and partially moderating influence of operating environment between intrapreneurial strategies and performance of public universities in Kenya. The study concluded that the operating environment moderates the relationship between intrapreneurial strategies and performance of public universities in Kenya. The study recommends that Vice-Chancellors of public universities should adopt innovativeness, pro-activeness, risk-taking and self-renewal intrapreneurial strategies with an awareness of the external and internal operating environment. as they have a significant and positive relationship with performance. The study also recommends that the Ministry of Education, Government of Kenya and relevant policy makers should institute reforms and organise forums that promote intrapreneurship adoption within the public universities to promote overall organisational performance.*



***Keywords: Intrapreneurship, Intrapreneurial Strategy, Organisational Performance, Risk-Taking, Operating Environment, Public University.***

## **1. INTRODUCTION**

The Kenyan government in 2023 unveiled a new funding model which sought to ensure that eligible Kenyan students would be provided with adequate financial support to fund their university education. The model envisaged to breathe life to public universities that would otherwise collapse due to financial challenges (MoE, 2023). This notwithstanding, most public universities performance has been on a downward trajectory; deteriorating quality of education, research and training facilities, declining number of qualified quality academic staff in universities in addition and an upsurge in academic extortion/crime. Various global rankings exhibit this vividly with Kenyan public universities being ranked poorly (World Bank Report, 2022).

Public universities in Kenya are faced with an increasingly dynamic environment (Handoko, Smith & Burvil, 2012), where challenges including, resource constraints, massification of education with an expectation to meet the aspiration of learners and the public, and the development of necessary skills for global markets, are found. Notwithstanding these challenges, public universities are tasked with provision of educational value to the society. This is done with due consideration to external issues in the operating environment such as management of relationships with stakeholders (Klofsten, Urbano & Heaton, 2021).

In this study, the operating environment's factors incorporate dynamism, technological opportunities and organisation growth. Dynamism relates to unpredictable changes caused by community or technical factors. Increased dynamism nurtures intrapreneurial activities' adoption in a bid to counter the changes in the environment. Technological changes affect creativity and innovation in the public university, thus the need for intensive adoption of intrapreneurship (Nagappan et al., 2019). Growth in the public university, such as in new programmes, services and markets require the university to develop inventive thoughts and practices in order to fulfil the demands in the marketplace. Thus, the flexibility and adaptability of a public university to external factors is critical for the success of intrapreneurship (Nagappan et al., 2019).

Operating environment has been used as a moderating variable between intrapreneurship adoption and firm performance. In Indonesia, for instance, a study on public universities by Hidayat, Sabarudin, and Mu'alim (2015), found out that the operational atmosphere had a controlling result on the relationship between company approach and organisational performance. Intrapreneurship provides opportunities that provides solutions to challenges facing organisations. Additionally, the development of novel marketplaces, managerial systems, processes and know-hows for execution of organisational tasks is considered as intrapreneurship (Njiru, 2013). Intrapreneurial strategies ingeniously expose opportunities to create value and bring growth in an organisation (Moghaddas, Tajafari & Nowkarizi, 2020). They are embedded in a managerial attitude through risk-taking, pro-



activeness, innovativeness, and self-renewal (Alpkan, Bulut, Gunday, Ulusoy, & Kilic, 2017; Soetanto & Geenhuizen, 2018; Okangi, 2019). An intrapreneurial public university adopts these highlighted strategies, simultaneously (Okangi, 2019).

To thrive in this dynamic, vigorous environment while observing the revolving needs of customers, the adoption of intrapreneurial strategies by public universities is fundamental (Shisia, Sang, Matoke & Omwario, 2014). Therefore, it is on this backdrop that this study sought to establish the moderating effect of operating environment on the relationship between intrapreneurial strategies and performance of public universities in Kenya.

