
Assessing the Influence of Product Orientation on Sustained Competitive Advantage Among Pharmaceutical Firms in Kenya

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Abstract

Sustained competitive advantage has become increasingly important for pharmaceutical firms operating in dynamic and highly competitive business environments. Rapid technological advancements, evolving healthcare needs, stringent regulatory requirements, and increasing customer expectations have intensified the need for firms to develop strategic capabilities that support long-term competitiveness. Despite the growing importance of product-related capabilities, limited empirical evidence exists on the influence of Product Orientation on Sustained Competitive Advantage among pharmaceutical firms in Kenya. This study therefore examined the influence of Product Orientation on Sustained Competitive Advantage among pharmaceutical firms in Kenya. The study adopted a cross-sectional descriptive correlational research design. Data were collected using a structured questionnaire administered to managerial and functional personnel involved in strategic planning, product development, research and development, quality assurance, and related organizational functions. Product Orientation was operationalized through three dimensions: Product Quality, Product Innovation and Research and Development, and Product-Driven Culture. Descriptive statistics and simple linear regression analysis were used to examine the relationship between Product Orientation and Sustained Competitive Advantage. The descriptive findings indicated a moderate level of Product Orientation among pharmaceutical firms. Product Innovation and Research and Development recorded the highest mean score ($M = 2.997$, $SD = 0.995$), followed by Product Quality ($M = 2.992$, $SD = 0.969$) and Product-Driven Culture ($M = 2.980$, $SD = 0.979$). Regression analysis revealed a positive and statistically significant influence of Product Orientation on Sustained Competitive Advantage ($\beta = 0.427$, $t = 5.226$, $p < 0.001$). The model explained 7.4% of the variation in Sustained Competitive Advantage ($R^2 = 0.074$), while the ANOVA results confirmed that the regression model was statistically significant ($F = 27.306$, $p < 0.001$). The study concludes that Product Orientation is an important strategic capability that enables pharmaceutical firms to develop differentiated products, improve market responsiveness, strengthen customer trust, and sustain long-term competitive advantage. It recommends increased investment in research and development, strengthened quality management systems, and the promotion of organizational cultures that support continuous innovation and

product excellence. The findings contribute to strategic management literature by providing empirical evidence on the role of Product Orientation in shaping Sustained Competitive Advantage among pharmaceutical firms in Kenya.

Key Words

Product Orientation, Product Quality, Product Innovation, Research and Development, Product-Driven Culture, Sustained Competitive Advantage, Pharmaceutical Firms.

Introduction

The pharmaceutical industry occupies a strategically important position within national health systems because it is responsible for the development, production, and distribution of medicines that directly influence population health outcomes. In recent years, the industry has experienced significant transformation driven by technological advancements, evolving disease patterns, increasing regulatory requirements, and growing demand for affordable healthcare products. These developments have intensified competition among pharmaceutical firms and increased the need for strategic approaches that enable organizations to sustain competitiveness in dynamic and highly regulated environments. While traditional competitive advantages were often derived from production capacity, market access, and financial resources, contemporary pharmaceutical firms increasingly rely on product related capabilities to differentiate themselves and create long term value. As a result, product orientation has emerged as an important strategic approach through which firms seek to enhance innovation, strengthen product quality, and improve organizational competitiveness.

Product orientation refers to a strategic philosophy in which organizations prioritize the development of superior products through innovation, quality enhancement, and technological advancement as mechanisms for achieving long term success. According to Laukkanen et al. (2017), product-oriented firms focus on continuous product improvement and differentiation to meet changing market demands while strengthening competitive positioning. Similarly, Hakala et al. (2019) argue that product orientation emphasizes the internal capabilities required to develop innovative products that generate sustainable value rather than relying solely on external market responsiveness. Within pharmaceutical industries, product orientation is reflected through investments in research and development, product innovation, quality assurance systems, advanced manufacturing technologies, and organizational cultures that support continuous improvement. These capabilities enable firms to create products that are effective, safe, reliable, and difficult for competitors to imitate.

