

# Strategic Capabilities and Organizational Performance of Seed Companies in Trans Nzoia County, Kenya

\*<sup>1</sup>Edna Wakesho Wekesa, <sup>2</sup> Dr. Eunice Wandiga & <sup>3</sup>Muhungura Mbiyu

<sup>1</sup>Masters student, Department of Business, St. Paul's University, Kenya

<sup>2</sup>Lecturer, Department of Business, St. Paul's University, Kenya

<sup>3</sup>Lecturer, Department of Business, St. Paul's University, Kenya

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## Abstract

Seed companies play an important role in ensuring food security and economic development of a country. However, these companies face challenges which have affected their overall organizational performance. These challenges include declining agricultural land, low production and productivity, poor marketing, market uncertainties, inadequate demand-driven research, financial instability, stiff competition and counterfeit seed, among others. The study sought to investigate the effect of strategic capabilities on organizational performance of Seed Companies in Trans Nzoia County, Kenya. Specifically, the study sought to determine the effect of marketing capabilities, technological capabilities, operational capabilities and management capabilities on organizational performance of seed companies. The study adopted resource-based view theory, dynamic capabilities theory and the balanced scorecard model. Descriptive and explanatory research designs were employed to establish and explain the relationship between variables. The study used a census with a target population of 120 staff from the six seed companies in Trans Nzoia County. A Self-administered close ended questionnaire was used to collect primary data. Validity and reliability of the questionnaire was conducted during pilot testing. Validity was tested using content and face validity while reliability was tested using Cronbach's alpha at a threshold of 0.70. Data was analysed using descriptive and inferential statistics analysis. The study concluded that marketing capabilities, technological capabilities and operational capabilities have a significant positive effect on organizational performance of seed companies in Trans Nzoia County while management capabilities have no significant effect on organizational performance of seed companies in Trans Nzoia County.

**Keywords:** *Management capabilities, Marketing capabilities, Operational capabilities, Organizational performance, Technological capabilities.*

## 1.1 Introduction

Seed companies play an important role in ensuring food security and economic development of a country. However, these companies face challenges which have affected their overall organizational performance. Most seed companies face financial stability challenges which impede growth and production capacities (Kavilu, 2021). Globalization has resulted in stiff competition of the available markets which exposes majority of the seed companies to performance challenges (Mwei & Otinga, 2020). In addition, an inadequate supply of high-quality seed to farmers is another challenge which causes decreasing customer satisfaction. This is as a result of failure by seed companies to invest in Research and development (R&D) projects such as genetic improvement leading to production of seed which might not sufficiently survive harsh weather, harsh climatic conditions or pest and disease infestation (Kavilu, 2021).

Despite the important role seed companies play in the agriculture industry, their competitiveness and thus performance has been a challenge. The effort by firms to undertake strategic actions that allow for the sustainable competitive advantage (SCA) against rivals in the same industry is facing a major challenge in the modern, evolving business environment (Islami et al., 2020). Firms are searching for more creative ways, including harnessing strategic capabilities, to set themselves apart from competitors, hence gaining the SCA (Hieu, 2020). Strategic capability is an accumulated and complex set of knowledge and skills that enables a firm to take strategic actions that bring sustained economic competitive advantage (Runtu & Ellitan, 2021).

Strategic capabilities comprise a firm's strengths and weaknesses, hence serve as a source of competitive advantage or disadvantage for a firm (Okwemba, 2019). These capabilities are connected to the strategy and vision of an organization, thus indicating how well an organization handles its business environment and sets itself apart. According to Walters and Helman (2020), focusing on strategic capabilities not only enables an organization to bridge the gap between planned strategies and actual results but also to improve its competitive advantage by harnessing its strategic capabilities. In addition, strategic capabilities give the organisation a new set of choices through opportunity sensing and reconfiguration, which may improve firm performance. Similarly, Chepkole and Deya (2020) argued that focusing on strategic capabilities can serve as a remedy for the performance of firms.