### **1.1 Problem Statement**

In Kenya, the public university sector faces a myriad of challenges in the operating environment which include: high enrolment, inadequate funding, inadequate teaching and learning resources, acute shortage of professors, graduate unemployment and low research output (Kibirango & Munene, 2016; Mwanthi, 2018; Wakindiki, 2023). There has been a massive expansion in student enrolment against a declining number of professors. As the student enrolment increases with margins of over 31% in Kenya, the number of student to professor ratio has reduced with over 27%. One professor thus teaches averagely 563 students every year as compared to 275 students per professor in South Africa (Kibirango & Munene, 2016; Mwanthi, 2018; Wakindiki, 2023). Additionally, Kelechi and Vera (2020) argue that a decent figure of Kenyan alumnae is not productively employed, with a good number being out of employment. There has been a decline in state funding to public universities over the years. Donors have persistently shunned away from funding Kenyan public universities. These challenges in public universities can be addressed through adoption of intrapreneurship in the form of innovativeness, pro-activeness, risk-taking and self-renewal (Odhiambo, 2018). However, the adoption of these strategies is embedded on the favourability/unfavourability of the operating environment, thus the need for this study.

### **1.2 Research Objectives**

The study was guided by the following objectives: -

1. To examine the effect of innovativeness on performance of public universities in Kenya.
2. To assess the effect of risk-taking on performance of public universities in Kenya.
3. To analyse the effect of pro-activeness on performance of public universities in Kenya.
4. To investigate the effect of self-renewal on performance of public universities in Kenya.
5. To determine the moderating effect of operating environment on the relationship between intrapreneurial strategies and performance of public universities in Kenya.

## **2. RELATED WORKS**

This section presents the theories and empirical literature that guided the study.



## **2.1 Theoretical Review**

The theories utilised in the study were: The Resource Dependency, Opportunity Based Entrepreneurship, and Entrepreneurial Event.

### **2.1.1 Resource-Dependency Theory**

The Resource-Dependence Theory explain how organisations behave. "Behaviour" is used here to refer to a broad range of activities, including both actions and decision-making as well as "non-decision-making" (Baratz-Snowden, 1993); and the outcomes of actions and decision-making, such as organisational structures that support intrapreneurship.

### **2.1.2 Opportunity-based Entrepreneurship Theory**

Postulated by Drucker (1985), this theory advances that intrapreneurs seize the changing opportunities in an environment. The intrapreneur perceives a change in the business and develops a new business (Diandra & Azmy, 2020). Being a vigilant observer of change, the intrapreneur responds to the change and seizes the chances it offers (He, Nazari, Zhang & Cai, 2020).

### **2.1.3 Entrepreneurial Event Theory**

The movement from comfort to the establishment of the business will bring a change in behaviour, which will lead to the uptake or dismissal of the business idea (Shapero & Sokol, 1982). This is the Entrepreneurial Event, where apparent viability, desirability and tendency to act towards an idea, affect the purpose and behaviour of an intrapreneur to start a business (Davids, 2017). Shapero and Sokol (1982), claim that intrapreneurship relies on insights of attractiveness, viability, and the tendency to act upon a business idea. Entrepreneurial Event Theory is therefore, founded on two principles, that is, attractiveness and feasibility of the business idea (Ramayah, Rahman & Taghizadeh, 2019).

## **2.2 Empirical Review**

This segment presents the pragmatic study based on innovation, risk-taking, pro-activeness, self-renewal, organisational support and operational environment.

### **2.2.1 Innovativeness and Performance of Public Universities**

The first objective hypothesis was as follows:

#### **H<sub>01</sub>: Innovativeness Has No Significant Effect on Performance of Public Universities in Kenya**

Innovation, involves development and commercialisation of new ideas into useful products (Ahuja and Lampert, 2016). Innovativeness has proven to be a crucial factor in dealing with challenges facing an organisation. Public universities are required to provide education with commercialisation (Valka, Roseira & Campos, 2020). This balance is established through innovativeness, which in public universities can be adopted through originality, candidness to novel thoughts, and a purpose to revolutionise (Kasim & Noh, 2012).

