

Moderating Effect of Institutional Pressures on the Relation between Entrepreneurial Orientation and Sustainability Performance of Youth Entreprises in Kenya

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Abstract

Youth business initiatives are important contributors to social and economic growth, particularly in developing countries like Kenya. However, their performance in sustainability is subject to both internal strategic orientations and external institutional contexts. This research analyses the impact of entrepreneurial orientation on the sustainability performance of youth enterprises in Taita Taveta, Kenya, while assessing the moderating effect of institutional pressures, particularly the coercive, normative, and mimetic roles. Given the Triple Bottom Line (TBL) model of performance sustainability, whilst the entrepreneurial orientation is assessed in the scope of the sustainable performance of youth enterprises in Taita Taveta, Kenya, concerning the aspects of innovation, proactiveness and risk, autonomy and competitive aggressiveness, the performance is conceived social, economic and environmentally. On the other hand, institutional pressures are considered external factors that may either enhance or limit the influence of entrepreneurial orientation on sustainability performance. This study is based on the positivist philosophy with a deductive reasoning, explanatory research design, and quantitative methodology. The study aims to capture the cause-and-effect relationships. The focus was on the population of 524 youth members from 262 registered youth enterprise groups that fall under the Youth Enterprise Development Fund. Using Yamane's formula, a sample of 356 was decided, and 303 questionnaires were valid. That gives an 85% response rate. The data was collected using structured, closed-end questionnaires and was analyzed using descriptive and inferential statistics, correlations, multiple regressions, and the PROCESS macro for moderation analysis. There is a strong positive impact of entrepreneurial orientation on sustainability performance. The direct impact of the institutional pressures is positive.

From the moderation analysis, it was noted that institutional pressures lower the positive impact of EO on sustainability performance. Theoretically, the paper shows that the sustainability performance of youth enterprises is influenced by the internal entrepreneurial orientation and external institutional contexts, expanding the TBL framework to developing countries. Practically, it proposes that youth enterprise managers and policymakers can improve sustainability performances by managing regulatory requirements and entrepreneurial activities. This framework provides guidance for enterprises to improve the disposal of resources to achieve sustainable development even within the limitations of institutional frameworks, thereby aligning with socio-economic development and the UN SDGs.

Keywords

Entrepreneurial Orientation, Institutional Pressures, Sustainability Performance

1. Introduction

The global business landscape has increasingly emphasized sustainability as a core indicator of firm success, moving beyond traditional economic performance metrics to incorporate social and environmental outcomes. Sustainability performance (SP) reflects an organization's ability to balance economic growth with social responsibility and environmental stewardship, aligning corporate activities with the expectations of multiple stakeholders (Lozano, 2023; Aguinis & Glavas, 2019). Elkington's (1998) Triple Bottom Line framework integrating economic, social, and environmental dimensions remains foundational in guiding firms to pursue holistic performance outcomes rather than profit alone (Dyllick & Muff, 2016; Stubbs, 2017). Measuring SP is inherently complex because it involves assessing the combined impact of resource utilization, environmental management, social contribution, and economic viability (Garcia-Torres et al., 2024). Recent literature emphasizes that sustainability outcomes are influenced not only by firm-level strategies but also by the broader socio-institutional environment in which enterprises operate (López et al., 2022).

In developing countries, youth-owned businesses are becoming more appreciated for their advancing sustainability performance, and positive contribution to economic development and social employment and environmental responsibility (Hassan et al., 2023; Njuguna et al., 2023). The case studies from Türkiye and Southeast Asia demonstrated that, among youth ventures, SP is based on proper human, structural, and technological and entrepreneurial social innovation and responsible socio-economic practices (Arslan et al., 2021). In the same way, youth enterprises based in Africa are also experiencing systemic challenges such as inadequate financing, insufficient skills, and lack of a viable institutional framework, which is a loss to achieving positive economic, social, and environmental impacts

sustainability (Mutisya & Yarime, 2014; Maphosa, 2022). Due to these challenges, governments and development organizations have started to implement youth-oriented programs to improve SP, such as program financial support, skills development, and market access, though the impacts of these SP-enhancing programs are context dependent (Chirisa et al., 2019; Klettner et al., 2014).

Sustainability performance is heavily dependent on entrepreneurial orientation (EO). Entrepreneurial orientation (EO) is characterized by the ability of a firm to balance the strategic competition of pursuing innovations, acting quickly to changes provoked by the market, taking calculated risks, acting with autonomy, and being aggressively competitive. This strategic balance allows the firm to capture market potential while achieving sustainability goals (Rauch et al., 2009). Firms with a strong EO are also likely to embrace sustainability and socially responsible production, inclusive labor practices, and innovative socially responsible practices (Alonso-Almeida et al., 2021). For youth-owned businesses, EO enables the young entrepreneurs to overcome the challenges of resource availability, meet the demands of the environment and society, and attain sustainable performance (SP) that is economically, socially, and environmentally viable.