The importance of product orientation has increased substantially as pharmaceutical firms face growing pressure to innovate in response to changing healthcare needs. Globally, leading pharmaceutical companies continue to invest heavily in research and development activities aimed at discovering new therapeutic solutions, improving existing formulations, and developing advanced drug delivery systems. Nguyen and Timilsina (2023) note that firms capable of sustaining product innovation achieve stronger market positions because innovation enables them to introduce differentiated products that address unmet clinical needs. Likewise, Bhatnagar et al. (2023) observe that pharmaceutical competitiveness increasingly depends on the ability of firms to integrate scientific knowledge, technological expertise, and product development capabilities

into commercially viable healthcare solutions. These developments suggest that product innovation has become a critical source of sustained competitive advantage within knowledge intensive pharmaceutical industries. Similarly, Expósito and Sanchis-Llopis (2018) found that innovation capability contributes significantly to business performance by enhancing firms' ability to develop differentiated products and sustain competitive advantage. These developments suggest that product innovation has become a critical source of sustained competitive advantage within knowledge-intensive pharmaceutical industries.

Product quality represents another important dimension of product orientation and remains a critical determinant of competitiveness within pharmaceutical markets. Unlike many consumer products, pharmaceutical products directly affect patient health and safety, making quality a fundamental requirement for market acceptance and regulatory approval. Firms that consistently maintain high standards of quality are more likely to strengthen customer trust, achieve regulatory compliance, and protect organizational reputation. Khalid et al. (2021) argue that rigorous quality assurance systems contribute significantly to organizational competitiveness by minimizing operational risks and enhancing product reliability. Similarly, Mackintosh et al. (2018) emphasize that pharmaceutical firms operating in developing economies must prioritize quality management systems to compete effectively against imported medicines and multinational manufacturers. Consequently, product quality functions not only as a regulatory requirement but also as a strategic resource that contributes to sustained competitive advantage.

Research and development activities provide the scientific foundation upon which pharmaceutical innovation and product quality are built. Through research and development investments, firms generate new knowledge, improve technological capabilities, and develop products capable of responding to evolving healthcare challenges. Contemporary pharmaceutical markets are characterized by rapid scientific advancement and increasing demand for innovative therapies, creating pressure on firms to continuously improve their research capabilities. Olanlokun and Taiwo (2025) contend that pharmaceutical innovation contributes to competitive advantage through the development of new formulations, improved therapeutic efficacy, and enhanced treatment outcomes. Similarly, Dahmiri et al. (2024) found that firms emphasizing innovation and product development achieve stronger competitive positioning because they are better able to respond to technological and market changes. These findings suggest that sustained investment in research and development remains central to maintaining long term competitiveness within pharmaceutical industries.

Beyond innovation and quality enhancement, product orientation is reinforced through organizational cultures that prioritize product excellence, technological learning, and continuous improvement. Product driven cultures encourage experimentation, knowledge sharing, and innovation while fostering employee commitment toward the development of superior products. Such cultures create organizational environments in which quality improvement and product development become embedded within everyday operations. Naqshbandi and Tabche (2018) found that innovation oriented organizational cultures contribute positively to organizational performance by strengthening creativity and product development capabilities. Likewise, Naranjo-Valencia et al. (2019) demonstrated that firms characterized by innovation driven cultures achieve superior innovation outcomes and stronger competitive performance than firms with less supportive organizational environments. Consequently, product driven culture represents an

important organizational capability that strengthens the effectiveness of product orientation strategies.

Despite growing recognition of the strategic importance of product orientation, empirical evidence regarding its influence on sustained competitive advantage remains fragmented. Existing studies have frequently examined product quality, innovation, research and development, and organizational culture as independent constructs rather than as interconnected dimensions of a broader product orientation strategy. Furthermore, much of the available evidence originates from developed economies where institutional environments, technological infrastructure, and innovation ecosystems differ substantially from those characterizing emerging markets. While studies by Rajapathirana and Hui (2018), Ali et al. (2020), and Expósito and Sanchis-Llopis (2019) demonstrate positive relationships between innovation capability and organizational performance, limited research has examined how product orientation contributes to sustained competitive advantage within pharmaceutical industries operating in resource constrained environments. This gap limits understanding of the specific product related capabilities that enable firms to maintain competitiveness over time.