### **2.2.2 Risk-Taking and Performance of Public Universities**

The second objective was hypothesized as follows: -

#### **H<sub>02</sub>: Risk-Taking Has No Significant Effect on Performance of Public Universities in Kenya.**

Organisations exist in a risky environment where leaders do not punish employees if they tried and failed; rather, after failure, the leadership undertakes a vigorous search for more brave suggestions for the benefit of the organisation (Almasri & Ahmad, 2020). The ability to take risks enables public universities access resources in the marketplace and establish healthy human relationships in organisations (Gibb, 2010).

### **2.2.3 Pro-activeness and Performance of Public Universities**

The third objective of the study was based on the premise;

#### **H<sub>03</sub>: Pro-Activeness Has No Significant Effect on Performance of Public Universities in Kenya.**

Pro-activeness enables public universities become early movers of products and services, thus gaining competitive advantage. Comfort attracts failure while being pro-active translates to gains. It is very important for public universities to shift to more pro-active and continuous engagement with stakeholders so as to achieve a competitive advantage and better performance (Jiménez-Barrionuevo, Molina & García-Morales, 2019).

### **2.2.4 Self-renewal and Performance of Public Universities**

The fourth objective of the study was hypothesised as follows: -

#### **H<sub>04</sub>: Self-Renewal Has No Significant Effect on Performance of Public Universities in Kenya**

Self-renewal is a transformational behaviour that creates flexibility and improve a public university's performance. (Gupta & Acharya, 2017). A study by Kumar and Parveen (2020) on the effect of self-renewal on employee intrapreneurial behaviour in India found out that self-renewal promotes superior organisational performance.

### **2.2.5 Moderating Effect of Operating Environment**

The fifth objective of the study was hypothesised as follows: -

#### **H<sub>05</sub>: Operating Environment Has No Moderating Effect on the Relationship Between Intrapreneurial Strategies and Performance of Public Universities in Kenya**

The operating environment of public universities influences the adoption of the intrapreneurial strategies. Frequent environmental scanning helps public universities to understand the rules and standards, laws, regulations, and policies governing the industry, cost of doing business, consumer demands, access to finances and behaviours of suppliers and employees all exist in this environment (Khan, Cera & Netek, 2019).



The more hostile the operating environment is, the higher the market growth, and the adoption of intrapreneurial concepts within the individual organisations, thus leading to improved performance (Cannavale, Zohoorian, Nadali & Esemio, 2020). Based on the literature, the current study utilised operating environment as the moderating variable with dynamism, technological opportunities and organisational growth as the sub-variables.

### **3. RESEARCH METHODOLOGY**

The study used two research designs - the descriptive and the explanatory. The study unit of analysis were the 36 public universities spread across several counties in Kenya. This necessitated the use of multi-stage random sampling. From the sampling technique, a total of 20 public universities was obtained. From these 20 universities, the Slovin’s formulae helped to acquire the sample size of 400 respondents.

The study utilised primary data collected using a questionnaire. A pilot study was conducted where face and content validity and Cronbach Alpha reliability was checked (Muathe, 2010).

Descriptive statistics in the form of mean scores, standard deviation and percentages were computed. To establish the relationship between intrapreneurial strategies without the moderator, multiple regression was utilised. The equation is given as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \dots \dots \dots \text{Equation 1}$$

Where:

Y = Performance of Public Universities

$\beta_0$  = Constant

$\beta_1$ -  $\beta_4$  = Beta Coefficient

$X_1$ - $X_4$  = Intrapreneurial Strategies variables (Innovativeness, Risk-taking, pro-activeness and Self-Renewal)

$\varepsilon$  = Error Term.

#### **Testing the Moderating Effect**

The test for the moderation was done using equation recommended by Aiken and West (1991).

Hypothesis ( $H_{01}$ ): Operating environment had no moderating effect on the relationship between intrapreneurial strategies and performance of the public universities in Kenya.