According to Heredia (2022), dimensions of strategic capabilities that have statistical impact on organizational performance include; marketing capabilities, technological capabilities, operational capabilities and management capabilities. Marketing capabilities refer *to the combination of skills, knowledge, processes, tools, ways of working, and practices that a marketing team needs to deliver effective marketing and drive overall business performance in a digital age* ((Kamboj & Rahman, 2021). Huang et al. (2022) defined technological capabilities as the ability to make effective use of technological knowledge in production, engineering, and innovation in order to sustain competitiveness in price and quality. Rabadán et al. (2020) viewed operational capabilities as an integration of a composite set of tasks executed by a firm aiming at enhancing its output level through application of the most efficient and effective production capabilities, material flow and technology. Halaskova (2020) defined management capabilities as the management capacities, expertise, and processes in the custody of firms that are drawn to execute programs and activities to achieve superior performance.

## **1.2 Objectives**

- i. To determine the effect of marketing capabilities on organizational performance of seed companies in Trans Nzoia County, Kenya.
- ii. To assess the effect of technological capabilities on organizational performance of seed companies in Trans Nzoia County, Kenya.
- iii. To evaluate the effect of operational capabilities on organizational performance of seed companies in Trans Nzoia County, Kenya.
- iv. To examine the effect of management capabilities on organizational performance of seed companies in Trans Nzoia County, Kenya.

## **1.3 Research Questions**

- i. What is the effect of marketing capabilities on organizational performance of seed companies in Trans Nzoia County, Kenya?
- ii. What is the effect of technological capabilities on organizational performance of seed companies in Trans Nzoia County, Kenya?
- iii. What is the effect of operational capabilities on organizational performance of seed companies in Trans Nzoia County, Kenya?
- iv. What is the effect management capabilities have on organizational performance of seed companies in Trans Nzoia County, Kenya?

## **2.1 Literature Review**

### **2.2 Theoretical Review**

#### **2.2.1 Resource-Based View Theory**

The Resource-Based View (RBV) theory was proposed by Penrose in 1959. Penrose proposed this theory on the effective management of firms' resources, diversification strategy, and productive opportunities. The theory assumes that firms have a diverse nature of resources and various degrees of capabilities, depending on the firm's structure, size, experience, and strategy (Thirathon & Meeprom, 2020). It suggests that organizations should look inside the company to find the sources of competitive advantage instead of looking at the competitive environment (Mwangi & Kariuki, 2023). RBV contends that internal resources are more important for a firm than external resources in achieving and sustaining competitive advantage (Masinde et al., 2023). Firm capabilities in technology, management, and operational capability may serve as the capabilities that can be used to achieve competitive advantage and improve the organizational performance of seed companies.

#### **2.2.2 Dynamic Capability Theory**

Teece, Pisano and Shuen advanced this theory in the year 1997. Teece et al. (1997) defined dynamic capabilities as the firm's ability to integrate, build, and reconfigure internal and external

competencies to address rapidly changing environments. The argument was that in the ever-changing environment, firms cannot survive on the same resources. The theory considered dynamic capabilities as a source of competitive advantage (Laaksonen & Peltoniemi, 2018). Dynamic Capabilities theory emphasizes the need for companies to direct and focus their investment on developing a stock of internal resources such as systems, assets, processes, knowledge, and technology that position them ahead of competition, resulting in lower production costs or a superior level of quality in their products, consequently boosting their performance. It is significant in this study as it underpins the different types of capabilities, such as market capabilities, technological capabilities, operational capabilities, and management capabilities (Laaksonen & Peltoniemi, 2018).

### **2.2.3 The Balanced Scorecard Model**

The Balanced Scorecard (BSC) was proposed by Kaplan and Norton in the year 1992. BSC is a performance measurement tool that converts strategy to performance measures aligned to the strategy (Gomes et al., 2021). This model offers a view to organization's overall performance by integrating mixed measures of performance indicators. The model is particularly based on a matrix of measurement indicators derived from four pillars of performance measures, including financial, customer, learning and growth, and internal processes (Elkanayati & Shamah, 2019). The study finds the model appropriate in anchoring organizational performance.