The Kenyan pharmaceutical industry presents a particularly important context for addressing this knowledge gap. The sector plays a critical role in supporting healthcare delivery while contributing to industrial development and economic growth. Kariithi and Kihara (2017) observed that the performance of pharmaceutical manufacturing firms in Kenya is influenced by several organizational and strategic factors, highlighting the importance of adopting effective strategic management practices to enhance competitiveness. However, pharmaceutical firms operating in Kenya face numerous challenges including dependence on imported raw materials, limited research infrastructure, increasing competition from multinational corporations, and evolving regulatory requirements. According to the Ministry of Health (2020), strengthening local pharmaceutical manufacturing remains a national priority aimed at improving medicine security and reducing dependence on imports. Omondi and Deya (2023) further notes that firms capable of prioritizing innovation, quality enhancement, and technological integration are more likely to achieve sustainable competitiveness within the Kenyan pharmaceutical sector. These conditions have heightened the strategic importance of product orientation as a potential source of sustained competitive advantage.

Although several studies have examined innovation strategies, quality management practices, and organizational culture within pharmaceutical and manufacturing industries, limited empirical evidence exists regarding the influence of product orientation on sustained competitive advantage among pharmaceutical firms in Kenya. Existing studies have largely focused on operational performance, innovation outcomes, or market competitiveness without explicitly examining sustained competitive advantage as a multidimensional strategic outcome. Furthermore, limited attention has been devoted to understanding how product quality, product innovation and research and development, and product driven culture collectively contribute to sustained competitiveness within the pharmaceutical sector. Addressing this gap is important for informing managerial practice, supporting pharmaceutical policy development, and strengthening the competitiveness of local pharmaceutical manufacturers.

Objective of the Study

To analyze the influence of product orientation on sustained competitive advantage among pharmaceutical firms in Kenya.

Research Hypothesis

H₀: Product Orientation has no statistically significant influence on Sustained Competitive Advantage among Pharmaceutical Firms in Kenya.

Study Methodology

Study Design and Setting

This study adopted a cross-sectional descriptive correlational research design to examine the influence of Product Orientation on Sustained Competitive Advantage among pharmaceutical firms in Kenya. Cross-sectional designs are widely applied in organizational and strategic management research because they enable researchers to collect data from a target population at a single point in time and examine relationships among study variables without manipulating the research environment (Creswell & Creswell, 2017; Bryman, 2016). The correlational approach was considered appropriate because the study sought to determine the extent to which product orientation predicts sustained competitive advantage among pharmaceutical firms. According to Hair, Black, Babin, and Anderson (2019), correlational research designs are particularly useful when investigating relationships between organizational capabilities and performance outcomes in naturally occurring business settings.

The study was conducted among pharmaceutical manufacturing firms operating in Kenya. The pharmaceutical sector constitutes a critical component of the country's healthcare system and industrial development agenda, contributing to medicine production, employment creation, and economic growth. The industry operates within a highly competitive environment characterized by increasing regulatory requirements, technological advancements, and growing demand for quality healthcare products. These conditions provide an appropriate context for examining how product orientation influences the ability of firms to sustain competitive advantage. Similar industry-based studies have successfully employed cross-sectional survey designs to investigate strategic orientations and organizational performance relationships (Laukkanen et al., 2017; Hakala et al., 2019). The design therefore provided a suitable methodological framework for achieving the objectives of the study.

Study Population and Sampling

The target population comprised 736 licensed pharmaceutical firms registered and operating in Kenya, consisting of 54 pharmaceutical manufacturers and 682 pharmaceutical importing and wholesale distribution firms. The target population comprised pharmaceutical firms registered and operating in Kenya. The unit of analysis was the pharmaceutical firm, while the unit of observation consisted of senior managers, departmental heads, and functional officers responsible for strategic planning, product development, research and development, marketing, operations, and quality assurance. These individuals were selected because they possess sufficient knowledge regarding organizational strategies, product development activities, innovation initiatives, and competitive

positioning within their respective firms. Sampling is a process through which a subset of elements is selected from a larger population to represent the characteristics of that population (Kothari, 2017). To ensure adequate representation, the study employed a proportionate stratified random sampling technique. Pharmaceutical firms were first stratified into manufacturers and importing/wholesale distribution firms based on the Pharmacy and Poisons Board register. Thereafter, firms were selected proportionately from each stratum using simple random sampling. Within the selected firms, respondents occupying strategic and managerial positions, including senior managers, departmental heads, and functional officers responsible for strategic planning, product development, research and development, marketing, operations, and quality assurance, were purposively selected because of their knowledge of organizational strategic practices.