The independent variable interacted with the dependent variable using the following model:

$$y = \beta_0 + \beta_1 X_i + \beta_2 OE + \beta_3 X_i OE + \varepsilon \dots \dots \dots \text{Equation 2}$$

Where;

Y = Dependent Variable (Performance of Public Universities)

0 = Constant

1 = Coefficient of compound key of intrapreneurial strategies

2 = Coefficient of operating environment

3 = Composite index of intrapreneurial strategies



OE = Operating Environment

$X_i$  = Composite index of intrapreneurial strategies

The coefficient of 3 was used to show the effect of the moderating variable: Operating environment on the association amongst intrapreneurial strategies and performance of public universities. The study compared the P value of 3 with  $P < 0.05$  to accept or discard the null hypothesis ( $H_{01}$ ): Operating environment had no moderating effect on the relationship between intrapreneurial strategies and performance of the public universities in Kenya. Therefore, equation 2 was used to test  $H_{06}$  if the value for p was above 3 which is above the significance value of 0.05, then the study null hypothesis  $H_{07}$  would be accepted.

#### 4. RESULTS AND DISCUSSION

This section presents a summary of the diagnostic test, regression results and discussions.

##### 4.1 Diagnostic Results

According to Wainana, Bula and Wambua (2022) who also used multiple regression, any regression model must fulfil the conventions of multiple regression. Therefore, several tests were done in the current study in a bid to fulfil this necessary condition: sample adequacy test, confirmatory factor analysis, outliers test, linearity, normality, multi-collinearity and homoscedasticity, for the variables.

Table 1: Diagnostic Tests Results

S.No	Test	Method	Decision criteria	Results	Decision
1.	Sample Adequacy Test	Kaiser-Meyer-Olkin (KMO)	0.5 threshold	All variables surpassed 0.5	Sample adequate
2.	Confirmatory Factor Analysis	Eigen Values and Communalities	Eigen values > 1 Communalities > 0.4	Variables met threshold	No variables were removed. All utilised for the study
3.	Outliers Test	Cook's Distance	0 to 1 with values above 1 considered outliers	< 1 values obtained	No outliers
4.	Linearity Test	Pearson Correlation Coefficient	Values should fall between -1 and 1.	All variables exceeded the 0.05 confidence	Presence of linearity



				e level set.	
5.	Normality Test	Shapiro-Wilk Test	Threshold between 0 to 1 P values greater than 0.05	All conditions met	Data is normally distributed
6.	Multi-collinearity	Variance Inflation Factor	1 to 10	All variables below 10	Absence of Multi-collinearity
7.	Homoscedasticity	Breusch-Pagan test	P values greater than 0.05	Values had p value of 0.50 > 0.05	Absence of heteroscedasticity

Source: Research Data (2023)

## Inferential Statistics

### 4.2 Regression Analysis

This section presents the regression results and discussions.

#### 4.2.1 Model One: Regression Result without the Moderator

The study sought to determine the influence of intrapreneurial strategies on performance of public universities in Kenya. The regression of the compound index of the independent variable measures (innovativeness, risk-taking, pro-activeness and self-renewal) on the performance of public universities in Kenya, was done. The results are presented in Table 2.

Table 2: Intrapreneurial Strategies on Performance of Public Universities

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.758 <sup>a</sup>	.575	.569	.4705050

a. Dependent Variable: Public University Performance

b. Predictors (Constant): composite index of intrapreneurial strategies (innovativeness, risk-taking, pro-activeness, self-renewal)

#### Source: Research Data (2023)

The results in Table 2 show that the adjusted coefficient of determination R square is 0.569, meaning the model explains 56.9% of the variations in performance of public universities. These results are in line with Chamba and Chazireni, (2023), who did a study that examined the influence





of intrapreneurial capabilities (ICs) on organisational performance of State-Owned Enterprises in Zimbabwe. It was concluded that intrapreneurial strategies have a significance and positive influence on performance. Greater agility promoted greater delivery of public value, thus improved service provision, customer satisfaction, social and financial impact.