## **2.3 Empirical Review**

### **2.3.1 Marketing Capabilities and Organizational Performance**

Asihkia et al. (2020) evaluated the functional relationship between marketing capability and the firm performance of selected firms in the Fast-Moving Consumer Goods (FMCGs) category in Lagos State, Nigeria. In methodology, a sectional survey design was adopted and data collected using structured questionnaires. Using Krejcie and Morgan sample size, 365 respondents were sampled and multiple regression analysis used to test the mediation hypotheses. Findings suggested that through the development of new products and innovative management processes, marketing capability benefits firms' performance. Nigeria has significantly different operational characteristics from Kenya, and the findings cannot be generalized to the Kenyan context.

A study by Cheruiyot (2023) established the effect of marketing capabilities on the organization performance of telecommunication firms in Nairobi County, Kenya. The study adopted a descriptive correlational research design. Using random sampling method, 103 participants drawn from all the telecommunication firms were selected. Structured questionnaires were utilized in collecting primary research data while in analysis both descriptive and inferential analysis were applied. Findings indicated that strategic capabilities have a positive and significant effect on organization performance. The study was in the context of telecommunication organizations and the findings may not be applicable to seed companies.

### **2.3.2 Technological Capabilities and Organizational Performance**

Tang et al. (2020) study focused on the impact of innovation culture, organization size and technological capability on the performance of SMEs in China. In methodology, a cross-sectional survey research design was used. Data from all the 1124 firms in both manufacturing and service industries was used. Regression analysis was used to test hypotheses. Findings of the study indicated that technological capability has a positive relation to firm performance. This study was

conducted in China and therefore its findings may not be applicable in Kenya. The current study was based in Trans Nzoia County, Kenya.

Mwangi and Kiiru (2021) examined the influence of technological capability on performance of pharmaceutical companies in Nairobi City County, Kenya. In methodology, descriptive research design was adopted. Using questionnaires, data was collected from 179 participants sampled from 27 companies using stratified sampling method. Correlation and regression methods were used to establish the relationship between variables. Findings showed a positive and significant influence of technological capability on organizational performance of pharmaceutical companies. The study focus was on pharmaceutical companies' performance and the findings may not be applicable on seed companies.

### **2.3.3 Operational Capabilities and Organizational Performance**

Thirathon and Meeprom (2020) carried out a study on the impact of diversification strategies and operational capabilities on financial performance in Thai professional service firms. Data from the firms' financial statements and data stream was used. Partial Least Squares (PLS) regression method used in examination and analysis of the relationship between the variables. Results showed a significant negative impact between operational capabilities and firms' financial performance. The study relied on secondary data and was done in the service industry in Thailand while the current study used primary data and was on seed companies in Kenya. Further, the study utilized PLS analysis in data analysis, while the current study utilized regression model in analysing data.

Mwangi and Kariuki (2023) sought to establish how operational adjustment capability affect performance of selected media firms in Kenya. The study employed a descriptive research design and involved 490 employees occupying different positions in the selected media firms. Questionnaires were used in data collection and data analysis done using both descriptive statistics and inferential statistics. Results showed that operational capability should be enhanced for firms to experience a positive and significant effect of performance. The study focused on media firms which put constraints on the generalizability of the results to other firms including seed companies.

### **2.3.4 Management Capabilities and Organizational Performance**

Ibrahim (2022) looked at the impact of leadership on organizational performance of Coca-Cola Company in Abuja, the Federal Capital City, Nigeria. The study relied on secondary data obtained through books, journals, the internet and empirical works of other scholars. The study adopted descriptive analysis and Pearson product-moment correlation. The findings showed that the achievement of organizational goals and objectives solely depends on the leadership style adopted by an organization. The study used secondary data, which may be outdated. Pearson's moment correlation analysis used assumes that there is always a linear relationship between the variables, but that is not the case at all times. Additionally, the study was conducted in Nigeria and therefore its findings may not be applicable in Kenya.