The sample size was determined using established statistical procedures appropriate for finite populations. Using the sample size determination formula proposed by Yamane (1967), a minimum sample of 460 respondents was obtained from the target population of 736 licensed pharmaceutical firms operating in Kenya. According to Yamane (1967), an adequately determined sample size enhances representativeness and improves the reliability of statistical inferences. Furthermore, Hair et al. (2019) recommend that studies employing regression analysis should obtain sufficient observations to ensure adequate statistical power and stable parameter estimates. Accordingly, the sample of 460 respondents was considered adequate for examining the relationship between Product Orientation and Sustained Competitive Advantage among pharmaceutical firms in Kenya.

Data Collection Procedures

Primary data were collected using a structured self-administered questionnaire. The questionnaire was designed to capture information relating to Product Orientation and Sustained Competitive Advantage. Product Orientation was operationalized through three dimensions derived from the conceptual framework of the study, namely Product Quality, Product Innovation and Research and Development, and Product-Driven Culture (Figure 1).

Respondents were requested to indicate their level of agreement with each statement using a five-point Likert scale. The response options were explicitly coded as follows: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. Higher scores reflected stronger agreement with the statement and a greater presence of the measured construct, while lower scores reflected lower levels of agreement. The five-point Likert scale was selected because it provides a simple and reliable method for measuring respondents' perceptions, attitudes, and opinions regarding latent organizational constructs that cannot be observed directly. Its widespread application in strategic management research facilitates the quantitative measurement of organizational phenomena and supports robust statistical analysis (Bryman, 2016; Hair et al., 2019). Prior to the main survey, the instrument was subjected to pilot testing to assess clarity, reliability, and validity. Reliability was evaluated using Cronbach's alpha coefficient, which measures the internal consistency of scale items. According to Tavakol and Dennick (2011), a Cronbach's alpha value of 0.70 or above is generally considered acceptable for social science research. Content validity was assessed through expert review to ensure that the questionnaire adequately captured the dimensions of Product Orientation and Sustained Competitive Advantage.