The interpretation of EO concerning institutional pressures impacts the translation of EO into sustainability performance. Institutional theory describes the environment within which organizations operate that consists of the dominant social beliefs, rules, and cultural settings that prescribe and describe behavior and the consequences of that behavior (Scott, 2014; Zhu et al., 2024). For example, from the perspective of Li & Ding (2013), the combination of coercive (e.g., governmental regulations), normative (e.g., professional and social expectations), and mimetic (i.e., benchmarking and imitation) pressures shapes the entrepreneurial SP (sustainable performance) strategy. Farashah (2013) and Alinda et al. (2024) argue that the EO (entrepreneurial orientation) and SP (sustainable performance) of youth enterprises can be positively influenced by robust institutional structures, resource availability, and supporting policies, while weak regulatory and inconsistent policies are likely to negatively impact sustainable performance.

Although there has been increasing interest in the intersection of sustainability and entrepreneurship, very few studies analyze how different forms of institutional pressure may potentially explain the relationship between entrepreneurial orientation (EO) and sustainability performance, especially in African contexts. Most studies that currently exist focus on either developing countries or on EO in isolation, often overlooking the influence of institutional structures on the sustainability performance (SP) of young enterprises (Ogunleye et al., 2025; Ssegawa & Shem, 2024). In Taita Taveta County, Kenya, young people's businesses serve an important role in fostering economic growth, social inclusion, and the preservation of the environment, thereby contributing to the United Nations Sustainable Development Goals (SDGs) 1 (No Poverty), 8 (Decent Work and Economic Growth), and 13 (Climate Action) (United Nations, 2020; World Bank, 2023). Therefore, an analysis of how institutional pressures affect the efficiency of EO in

boosting SP is absolutely necessary for developing strategies and actions for policymakers that will guide young entrepreneurs towards sustainability.

In this regard, the current study proposes a theoretical framework for the analysis of the relationship between entrepreneurial orientation and sustainability performance and the moderating role of institutional pressures. In attempting to understand the influence of institutional contexts on the capacity of youth enterprises to realize their economic, social and environmental goals, this study aims to support both the theory and practice of sustainable entrepreneurship in developing countries.

2. Theoretical and Conceptual Foundations

2.1. Triple Bottom Line (TBL) Theory

Triple Bottom Line (TBL) theory, suggested by John Elkington in the 1990s, has received a number of refinements to SP as suggested by practitioners and scholars Elkington 2021. The TBL theory allows SP to maintain an economic focus, while adding a social dimension and an ecological dimension as further constructs. TBL advocates that a successful firm must reach a balance of economic success, social success and ecological success (Lozano 2023; Aguinis & Glavass, 2019). Advocating success across all three dimensions of TBL is emerging as the main consensus as to the meaning of long-term sustainability of firms (Dyllick & Muff 2016; Garcia-Torres et al., 2024).

Under TBL, economic sustainability is defined as an organization's ability to create lasting financial value and positively impact an organization's ability to positively impact economies. This means that an organization should focus on profitability & economic growth as this supports long-term resilience, equitable wealth creation, and shared value for stakeholders (Porter & Kramer, 2011). TBL firms differ from other firms that prioritize short-term financial returns; they are innovators in the use of all types of resources and sustainable supply chains that create the greatest and most sustainable economic impact (Lozano, 2023; Muff et al., 2021). Social sustainability focuses on ethical practices, community involvement, treated well employees, and justice. The companies engaged in this pillar of sustainability focus on labor rights, equity and inclusion, participation of all stakeholders, and value to society (Klettner et al., 2014). The indicators of social sustainability are employees' contentment, the community initiatives the support, the stakeholders in equity treatment, and they improve cohesion and the legitimacy in the market (United Nations Global Compact, 2020; Simiyu et al., 2023).

The environmental component of the TBL aims to minimize the negative impact on the ecosystem. It includes, inter alia, the reduction of carbon footprint, waste management, conservation of natural resources, and the use of renewables or cleaner technologies (Helfat & Peteraf, 2003; Garcia-Torres et al., 2024). Environmental sustainability also encompasses the reporting and accountability mechanisms through sustainability disclosures and external audits on the environmental performance (GRI, 2021; Klettner et al., 2014). The adoption of eco-

efficient practices in the way of doing business enables companies to reduce the exposure to risk and the increase of their reputation while contributing to the sustainability of the world, particularly the United Nations Sustainable Development Goals (SDGs) (United Nations, 2020). Importantly, the TBL theory suggests that sustainability performance is not additive, but rather, interactive, meaning that if one pillar is progressed strategically, it can reinforce the performance of the other pillars (Dyllick & Muff, 2016). Similarly, the interaction can also be applied to the overarching goals of sustainable development as a field, wherein economic success, social equity, and environmental protection synergistically strengthen one another (Aguinis & Glavas, 2019).

The purpose of this study is to illustrate how the TBL framework can be used to develop a conceptual model of sustainability performance as a multidimensional construct influenced by firm specific strategic entrepreneurial orientations (EO) such as innovation, risk, and environmental proactivity, as well as the external environment in which the firm operates (Rauch et al., 2009; Sánchez-García et al., 2022). From the TBL viewpoint, EO is positively linked to sustainability performance when a firm maintains equilibrium among economic, environmental, and social performance goals. However, this equilibrium is largely informed by the institutional context, such as the legal, social, and economic environment, as well as the “sustainability” expectations of the various stakeholders which can promote or hinder sustainable development (Zhu et al., 2024; Alinda et al., 2024). Therefore, the TBL focuses on the conceptualization, and measurement, of sustainability performance which in emerging economies like Kenya, underserves, or overlooks the role of external contextual factors that influence how entrepreneurial initiatives shape or influence balanced sustainability goals and objectives.