Wambua and Wairimu, (2023) recognise intrapreneurship as a company’s sustainability approach that promotes creativity and improved performance. They recognise intrapreneurs as secret weapons in any business. Indeed, valuable human capital enhances performance in the midst of crises. They emphasize that intrapreneurship motivates firms to be innovative, pro-active, risk-taking and renewing themselves in a bid to improve performance.

Table 3: ANOVA RESULTS

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	85.402	4	21.351	96.445	.000 <sup>b</sup>
Residual	63.092	285	.221		
Total	148.494	289			

a. Dependent Variable: Public University Performance

b. Predictors: (Constant): Innovativeness, Risk-taking, Pro-activeness, Self-renewal

**Source: Research Data (2023)**

The ANOVA results in Table 3 are significant (F=96.445, sig <.05). Intrapreneurial strategies have a statistically noteworthy relationship with performance of Kenyan public universities.

The coefficient results for intrapreneurial strategies on performance of public universities are shown in Table 4.

Table 4: Coefficients<sup>a</sup> for intrapreneurial strategies on performance of public universities

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.741	.193		3.844	.000
	Innovativeness	.146	.059	.144	2.493	.013
	Risk-taking	.065	.067	.048	.971	.032
	Pro-activeness	.163	.071	.162	2.293	.023
	Self-renewal	.446	.066	.480	6.801	.000



a. Dependent Variable: Public University Performance
Source: Research Data (2023)

The study variables were predicted as shown in equation 3.1

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon \dots \dots \dots \text{Equation 3.1}$$

Where;

Y = University Performance composite index

X1 = Innovativeness

X2 = Pro-activeness

X3 = Self-renewal

X4 = Risk-taking

B<sub>0</sub> = Constant or intercept

β<sub>i</sub> = Beta Coefficient for relevant variables

E = Error Term (residual or disturbance factor or values not captured in within the regression model)

The prediction model for the study variables is as shown in equation 3.2

$$y = 0.741 + 0.146 X_1 + 0.065 X_2 + 0.163 X_3 + 0.446 X_4 \dots \dots \dots \text{Equation 3.2}$$

The findings indicate a constant term of 0.741, implying that holding all other variables at a constant (0), improvement in public university performance would be at 0.741. The 0.259 deficit can be attributed to other factors not taken into account by this study.

The first objective of the study was to establish the influence of innovativeness on the performance of public universities in Kenya.

**H<sub>01</sub>: Innovativeness Has No Significant Effect on Performance of Public Universities in Kenya.**

The regression coefficient for innovativeness is (β=0.146, p=0.013<.05), indicating that an increase in the innovativeness variable by one unit results to an increase in public university performance by 0.146. Kadarusman and Rosyafah, (2022) identify innovativeness as a culture that supports experimentation, new ideas, products, technologies and the tendency of a particular organisation to introduce new processes into their activities and help achieve a greater competitive advantage in the marketplace.

The second objective of the study hypothesis was as follows:

**H<sub>02</sub>: Risk-Taking Has No Significant Effect on Performance of Public Universities in Kenya.**

The coefficient of regression for risk-taking is (β=0.065, p 0.032<.05), which illustrates that an increase in a single unit in risk-taking variable results to an increase in performance of public



universities by 0.146. Therefore, risk-taking was statistically acceptable in predicting the performance of public universities in Kenya.

Ajamobe, (2021) highlights that with the looming burden of unemployment of graduates in the world, there is a need to adopt risk-taking in universities so as to expose students to more real life issues. He further notes that the establishment of new ventures calls for a greater amount of risk-taking. Most organisations around the world have collapsed due to their risk averseness nature of their management. Organisations should take risks in a bid to improve their performance (Wimmer & Kestra, 2020). Gomez-Mejia, Neacsu and Martin, (2019) recognise that risk-taking is key in most businesses as it attracts better returns. They did a study that established a significant positive relationship between risk taking and wealth creation.