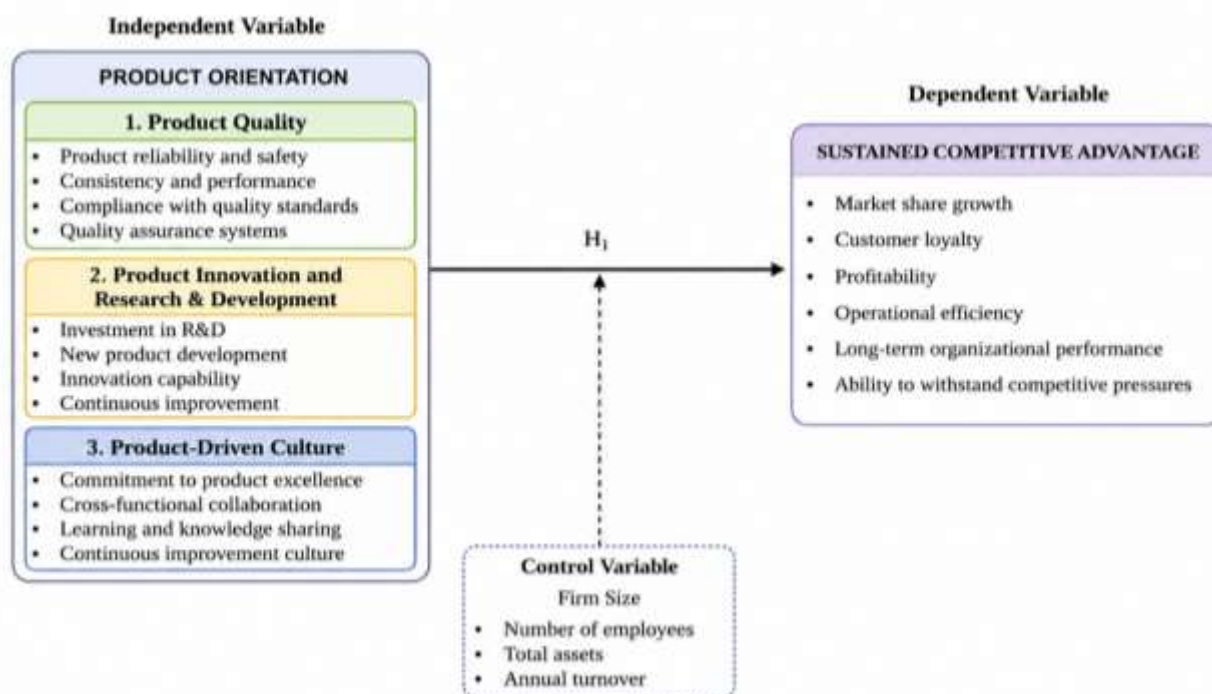


Figure 1 Conceptual Framework (*Source: Researcher (2025)*)

Data collection commenced after obtaining ethical approval from the United States International University-Africa Institutional Review Board (USIU-Africa IRB), a research permit from the National Commission for Science, Technology and Innovation (NACOSTI), and the necessary authorization from the participating pharmaceutical firms. Eligible respondents were first identified through their organizations based on their strategic and managerial responsibilities. Each prospective respondent received an introductory letter explaining the purpose of the study, the voluntary nature of participation, and the measures implemented to ensure confidentiality and anonymity. Written informed consent was obtained from all respondents before administration of the questionnaire. The questionnaires were then distributed to the selected respondents using a structured survey approach, with sufficient time provided for completion. To improve the response rate, follow-up reminders were issued to respondents who had not returned their completed questionnaires within the stipulated period. Upon receipt, all completed questionnaires were checked for completeness and consistency before coding, data entry, and subsequent statistical analysis. The use of a standardized questionnaire and uniform data collection procedures enhanced the reliability and comparability of responses across the participating pharmaceutical firms.

Data Analysis Techniques

Data were analyzed using the Statistical Package for Social Sciences (SPSS) version 29. Prior to analysis, completed questionnaires were checked for completeness, coded, and entered into the software for processing. Descriptive statistics, including means and standard deviations, were computed to summarize respondents' perceptions regarding Product Orientation and Sustained Competitive Advantage. Descriptive statistics provide useful information regarding central tendencies and variability within datasets and are commonly used in organizational research to

describe study variables (Hair et al., 2019). Inferential analysis was conducted using simple linear regression to examine the influence of Product Orientation on Sustained Competitive Advantage. Regression analysis is widely applied in strategic management studies because it enables researchers to determine the magnitude and direction of relationships between predictor and outcome variables (Field, 2018; Hair et al., 2019). The regression model was specified as:

$$Y = \beta_0 + \beta_1 X + \varepsilon$$

Where:

Y = Sustained Competitive Advantage

X = Product Orientation

β_0 = Constant term

β_1 = Regression coefficient

ε = Error term

The coefficient of determination (R^2) was used to assess the explanatory power of the model, while the F-statistic was used to determine overall model significance. Statistical significance of the regression coefficient was evaluated using t-tests at the 0.05 significance level. This analytical approach enabled the study to establish whether Product Orientation significantly influences Sustained Competitive Advantage among pharmaceutical firms in Kenya.

Results

The study examined respondents' perceptions regarding Product Orientation among pharmaceutical firms in Kenya using three dimensions: Product Quality, Product Innovation and Research and Development, and Product-Driven Culture. The findings presented in Table 1 indicate that the overall mean score for Product Orientation was 2.990 (SD = 0.534), suggesting a moderate level of agreement among respondents regarding the existence and application of product-oriented practices within their organizations.