2.2. Empirical Review

The Moderating Effect of Institutional Pressures

One example is the study conducted by Zhang et al. (2023), regarding the Institutional Pressures, Green Innovation, and Sustainable Performance: Examining the Mediated Moderation Role of Entrepreneurial Orientation. The authors conducted the survey of 483 listed companies in China to determine the effect of Institutional Pressures on Green Innovation and Sustainable Performance focusing specifically on the Entrepreneurial Orientation of the companies. The study revealed that the Institutional Pressures had a positive effect on the Green Innovation, while the Entrepreneurial Orientation, did in fact, mediate this relationship. However, the study shows that the Entrepreneurial Orientation had a negative moderating effect on the Green Innovation and Sustainable Performance, in a way that, within the companies that embedded a sub-standard Green Innovation, the Entrepreneurial Orientation was believed to worsen the Sustainable Performance as a result of the risk-taking.

Another study is by Li et al. (2023) in China on Institutional Pressures and Proactive Environmental Strategy: The Mediating Effect of Upper Managerial Envi-

ronmental Attitude and the Moderating Effect of New Media Pressure. The authors focused on 345 top managers of Chinese companies and used the survey method to explain the effect of Institutional Pressures on Proactive Environmental Strategies, considering the mediation of Upper Managerial Environmental Attitude and the moderation of New Media Pressure. The study demonstrated that Upper Managerial Environmental Attitude serves as a mediator between Institutional Pressures and Proactive Environmental Strategies. The relationship between firm managers' perceptions of environmental strategies and competitor and customer pressure is also influenced by the new media pressure, which acts as an intensifier in this case.

Jiao, Yang, and Cui (2022) conducted a study in China, entitled Institutional Pressure and Open Innovation: The Moderating Effect of Digital Knowledge and Experience-Based Knowledge. This study used a sample size of 2126 from the World Bank Enterprise Survey. The study applied multivariate regression analyses to determine how institutional pressure affects open innovation while digital and experience-based knowledge acted as moderating variables. The institutional pressure affects open innovation positively. However, in this study, digital knowledge was found to have a negative impact, whereas experience-based knowledge had a positive impact, especially concerning the coercive pressure towards open innovation.

Salim et al. (2023) conducted a study in Kenya on Effects of Institutional Pressures, Organizational Resources, and Capabilities on Environmental Management Accounting for Sustainability Competitive Advantage. 1162 employees from Kenyan manufacturing SMEs were surveyed on how institutional pressure affects the adoption of Environmental Management Accounting (EMA) while also assessing the moderating impact of environmental innovation capacity. The study found that, in this case, both coercive and normative pressures were found to have strong positive effects. Moreover, the study showed that the environmental innovation capacity positively moderates the impact of institutional pressure in this case on EMA adoption, leading to sustainable competitive advantage.

Li, Wang, Jiang, and Jia (2023) conducted a study in China on Institutional Pressures and Firms' Environmental Management Behavior: The Moderating Role of Slack Resources.

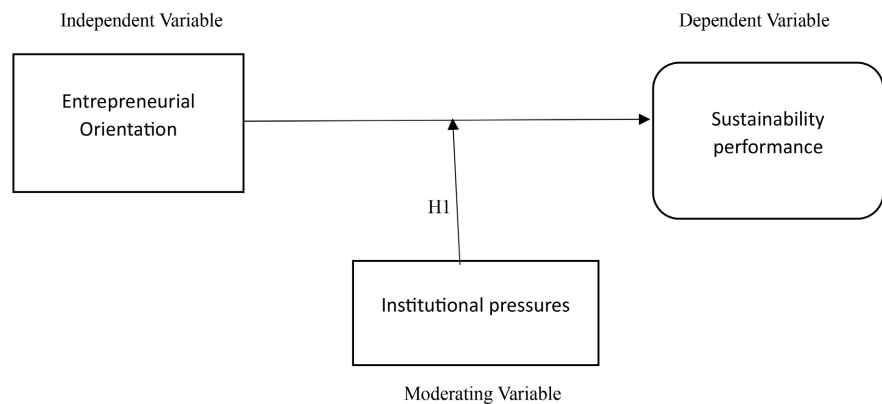
The purpose of this study was to determine the effects of institutional pressure on the environmental practices of the firms, factoring in slack resources as a moderating variable. This was conducted by analyzing data of 193 publicly listed firms from 2014 to 2018 in heavily polluting industries in China. Findings indicate that of the various forms of institutional pressure, coercive is the most significant in driving substantive forms of environmental management, whilst mimetic pressure drives only symbolic environmental management. Furthermore, slack resources positively moderate the relation institutional pressures and both forms of environmental management practices.