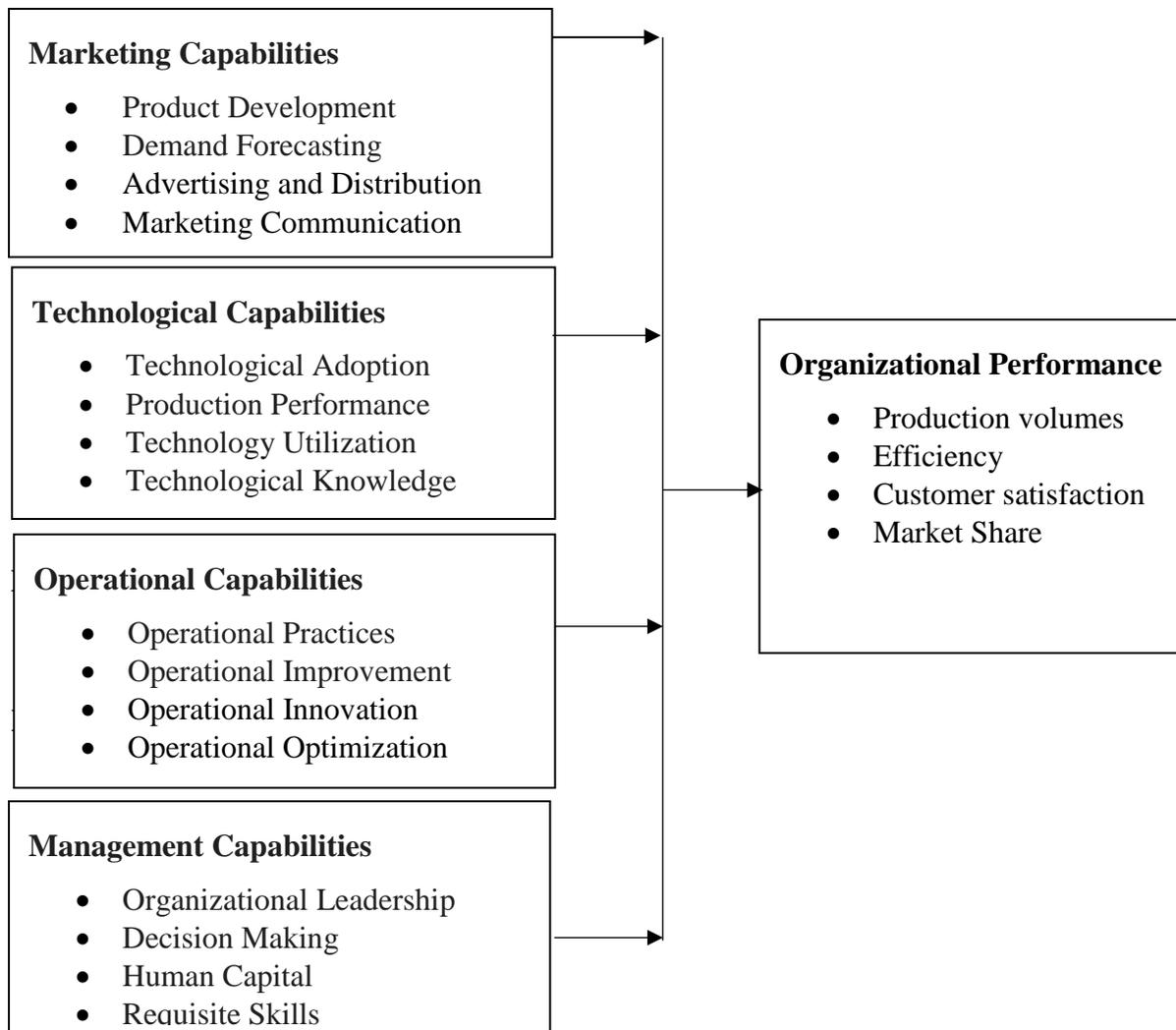
Nyukuri and Makokha (2022) focused on how leadership capability influences the performance of the County Government of Kakamega. In methodology, a descriptive research design was adopted, leveraging on structured questionnaire and other important information related to the study. Pearson correlation was used to test the relationship between variables, and multiple linear regression adopted in determining statistical relationship between dependent and independent variables. Findings showed a positive correlation between leadership and performance. The sample size was small making it not possible to generalize the findings. The study was based on County

government and the findings may not be applicable in the agriculture sector. In addition, the use of secondary data is subject to bias for the reason that the data may have been tailored to serve only the purpose for which it was collected and not collected for research purposes.