Table 1

Measures of Central Tendency and Dispersion for Product Orientation

Level	Label	Mean	SD
Sub-Construct	Product Quality	2.992	0.969
	Our quality control procedures drive sustained competitive advantage by ensuring consistent product performance that builds customer trust.	2.983	1.070
	Our commitment to high product quality through comprehensive testing protocols secures sustained competitive advantage by minimizing defects and reinforcing reliability.	3.003	1.066

	We integrate robust quality standards with operational practices driving sustained competitive advantage through elevated customer satisfaction and market reputation.	3.009	1.064
	Systematic analysis of customer feedback contributes to sustained competitive advantage by fostering continuous improvement and agile market response.	2.985	1.091
	Investments in advanced quality assurance technologies directly support sustained competitive advantage by consistently delivering superior product performance over time.	2.980	1.096
Sub-Construct	Product Innovation & R&D	2.997	0.995
	Significant R&D investments drive sustained competitive advantage by generating breakthrough products that address emerging market needs.	2.974	1.163
	Our targeted R&D efforts transform market insights into innovative offerings securing sustained competitive advantage by meeting previously unmet customer demands.	3.006	1.073
	Converting scientific advancements into novel products directly contributes to sustained competitive advantage by enhancing our differentiation in the market.	3.003	1.039
	Systematic translation of market insights into R&D projects secures sustained competitive advantage by aligning product development with dynamic market trends.	3.032	1.096
	Our commitment to exploring cutting-edge technologies drives sustained competitive advantage by continuously delivering unique value propositions to customers.	2.971	1.105
Sub-Construct	Product-Driven Culture	2.980	0.979
	A culture that prioritizes continuous product improvement drives sustained competitive advantage by aligning innovation with evolving market expectations.	2.983	1.070
	Leadership-driven creativity and cross-functional collaboration secure sustained competitive advantage by nurturing a robust pipeline of innovative solutions.	2.933	1.073
	Aligning product development strategies with customer expectations contributes to sustained competitive advantage through enhanced market responsiveness.	2.997	1.086
	The strategic integration of quality and innovation within our culture drives sustained competitive advantage by reinforcing brand strength and long-term customer loyalty.	2.980	1.099
	Emphasizing product excellence across the organization directly supports sustained competitive advantage by consistently generating market-leading innovations.	3.006	1.081
Construct	Product Orientation	2.990	0.534

Among the three dimensions, Product Innovation and Research and Development recorded the highest mean score ($M = 2.997$, $SD = 0.995$), followed closely by Product Quality ($M = 2.992$, $SD = 0.969$), while Product-Driven Culture recorded the lowest mean score ($M = 2.980$, $SD = 0.979$). Although the differences between the dimensions were relatively small, the findings suggest that pharmaceutical firms place slightly greater emphasis on innovation and research activities as mechanisms for sustaining competitiveness.

Within the Product Quality dimension, respondents moderately agreed that quality management practices contribute to sustained competitive advantage. The highest rated statement was that integrating robust quality standards with operational practices drives sustained competitive advantage through enhanced customer satisfaction and market reputation ($M = 3.009$, $SD = 1.064$). Similarly, respondents agreed that commitment to high product quality through comprehensive testing protocols contributes to sustained competitive advantage by minimizing defects and reinforcing reliability ($M = 3.003$, $SD = 1.066$). The findings further indicate that systematic analysis of customer feedback and investments in quality assurance technologies are perceived as important contributors to long-term competitiveness.

Regarding Product Innovation and Research and Development, respondents reported moderate agreement that innovation activities contribute to sustained competitive advantage. The highest mean score was recorded for the statement that systematic translation of market insights into research and development projects secures sustained competitive advantage by aligning product development with dynamic market trends ($M = 3.032$, $SD = 1.096$). Respondents also agreed that targeted research and development efforts transform market insights into innovative offerings that address unmet customer needs ($M = 3.006$, $SD = 1.073$) and that converting scientific advancements into novel products contributes to market differentiation ($M = 3.003$, $SD = 1.039$). These findings suggest that innovation activities are viewed as important mechanisms for strengthening competitive positioning.