H1: Institutional pressures moderate the entrepreneurial orientation-sustaina-

bility performance link.

2.3. Conceptual Framework

This will show the relationship between the study variables:



3. Research Methodology

3.1. Research Philosophy and Approach

Research centered on the positivist philosophy of research. This means that there is a reality, to which the observer is independent, and this reality can be measured objectively. Knowledge is acquired through organized and systematic observation, measurement, and empirical verification. The researcher adopts a stance of neutrality, in an effort to minimize bias. Sustainability performance of youth enterprises was considered a measurable phenomenon and validated tools were used. The researcher reviewed existing theories, formulated hypotheses, and statistically analyzed the relationships of the variables. The reliance on closed-ended questions and the use of structured data led to the objective of this research being to sustain the reliability and wider applicability of the results among the youth enterprises in Taita Taveta County (Aguinis & Glavas, 2019; Stieglitz et al., 2018).

In accordance with positivism, a quantitative research method using deductive reasoning was applied. This meant going from the development of the theoretical framework to the formulation of hypotheses and then to empirical verification. For measuring entrepreneurial orientation, institutional pressures, and sustainability performance, numerical data was collected through structured questionnaires that used items from previous research. The relationships among the variables and the moderating role of institutional pressures on the relationship between entrepreneurial orientation and sustainability performance were assessed statistically (Zhang et al., 2023; Li et al., 2023; Salim et al., 2023). Such an approach provided objectivity, accuracy, and replicability, allowing the results to confirm or contradict the hypothesized relationships and to shed light on evidence-based determinants of sustainability performance among enterprises led by young people (Rauch et al., 2009; Sánchez-García et al., 2022).

3.2. Research Design and Target Population

An explanatory research design which is cross-sectional in nature was adopted to study the effect of entrepreneurial orientation on sustainability performance with institutional pressures as a moderating variable. This design is suitable to help establish the cause-and-effect relationship of the predictor and outcome variables (Turner, Balmer, & Coverdale, 2013). The data was collected at one point in time, enabling the measurement of both the predictor and the outcome variables (Cooper & Schindler, 2014). The use of structured questionnaires, in this case, simplified the data collection and hypothesis testing processes, and on top of that, provided representation, time, and cost-effectiveness to the target population.

The target population included all the government-supported youth enterprises registered under the Youth Enterprise Development Fund in Taita Taveta County which constituted the unit of analysis. By April 2019, a total of 262 youth enterprise groups were registered. In each group, two members were selected to provide individual-level responses, thus determining the population at 524 youths. Time and budgetary constraints were considered in determining the sample size, utilizing Yamane's (1967) formula. Given a population (N) of 524, the sample size was 356 respondents at a 3% margin of error ($e = 0.03$). This margin of error provided a good balance between the optimum precision and the constraints of the study, typical of the standards of social science research (Aguinis & Glavas, 2019).

Standardized questionnaires were used to obtain primary data regarding the study constructs. The use of systematic questionnaires is an appropriate approach given the need to collect data from sufficiently large numbers and the need for a data structure that permits a broad range of statistical analyses (Sheard, 2018; Stieglitz et al., 2018). The structure of the questionnaire contains a section for demographic questions and a number of items that were designed to capture the central variables. The closed questions were designed to collect data on a 5-point Likert scale from Strongly Disagree to Strongly Agree. To enhance the response rate and the cut-off data, the data collection was carried out by drop and pick and supplemented by face-to-face interactions.

3.3. Research Instrument and Measurement of Variables

Klettner et al. (2014) define sustainability performance using the Triple Bottom Line framework. This framework includes the: 1) economic; 2) social; and 3) environmental dimensions. This study adopted the index measure of sustainability performance; social, economic and environmental measures. Simiyu et al. (2023) alongside the United Nations Global Compact (2020), define economic sustainability as financial viability and growth; social sustainability as community and employee engagement and social responsibility; and environmental sustainability as resource conservation and environmental protection. Entrepreneurial orientation takes an enterprise's strategic bounce and behavioral posture and is measured through innovativeness, proactiveness, risk-taking, and competitive aggressive-

ness (Rauch et al., 2009; Sánchez-García et al., 2022). Zhang et al. (2023), Li & Ding (2013), and Salim et al. (2023) show that institutional pressures can be seen as external, including coercive, normative, and mimetic pressures that help determine the strength and/or direction of the relationship between entrepreneurial orientation and sustainability performance. All the 3 measures of institutional pressures were used in this study.

3.4. Data Analysis and Processing

Data preparation included an initial assessment of the potential impact of outliers, and variable recoding along with data cleansing to avoid issues related to inaccuracies (Stieglitz et al., 2018; Sheard, 2018). Responses that were deemed incomplete or inaccurate were removed. Frequency distributions and scatterplots were used to identify univariate outliers, and multivariate outliers were assessed using Mahalanobis Distance (D^2) to ensure that the data set did not contain biased data (Kwak & Kim, 2017). Data analysis was performed using the SPSS (Statistical Package for the Social Sciences) 23, with the Stepwise method. Analysis included the use of univariate and multivariate statistics; univariate analysis included means, frequencies, percentages and standard deviations; multivariate analysis included multiple regression and the PROCESS macro to assess the moderating role of institutional pressures (Zhang et al., 2023; Li et al., 2023). The results of the data set were presented using tables and graphs, which enhanced the comprehension and clarity of the evidence-based conclusions.