## 2.4 Conceptual Framework

### Independent Variables

#### Strategic Capabilities



## 3.1 Research Methodology

Descriptive and explanatory research design were employed to establish and explain the relationship between variables. The research used census with a target population of 120 participants drawn from the departments of Marketing, Finance and Operations in the six seed companies in Trans Nzoia County. Primary data was collected using a self-administered close ended questionnaire. The questionnaire had two parts. Part one collected data on the demographic

information of the respondents while part two collected data on descriptive statistics regarding the study variables. A pilot test was conducted at Kenya Highland Seed Company Limited which is located in Uasin Gishu County to ensure validity and reliability of the questionnaire. Validity was tested using content and face validity while reliability was tested using Cronbach's alpha at a threshold of 0.70. Data was analysed using descriptive and inferential statistics analysis and results presented in the form of tables and percentages. Correlation analysis was used to test the strength of the association between independent variables and dependent variable while regression was used to test the effect of independent variables on dependent variable. The following multiple linear regression model was used to test the effect of strategic capabilities on performance of seed companies in Trans Nzoia County, Kenya.

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Where:

Y = Organizational Performance

$\beta_1 \beta_2 \beta_3 \beta_4$  = Regression Coefficients

$\beta_0$  = Constant

$X_1$  = Marketing Capabilities

$X_2$  = Technological Capabilities

$X_3$  = Operational Capabilities

$X_4$  = Management Capabilities

$\varepsilon$  = error term.

#### 4.1 Results and Discussion

The target population for the study was 120 participants. A total of 97 questionnaires were fully completed and returned, while 23 questionnaires were not returned. A response rate of 81% was achieved. Information that was sought for this study encompassed, gender, level of education, age, years of service and lastly the department attached in the seed companies. The results showed that male respondents made up the majority of respondents (65%) while women made up 35%. Majority of the staff, comprising 51% of the total respondents possess undergraduate certificate which means half of the staff were undergraduates. The proportion of master students among the total respondents was 34%, whereas individuals with a PhD level of education accounted for 10% of the total number of the respondents. Individuals possessing a diploma constituted the smallest proportion, comprising 5% of the total respondents. The findings established that 95% of the respondents had undergraduate degree. This implies that the respondents had necessary knowledge to provide credible information on the study variables.

Majority of the respondents (42%) were of ages between 36 – 45 years, 35% between 26 – 35 years, 13% above 56 years while 7% and 3% were below 25 years and between 46 – 55 years respectively. In terms of work experience, 8% of the respondents have below 5 years, 15% between 5 – 10 years, 33% have between 11 – 15 years while 31% and 13% have between 12 – 20 years and above 20 years work experience respectively. Operations department from the 6 seed companies had the majority employees with a representation of 48%. This was followed by the finance department which had 29% representation. Lastly, the marketing department had the least employees with a representation of 23%.

## 4.2 Descriptive Analysis

**Table 1: Descriptive Analysis**

Variable	Aggregate Mean	Standard Deviation
Marketing capabilities	3.9298	0.8345
Technological capabilities	3.90104	0.9161
Operational capabilities	4.0497	0.7075
Management capabilities	3.5232	0.8900
Performance	2.7690	1.1686

The aggregate mean score for marketing capabilities was 3.9298 with a standard deviation of 0.8345. The results show that the respondents agree that marketing capabilities are a key component in the performance of seed companies, and the variations in their responses were low. Aggregate mean for technological capabilities was 3.90104 and a standard deviation of 0.9161. The mean corresponds to agree and standard deviation indicates low variation in responses. The aggregate mean of 4.04972 and 0.7075 for mean and standard deviation respectively clearly indicates that the respondents strongly agreed with the statements relating to operational capabilities and that the variation in responses were minimal. With aggregate mean of 3.5232 and a standard deviation of 0.8900, the results indicated that the respondents agreed with low variation in their responses to statements relating to management capabilities. The aggregate mean score for the performance of seed companies in Trans Nzoia County in Kenya was 2.6014 and the standard deviation of 1.1686 indicating that the respondents disagreed with the statements on performance of seed companies with high variations in their responses.