The third objective of the study hypothesis was as follows:

**H<sub>03</sub>: Pro-activeness has no significant effect on performance of public universities in Kenya.**

The regression coefficient for pro-activeness is ( $\beta=0.163$ ,  $p=0.023<.05$ ) indicating a unit change in pro-activeness, while holding all other independent variables constant, results in an increase in performance of public university by 0.163. Therefore, pro-activeness was statistically acceptable in predicting the performance of Kenyan public universities. This is in the same school of thought as Huang, Huang and Soetanto (2023), who did a configurational study on 110 UK SMEs, and established a positive significant association amid pro-activeness and performance of SMEs.

The fourth objective of the study hypothesis was as follows:

**H<sub>04</sub>: Self-Renewal Has No Significant Effect on Performance of Public Universities in Kenya**

The coefficient for self-renewal is ( $\beta=0.446$ ,  $p=0.000<.05$ ), indicating that a unit change in self-renewal, results to a change in public university performance by 0.446. Therefore, self-renewal was statistically acceptable in predicting the performance of public universities in Kenya. This is supported by a study by Aina and Solikin, (2020), who recognise self-renewal as business and corporate revitalisation, aimed at improving firm performance. Organisational renewal is a critical concept that enhances the performance of the organisation.

Consequently, intrapreneurial strategies had a prediction model as shown in Equation 4:

$$y = 0.741 + 0.146 X_1 + 0.065 X_2 + 0.163 X_3 + 0.446 X_4 \dots\dots\dots \text{Equation 4}$$

The findings indicate a constant term of 0.741, implying that holding all other variables at a constant (0), improvement in public university performance would be at 0.741. The 0.259 deficit can be attributed to other factors not taken into account by this study.

**4.2.2. Testing the Moderating Effect of Operating Environment on Performance of Public Universities in Kenya.**

The following hypothesis was tested:

H<sub>06</sub>: Operating environment has no moderating effect on the relationship between intrapreneurial strategies and performance of public universities in Kenya.



This hypothesis was tested using two regressions shown as follows:

Table 4: Model Summary for Moderation Variable

Model	Unstandardized coefficients		Standardized coefficients	T	Sig.
	B	Standard Error			
Constant	3.523	0.364		97.512	0.025**
1 Intrapreneurial strategies	0.632	0.074	0.625	23.84	0.000**
Constant	0.521	0.100			
2 Intrapreneurial strategies	0.943	0.087	0.923	0.521	0.000**
Operating environment	-1.37	0.821	-1.20	18.72	0.000**
Intrapreneurial strategies* Operating environment	0.760	0.643	0.754	14.26	0.002**

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	3.657	2	3.657	27.64	0.000b
Residual	23.375	296	0.157		
Total	27.032	298			
2 Regression	5.285	3	2.365	14.263	0.000c
Residual	21.747	295	0.138		
Total	27.032	298			

R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Standard Error of the Estimate	Change					
				R2 Change	F change	df 1	df 2	Sig. F Change	Durbin Watson
0.475	.531	.517	.4394	0.024	22.763	1	291	0.000	
.625	.734	.694	.0253	0.040	11.342	1	290	0.002	2.243
<b>Keys.</b> ** significant at 5 percent and *** significant at 1 percent									
<b>Predictor variable (constant):</b> intrapreneurial Strategies, Operating environment, Intrapreneurial strategies*, Operating environment									



**Dependent variable:** performance of public universities

**Source: Research Data (2023)**

In the first model, intrapreneurial strategies were regressed on performance of public universities in Kenya and a statistically significant association was revealed at  $\beta_1=0.475$ ,  $t=3.944$ ,  $p=0.000$ .

$$\text{Public University Performance} = 0.741 + 4.745 \text{ Intrapreneurial Strategies} \dots \text{Equation 5}$$

In the second model, intrapreneurial strategies, operating environment and an interaction term comprising of the composite of dimensions of intrapreneurial strategies and operating environments were regressed on performance of public universities.