4. Results and Discussions

4.1. Response Rate

The study received 306 completed surveys from a sample of 356 youth enterprises in Taita Taveta County as indicated in **Table 1**. Of these, 303 responses met the inclusion criteria, resulting in a response rate of approximately 85%, which is considered robust and above the average typically observed in entrepreneurial research (Anseel et al., 2010). This high response rate provided sufficient data to reliably examine the relationships between entrepreneurial orientation, institutional pressures, and the sustainability performance of youth enterprises in the county (Roberts et al., 2020).

Table 1. Response rate of youth entrepreneurs in Taita Taveta.

Distributed Questionnaires	Received Questionnaire	Usable Questionnaires	Response Rate
356	306	303	85%

Source: Primary data (2026).

4.2. Descriptive Statistics of the Variables

Statistical descriptions of the variables of the study: sustainability performance,

entrepreneurial orientation and institutional pressures, show the spread of the data and the center of the data for the surveyed youth enterprises in Taita Taveta County as illustrated in **Table 2**. Sustainability performance registered a minimum of 3.48 and a maximum of 4.65, a mean of 3.96 and a standard deviation of 0.18. This means that youth enterprises reported moderately high sustainability practices in terms of the economic, social and environmental dimensions. With a low standard deviation, the responses are more of a consensus. This means that participants thought similarly about the sustainability performance. The entrepreneurial orientation, which included innovativeness, proactiveness, risk-taking, autonomy and competitive aggressiveness, had means of 4.12 and a standard deviation of 0.18, which means that the entrepreneurial orientation was highest among the youth enterprises and that the low standard deviation meant that the most enterprises displayed almost similar entrepreneurial orientation. The institutional pressures that encompass legal, normative, and mimetic influences on the behavior of enterprises ranged between 3.33 and 5.00 and had a mean of 4.17 and a standard deviation of 0.31. This shows that young enterprises have experienced moderately high institutional pressures, although with more variance than the other factors, showing differences in the impact of the regulatory, social, and relational pressures. Overall, the data shows generally high entrepreneurial orientation and sustainability performance, in part influenced by high institutional pressures.

Table 2. Summary of descriptive of research instruments.

	Min	Max	Mean Statistic	SD Statistic
Sustainability performance	3.48	4.65	3.9554	0.18145
Entrepreneurial Orientation	3.63	4.68	4.1245	0.18453
Institutional pressures	3.33	5.00	4.1738	0.31378

4.3. Validity and Reliability of the Study Instruments

4.3.1. Reliability of the Study Instruments

Jackson (2015) notes that reliability in statistical research is used to evaluate the internal consistency or stability of an instrument when measuring specific constructs. Similarly, *Mohajan (2017)* defines reliability as the extent to which research results are consistent over time and accurately represent the broader population. Reliability coefficients are calculated to assess the internal consistency of scale items and determine whether they meet acceptable statistical standards. As shown in **Table 3**, all coefficients fell within the generally accepted threshold of 0.7 recommended by *Hair et al. (2010)*, indicating that the research instruments were reliable for use in this study. Specifically, the reliability for sustainability performance was 0.897, entrepreneurial orientation had a reliability of 0.705, and institutional pressures demonstrated a reliability of 0.702.

Table 3. Reliability of the research instruments.

	Cronbach's Alpha	N of Items
Firm Sustainability Performance	0.897	23
Entrepreneurial Orientation	0.705	19
Institutional Pressures	0.702	6

Source: Researcher, 2026.

4.3.2. Validity of Research Instruments

Factor analysis was employed to assess the suitability of the dataset for examining the study's constructs. As depicted in **Table 4**, for sustainability performance, the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy was 0.684, indicating that the sample was adequate for factor extraction and that the items were appropriate for evaluating construct validity. Entrepreneurial orientation had a KMO value of 0.682, suggesting that the sample was sufficiently adequate for factor analysis and that the items reliably represented the construct. Institutional pressures had a KMO value of 0.701, indicating that the construct was appropriate for analysis and that the data were suitable for factor extraction with high relevance. Overall, most variables had KMO values above the 0.6 threshold, confirming that the sample provided a sound basis for factor analysis and that the collected data from youth enterprises were adequate for measuring the study constructs. These assessments ensured that subsequent statistical analyses were performed on valid and reliable sample items, supporting the robustness of the study's findings regarding entrepreneurial orientation, institutional pressures, and sustainability performance.