The study findings are in concurrence with the findings of Cheruiyot (2023), who established that marketing capabilities have a significant effect on performance, Tang et al. (2020), who indicated that technological capability has a positive effect on firm performance, Mwangi and Kariuki (2023), who revealed that operational adjustment capability positively affects performance, and Nnabuife and Mvena (2023), who found that managerial capabilities has a significant effect on performance.

### 4.3 Inferential Analysis Results

#### Correlation Analysis

The study employed Pearson Correlation to test the association between the variables.

**Table 2: Correlation Analysis**

		MC	TC	OC	MGT C	OP
MC	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	97				
TC	Pearson Correlation	.039	1			
	Sig. (2-tailed)	.701				
	N	97	97			
OC	Pearson Correlation	.249*	.124	1		
	Sig. (2-tailed)	.114	.225			
	N	97	97	97		
MGT C	Pearson Correlation	.408**	.000	.833**	1	
	Sig. (2-tailed)	.700	1.000	.600		
	N	97	97	97	97	
OP	Pearson Correlation	.689**	.708**	.601**	.636**	1
	Sig. (2-tailed)	.000	.002	.000	.000	
	N	97	97	97	97	97

**Source: Study Data (2025)**

The results of correlation analysis presented in Table 15 indicate marketing capabilities (MC) and performance had a pearson correlation of 0.689 ( $r = 0.689$ ,  $p = 0.000$ ), Technological capabilities (TC) and performance 0.708 ( $r = 0.708$ ,  $p = 0.000$ ), operational capabilities (OC) and performance 0.601 ( $r = 0.601$ ,  $p = 0.000$ ), and Management capabilities (MGTC) and performance 0.636 ( $r = 0.636$ ,  $sig = 0.000$ ). Since  $p$ -value  $< 0.05$  for all the independent variables, the findings imply that there was a significant correlation between organizational performance and the independent variables.

#### Regression Analysis

Multiple linear regression was fitted to test whether strategic capabilities (Marketing Capabilities, Technological Capabilities, Operational Capabilities, and Management Capabilities) significantly predicted performance of seed companies.

**Table 3: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.856 <sup>a</sup>	0.733	0.721	9.86591

a. Predictors: (Constant), Marketing Capabilities, Technological Capabilities, Operational Capabilities and Management Capabilities.

**Source: Study Data (2025)**

Adjusted R-squared of 0.721 indicate that 72.1% changes in performance of seed companies in Trans Nzoia County Kenya were explained by variation in marketing capabilities, technological capabilities, operational capabilities and management capabilities. The change of the seed companies' performance by 27.9% was explained by other factors not included in the model. The results indicate that strategic capabilities affect organizational performance.

**Table 4: ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24549.252	4	6137.313	63.053	.000 <sup>b</sup>
	Residual	8954.934	92	97.336		
	Total	33504.186	96			

a. Dependent Variable: Organizational Performance

b. Predictors: (Constant), Marketing Capabilities, Technological Capabilities, Operational Capabilities, Management Capabilities.

**Source: Study Data (2025)**

The results show F-statistic =63.053, p-value =0.000<0.05. These results established that marketing capabilities, technological capabilities, operational capabilities, management capabilities significantly explained performance of seed companies in Trans Nzoia County since the model was statistically significant at 5 percent level of significance and could be adopted to predict the effect of strategic capabilities on organizational performance.

**Table 5: Regression Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	19.987	9.029		2.214	.029
Marketing Capabilities	1.078	.121	.536	8.895	.000
Technological Capabilities	.732	.162	.250	4.508	.000
Operational Capabilities	1.302	.453	.292	2.872	.005
Management Capabilities	.587	.363	.173	1.617	.109

a. Dependent Variable: Organizational Performance

#### Source: Study Data (2025)

The optimal model therefore became;  $OP = 19.987 + 1.078MC + 0.732TC + 1.302OC + 0.587 + \varepsilon$ .