According to Table 4, an  $R^2$  of 0.625 is revealed; thus intrapreneurial strategies, and operating environment account for 62.5% of deviations in performance of public universities in Kenya. The obtained probability is = 0.000, which is lower as compared to the 0.05 threshold, concluding that the model is statistically significant at 95% confidence level.

$$\text{Public University Performance} = 0.521 + 0.943 \text{ Intrapreneurial Strategies} - 1.37 \text{ Operating Environment} + 0.760 \text{ Intrapreneurial strategies}^* \text{, Operating environment} \dots \text{Equation 6}$$

Additionally, intrapreneurial strategies is significant at  $\beta=0.943$ ;  $t = 3.293$ ;  $p = 0.000$ ; therefore, at 95% confidence level, intrapreneurial strategies have a positive outcome on performance of public universities. Further, it is evident that operating environment is significant with the environment at  $\beta= -1.37$ ;  $t = -7.53$ ;  $p = 0.000$ , and also the interaction term is statistically significant at  $\beta=0.760$ ;  $t = 14.26$ ;  $p = 0.000$ . At 95% confidence level, operating environment moderates the association amid intrapreneurial strategies and performance of public universities.

Osiyevskyy, Shirokova and Ritala, (2020) recognise the operating environment as an input that improves firm performance. Intrapreneurship exist in an environment and more so in the particular organisations. Through increased intrapreneurial activity, opportunities should be actively sought in the operating environment, and optimally exploited (Kraus, Breier, Jones and Hughes, (2019). In the public university sector, Ajamobe, (2021) further insists that there is need to consider the operating environment. The true, tested and accepted is replaced with the unknown and a focus is made on the risky and seemingly less successful ventures in such an environment (Galbreath, Lucianetti, Thomas & Tisch, 2019). The transformation of organisations in a highly embattled environment, according to Kraus et al., (2019), through self-renewal, helps organisations face pressures from market changes.

According to the results depicted in Table 4, operating environment significantly effects the adoption of intrapreneurial strategies and subsequently improves the public university's performance. Mwongela and Wairimu, (2023) emphasise that in the constantly changing business



environment, organisations seek opportunities that stimulate growth and competitive advantage. This calls for the adoption of intrapreneurial strategies to penetrate new markets.

## **5. CONCLUSION**

The study concluded that operating environment partially moderates the relationship between intrapreneurial strategies and performance of public universities in Kenya.

### **5.1 Policy Implications**

The Vice-Chancellors of public universities should create novel uses for existing resources to ultimately improve performance. The Vice-Chancellors should be cognizant of the dynamics within their operating environment before designing any academic programme to ensure employability of the graduates from the prospective programme(s).

The Commission for University Education (CUE), should establish policies that create a favourable atmosphere to adopt intrapreneurship. The review of accredited university programmes by CUE should be done continuously to ensure quality.

Other similar institutions should be aware of the environment in which they operate in and take appropriate action. The Ministry of Education should provide oversight and reassurance to the industry players to ensure a conducive operating environment for improved performance.

### **5.2 Limitations and Future Research**

Kenyan Public universities are few, and quite knowledgeable of each other. This made the respondents reluctant to provide information. Additionally, there exist a vast number of parameters for public university performance and the current study focused on a few.

The study utilised three entrepreneurship theories that is opportunity-based entrepreneurship, Resource Dependency and Entrepreneurial Event theories. Future research can consider other theories in the area of entrepreneurship. The current study utilised a positivism philosophy and multiple linear regression models to test the relationship between variables. Future research can incorporate other research philosophies and methodologies to test the relationship between variables.

The results indicated that the variables used in this study to explain the influence on performance explained only 57.5% of the variations. 42.5% of the variations can be elucidated by other aspects not used in the study. Future research can fill this gap by investigating other intrapreneurial strategies, performance factors and moderators.



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