Table 4. Factor analysis for entrepreneurial orientation.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	0.682
Approx. Chi-Square	185.943
Bartlett's Test of Sphericity	Df
	171
	Sig.
	0.026

Constructs	Communalities	chi	df	alpha	item
		185.943	171	0.705	19
My firm supports the efforts of individuals and/or teams that work autonomously.	0.063				
In my firm, the best results occur when individuals and/or teams decide for themselves what business opportunities to pursue.	0.173				
In my firm, individuals and/or teams pursuing business opportunities make decisions on their own without constantly referring to their supervisors.	0.998				

Continued

In my firm, employee initiatives and input play a major role in identifying and selecting the entrepreneurial opportunities.	0.701
My firm supports the efforts of individuals and/or teams that work autonomously.	0.873
In my firm, changes in product or service lines have been mostly of being quite dramatic.	0.946
In my firm, there is a long-term commitment to invest in new technology, R & D, and continuous improvement.	0.881
My firm actively introduces improvements and innovations.	0.093
My firm is creative in its methods of operation.	0.078
My firm seeks out new ways to do things.	0.051
My firm typically initiating action which the competition then responds to.	0.766
My firm is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.	0.818
My firm is close monitoring of technological trends and identifying future needs of customers.	0.032
My firm excel at identifying opportunities.	0.883
My firm invests in high-risk projects (with chances of very high return).	0.529
My firm adopts a bold, wide-ranging acts necessary to achieve the firm's objectives.	0.083
My firm commits a large portion of its resources in order to grow.	0.841
My firm invests in major projects through heavy borrowing.	0.857
In my firm, people in our business are encouraged to take calculated risks with new ideas.	0.461

Source: Research data, 2025.

Factor analysis was conducted for of the youth enterprises and institutional pressures and the results demonstrate that the dataset is highly suitable for factor extraction, as indicated in **Table 5** by the Kaiser-Meyer-Olkin (KMO) Measure of

Sampling Adequacy, which is 0.701. This value is well above the acceptable threshold of 0.6, suggesting that the sample is excellent for factor analysis. Most of the communalities are above 0.05 explaining better sustainability performance and hence suitable items for construct validity. Additionally, Bartlett's Test of Sphericity yields a highly significant result ($\chi^2 = 37.249$, $df = 28$, $p = 0.013$) and the p value meets the threshold that is below 0.05, confirming that the correlation matrix is not an identity matrix and that factor analysis is appropriate.

Table 5. Factor analysis for institutional pressures.

KMO and Bartlett's Test					
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.701			
Approx. Chi-Square		120.279			
Bartlett's Test of Sphericity	Df	10			
	Sig.	0.016			
Factor Analysis for institutional pressures					
Constructs	Communalities	chi	df	Alpha	Item
		120.279	10	702	6
To work with our major suppliers, we must use certain operating practices mandated by them	0.999				
Our major external customers frequently make requests for us to adopt certain practices or initiatives in our purchasing procedures	1.000				
Our company's major customers will withhold their contracts if our firm does not meet their requests to adopt certain practices or initiatives in our purchasing procedures	0.998				
There are a large number of regulations and restrictions imposed on my company's industry that also impact our purchasing procedures	0.999				
Government regulation impacts our purchasing decision-making	0.029				
There are frequent government inspections or audits on our company's purchasing practices to ensure we comply with laws and regulations	0.879				

Source: Research data, 2025.

4.4. Regression Assumptions

4.4.1. Test for Normality

For the study to make valid inferences from model estimation, the residuals of the regression should follow a normal distribution. To reliably derive conclusions from the model estimate, the regression's residuals must have a normal distribution. The study used a histogram depicted in **Figure 1** to test for normality, the histogram showed a bell-shaped curve symmetry suggesting that the data was perfectly normal (Ghasemi & Zahediasl, 2012).

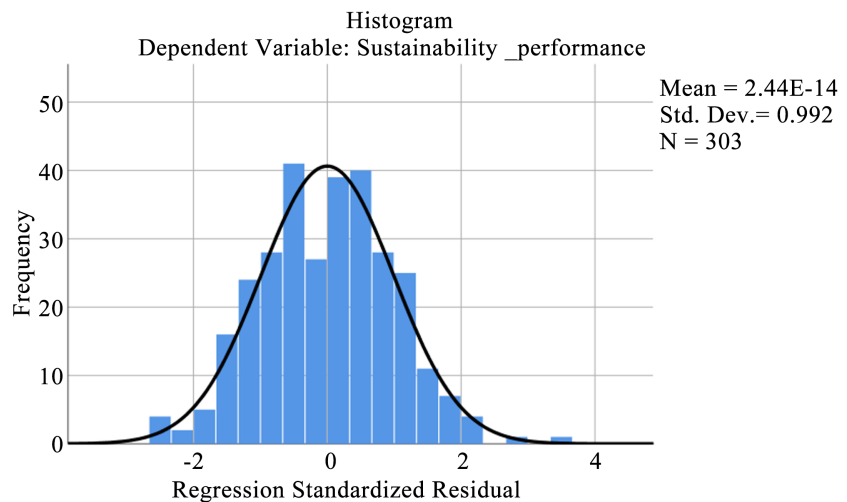


Figure 1. Histogram indicating normality of data.

4.4.2. Test for Multicollinearity

Multicollinearity is an excessive degree of inter-correlation between the independent variables, making it impossible to distinguish between the independent outcomes (Garson, 2012). This is essentially the presumption that the study predictors do not have a very high degree of correlation. Regression results for collinearity diagnostics were used to examine tolerance and VIF. According to Hair et al. (2010), a VIF value above 10 or a tolerance value below 0.1 is generally considered indicative of serious multicollinearity.