The results show that the coefficient for marketing capabilities was  $\beta=1.078$ ,  $p=0.000 < 0.05$ , technological capabilities  $\beta=0.732$ ,  $p=0.000 < 0.05$  and operational capabilities was  $\beta=1.302$ ,  $p=0.000 < 0.05$  showing a significant positive effect on organizational performance. The coefficient for management capabilities was  $\beta=0.587$ , and  $p=0.109 > 0.05$  significance level showing a positive but non-significant effect.

The results show that; for every unit change in marketing capabilities, result to 1.078 units change in performance of seed companies, a unit change in technological capabilities results in 0.732 units change in performance of seed companies, a unit change in operational capabilities results to 1.302 units change in performance of seed companies in Trans Nzoia County, Kenya. These findings are consistent with the findings of Ogolla and Kisingu (2023) who found that there was a positive relationship between marketing capability and the performance of the manufacturing firms, Mwangi and Kiiru (2021) who found a positive and significant influence of technological capability on the performance of pharmaceutical companies and Domenek et al. (2022) study which revealed a positive relationship between operational capabilities and organizational performance in supply chains.

#### 5.0 Conclusion

The study concluded that marketing capabilities had a positive and significant effect on the performance of seed companies in Trans Nzoia County. In an organizational set up, marketing is considered important with a focus on marketing activities. There might be an opportunity to strengthen long-term strategic marketing planning and resource allocation for effective marketing activities in the seed companies.

Based on the findings on technological capabilities and organizational performance of seed companies in Trans Nzoia County, the study concluded that technological capabilities had a positive and a significant effect on the performance of seed companies in Trans Nzoia County. The firm's technological capabilities can be evaluated in terms of its capacity to recognize its technological needs, choose the technology that will best meet those needs, operate, maintain,

modify, and advance the technology that was chosen, and foster technical learning. These could be transferred through education, staff swaps, or supplier managerial and technical assistance.

The study concluded that operational capabilities had a positive and significant effect on the performance of seed companies in Trans Nzoia County. Operational efficiency and customer focus are considered strengths in an organization. Companies give priority to planning, process management and customer feedback as they seek to enhance their operations.

From the study findings, the study concluded that management capabilities had a positive but non-significant effect on the performance of seed companies in Trans Nzoia County. The study established that effective managers recognize that establishing trust in teamwork is a crucial aspect of their role, as it pertains to gaining the confidence and reliance of their subordinates, peers, superiors, clientele, and other relevant stakeholders. Furthermore, they acknowledge the significance of establishing organizational structures and communication and implementing procedures that foster trust across all hierarchical levels within the firm.

## **6.0 Recommendations**

The study recommends that the marketing personnel of the seed companies in Trans Nzoia County adjust their brands position in the market to stand out from the competition and stay abreast of customer demands and requirements in order to increase performance. In order to extend their market base and their ability to offer more products to the market, there is a need to pursue new consumer categories and serve each category of students independently. In order to improve knowledge, the study recommends that the departments of technology and R&D of seed companies in Trans Nzoia County to concentrate more on technology advancement in the key areas of operation, such as R&D. The key focus should be to offer quality seeds at the right time using the lowest cost in the market. The senior management in those seed companies allocated adequate resources (financial and human resource) for technological advancements especially in diversification initiatives.

On operational capability, there is a need for the top management of the seed companies to continuously seek opportunities to optimize operational processes to further reduce delays, improve efficiency and enhance productivity. The organization need to optimize and integrate modern technological advancements in its operations to automate tasks, improve data accuracy and enhance decision-making. The study finally recommends the need for the senior management to implement strategies that will lead to increment in employee involvement in decision making in the seed companies. This could include suggestion programs, or cross functional teams. The seed companies also need to invest in management and leadership capabilities to enhance management and leadership skills at all levels in those companies.

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