From **Table 6**, the tolerance was substantially greater than 0.10 and VIF values were below 10, thus, it is acceptable. In line with suggestion of Hair et al. (2010), these results show that multicollinearity does not exist in this study.

Table 6. Multicollinearity results.

Model	Collinearity Statistics	
	Tolerance	VIF
Constants		
EO	0.186	5.363
IP	0.744	1.344

Source: Researcher, 2026.

4.4.3. Test for Autocorrelation

This was tested using Durbin-Watson in which the value approximately equal to 2 or greater than 2 indicates no autocorrelation in the residuals, which is the ideal scenario in linear regression analysis as shown in **Table 7**.

Table 7. Autocorrelation results.

Durbin-Watson	2.113
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Source: Researcher, 2026.

4.5. Correlation Analysis

Correlation analysis was conducted to examine both the direction and strength of the linear relationships among the study variables using the Pearson correlation coefficient (Schober, Boer, & Schwarte, 2018). As noted by Gogtay and Thatte (2017), correlation measures the degree and intensity of association between two or more quantitative variables, as well as the direction of the relationship. The correlation coefficient ranges from -1 to $+1$, indicating negative or positive associations. In this study, Pearson correlation was employed to assess the relationships among the key variables. **Table 8** indicates a strong positive and statistically significant correlation between sustainability performance and entrepreneurial orientation ($\rho = 0.815$, $p = 0.000$). Sustainability performance also showed a significant positive correlation with institutional pressures, with a coefficient of $\rho = 0.554$ ($p = 0.000$). These results suggest that higher entrepreneurial orientation and stronger institutional pressures are associated with better sustainability performance among youth enterprises in Taita Taveta County.

Table 8. Pearson correlation coefficients.

		SP	EO	SA	IP
SP	Pearson Correlation	1			
	Sig. (2-tailed)				
EO	Pearson Correlation	0.815**	1		
	Sig. (2-tailed)	0.000			
IP	Pearson Correlation	0.554**	0.494**	0.406**	1
	Sig. (2-tailed)	0.000	0.000	0.000	

Source: Research data, 2026. **There is a strong correlation.

4.6. Hypothesis Testing

Hypothesis H_1 states that institutional pressures moderate the Entrepreneurial Orientation - Sustainable performance link. The moderated regression shows an excellent model fit ($R = 0.9093$, $R^2 = 0.8268$, $F(5,297) = 283.50$, $p < 0.001$), meaning the predictors explain 82.68% of sustainability performance variance. Entrepreneurial orientation (EO) has a positive main effect ($B = 0.1086$, $p < 0.001$) and

institutional pressures (IP) also positively predict sustainability performance ($B = 0.0067$, $p < 0.001$). The $EO \times IP$ interaction is negative and significant ($B = -0.0002$, $p = 0.0009$; $\Delta R^2 = 0.0066$), indicating that as IP increases, the positive effect of EO on sustainability performance diminishes (but remains significant at all tested IP levels). Specifically, EO's conditional effect declines from $B = 0.0587$ at low IP to 0.0503 at median IP and 0.0383 at high IP, all $p < 0.001$. Practically, EO contributes most to sustainability when institutional pressures are lower; at higher institutional pressure levels, marginal gains from additional EO narrow, suggesting partial substitutability or diminishing returns between EO and IP in driving sustainability outcomes. Covariates EA ($p = 0.884$) is non-significant, while ES shows a small positive effect ($B = 0.0022$, $p = 0.023$) (Table 9).

Table 9. Hayes model 1 moderation analysis results.

Model Information						
Model	1					
Y	SP					
X	EO					
W	IP					
Sample Size	303					
Model Summary						
R	R-sq	MSE	F	df1	df2	<i>p</i>
0.9093	0.8268	0.0058	283.4952	5	297	0
Model Coefficients						
Variable	coeff	se	t	<i>p</i>	LLCI	ULCI
constant	1.3995	0.3162	4.4256	0	0.7772	2.0218
EO	0.1086	0.0193	5.6194	0	0.0706	0.1466
IP	0.0067	0.0012	5.7822	0	0.0044	0.009
Int_1	-0.0002	0.0001	-3.3565	0.0009	-0.0004	-0.0001
Product Terms Key						
Int_1 = EO × IP						
Test(s) of Highest Order Unconditional Interaction(s)						
r ² -change	F	df1	df2	<i>p</i>		
0.0066	11.266	1	297	0.0009		
Conditional Effects of the Focal Predictor at Values of the Moderator						
IP	Effect	se	t	<i>p</i>	LLCI	ULCI
216.7748	0.0587	0.0066	8.9126	0	0.0457	0.0717
253.4206	0.0503	0.0056	8.9911	0	0.0393	0.0613

5. Discussion and Findings

5.1. Discussions

The impact of institutional pressure for moderation analyses, substantially changes the degree of impact of the relationship between youth enterprises entrepreneurial orientation (EO) and sustainability performance in Taita Taveta County. Although there is a robust positive impact of EO on sustainability performance, the interaction with institutional pressure (EO \times IP) is negative and substantial, demonstrating that the positive effects of EO are less effective with increasing institutional pressure. This confirms the theory of partial substitutability, where institutional pressure, regulatory, normative, or mimetic, hinders the entrepreneurial and, or sustainable initiatives. In practical terms, youth enterprises with a high EO and, consequently, higher sustainability performance, will only do so when institutional pressure is moderate or low, however, high EO efforts within high institutional pressure environments will not perform well. This confirms [Zhu et al., \(2024\)](#)'s study. The result of the study is a confirmation of most studies of external pressure focusing on the facilitation and constraining effect on the entrepreneurial efforts to achieve sustainability performance ([Zhu et al., 2024](#)). The research result demands appropriate context when trying to achieve the entrepreneurial performance at a sustainable level; proper policy and support structures need to be implemented to reduce possible regulatory pressure and provide room for innovative, and risk-based entrepreneurship. The results suggest that internal strategic orientations, alongside external institutional contexts, coalesce to influence sustainability performance within youth-led enterprises.

5.2. Findings

The study substantiates that the entrepreneurial orientation is a positive predictor of the sustainability performance, demonstrated by the substantial main effect ($B = 0.1086, p < 0.001$). As for the institutional pressures, they also unambiguously increase sustainability outcomes ($B = 0.0067, p < 0.001$), showing that regulations, along with normative and mimetic, push for the adoption of sustainable practices. Besides, EO and institutional pressures' interaction ($B = -0.0002, p = 0.0009; \Delta R^2 = 0.0066$) presents a decreasing effect: with the increase of institutional pressures, the more positive EO influence on the sustainability performance is reduced, although such influence EO remains statistically significant despite the moderator's levels. In particular, the EO influence drops from 0.0587 at low institutional pressure to 0.0503 at mid and 0.0383 at high pressure. This shows that potential of entrepreneurial behaviours for sustainability has, to a degree, been constrained by the institutional pressures. In other words, what is needed is positive institutional pressures.

Covariate analysis indicated that enterprise age did not have any significant impact on sustainability performance ($p = 0.884$), whereas enterprise size positively

impacted sustainability performance ($B = 0.0022$, $p = 0.023$), although the impact was small. Overall, this means that entrepreneurial orientation and the institution's context are key components defining sustainability performance, with institutional pressure acting as a moderator to determine the magnitude of impact of EO.

5.3. Theoretical Implications

The application of the Triple Bottom Line (TBL) framework in the specific field of African youth enterprises adds to the existing academic body of work around sustainability performance in youth enterprises. These findings show that entrepreneurial orientation (EO) has a positive effect on sustainability performance and the importance of having an innovative and an economically positive, socially positive, and environmentally positive “proactive” approach to risk-taking. Furthermore, the moderating impact of institutional pressures emphasizes the significance of the context in which the EO-sustainability performance nexus is located. This research builds upon the prior theorizations that the institutional (coercive, normative, and mimetic) framework can both promote and limit the entrepreneurial behaviour sustainability outcome paradox (Zhu et al., 2024; Alinda et al., 2024). In the context of integrating EO and institutional pressures within the TBL framework, the understanding of sustainability performance in the context of emerging economies, as a cumulative result of the inherent strategic focus and the resultant external strategic focus on entrepreneurship, is particularly enhanced in the context of the youth enterprises sector, which is crucial for the overall socio-economic progress of the nation.

5.4. Practical Implications

This study provides youth enterprises, policymakers, and support institutions with guidance on potential strategies that will be of benefit to the Taita Taveta County, and others like it. Results indicated that the sustainability performance of youth enterprises can be improved with an increase in entrepreneurial orientation, while an increase in institutional pressure will reduce said performance. For this, policymakers and regulatory actors must find a middle ground when providing feedback on control and balance, providing the legislative support, so the entrepreneurial spirit can be supportive of sustainability. Youth development enterprises need to develop the business model alongside the knowledge of the system and its regulatory/institutional framework. Youth enterprises can, and should, pursue the operational integration of economic, social, and environmental objectives. In this regard, they should control the relevant institutional, regulatory, and community integration. Understanding the relationship between entrepreneurial orientation and institutional pressure will help practitioners to design interventions for the best sustainability performance, enduring resilience, and advancement of the socio-economic development of a country in line with the objectives of the United Nations Sustainable Development Goals (UNSDGs).

6. Conclusion

This research focused on Youth enterprises in Taita Taveta County and the effect of entrepreneurial orientation on sustainability performance and how this effect is moderated by the presence of institutional pressures. This research shows that sustainability performance is affected positively by entrepreneurial orientation above all three dimensions of sustainability. With this being said, it is shown that institutional pressures can enhance and/or constrain the effect of some entrepreneurial behaviours. Most notably, high institutional pressures can reduce the effect of some entrepreneurial behaviours on sustainability performance. This shows that there must be some balance between entrepreneurial behaviour to meet institutional requirements. This research also shows that when institutions provide “encouragement” it helps to improve sustainability performance within Youth-led enterprises.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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