For Product-Driven Culture, respondents similarly expressed moderate agreement regarding the role of organizational culture in promoting competitiveness. The highest rated statement indicated that emphasizing product excellence across the organization supports sustained competitive advantage through the generation of market-leading innovations ($M = 3.006$, $SD = 1.081$). Respondents also agreed that aligning product development strategies with customer expectations enhances market responsiveness ($M = 2.997$, $SD = 1.086$) and that integrating quality and innovation within organizational culture contributes to long-term customer loyalty and brand strength ($M = 2.980$, $SD = 1.099$). The descriptive findings suggest that pharmaceutical firms recognize the importance of product quality, innovation, and product-focused cultural practices in supporting sustained competitive advantage.

Simple linear regression analysis was conducted to determine the influence of Product Orientation on Sustained Competitive Advantage among pharmaceutical firms in Kenya. The model summary results presented in Table 2 show a correlation coefficient of $R = 0.272$, indicating a positive relationship between Product Orientation and Sustained Competitive Advantage. The coefficient of determination ($R^2 = 0.074$) indicates that Product Orientation explains approximately 7.4% of the variation in Sustained Competitive Advantage among pharmaceutical firms. The adjusted R^2 value of 0.071 suggests that the explanatory power of the model remains stable after adjusting for

sample size and model complexity. The remaining 92.6% of the variation in Sustained Competitive Advantage is attributable to other organizational, strategic, and environmental factors not included in the present model, such as market orientation, entrepreneurial orientation, alliance orientation, organizational resources, leadership capability, competitive intensity, technological capability, regulatory environment, and broader market dynamics. This finding suggests that although Product Orientation is a statistically significant predictor of Sustained Competitive Advantage, it represents only one of several strategic capabilities that collectively influence long-term organizational competitiveness.

Table 2

Model Summary for the Regression of Product Orientation and Sustained Competitive Advantage

Model	R	R Square	Adjusted R Square	Standard Error
1	0.272	0.074	0.071	0.807

The analysis of variance (ANOVA) results presented in Table 3 indicate that the regression model was statistically significant ($F = 27.306$, $p < 0.001$). The significance value of 3.03×10^{-7} demonstrates that Product Orientation significantly predicts Sustained Competitive Advantage and that the observed relationship is unlikely to have occurred by chance. The findings therefore provide evidence that Product Orientation contributes significantly to variations in competitive performance among pharmaceutical firms.

Table 3

Analysis of Variance for Product Orientation and Sustained Competitive Advantage

Source	SS	DF	MS	F	Significance F
Regression	17.784	1	17.784	27.306	3.03e-07
Residual	222.089	341	0.651		
Total	239.873	342			

The regression coefficient results presented in Table 4 further reveal that Product Orientation has a positive and statistically significant effect on Sustained Competitive Advantage ($\beta = 0.427$, $t = 5.226$, $p < 0.001$). This implies that a one-unit increase in Product Orientation is associated with a 0.427-unit increase in Sustained Competitive Advantage, holding other factors constant. The positive coefficient indicates that firms that strengthen product quality, product innovation and research and development, and product-driven cultural practices are more likely to achieve higher levels of sustained competitive advantage.

Table 4

Regression Coefficients for Product Orientation and Sustained Competitive Advantage

Model	Term	Estimate	Std. Error	t-value	p-value
Sustained Competitive Advantage ~ Product Orientation	Intercept	1.706	0.248	6.874	2.98e-11
	Product Orientation	0.427	0.082	5.226	3.03e-07

The estimated regression model was expressed as:

$$Y = 1.706 + 0.427X_1$$

Where:

Y = Sustained Competitive Advantage

X₁ = Product Orientation

The findings support the alternative hypothesis that Product Orientation has a statistically significant influence on Sustained Competitive Advantage among pharmaceutical firms in Kenya. Consequently, the null hypothesis (H₀) was rejected, while the alternative hypothesis (H₁) was accepted.

Discussion

The findings of this study demonstrate that Product Orientation exerts a positive and statistically significant influence on Sustained Competitive Advantage among pharmaceutical firms in Kenya. The regression results revealed a significant positive relationship between Product Orientation and Sustained Competitive Advantage ($\beta = 0.427$, $p < 0.001$), indicating that firms that prioritize product quality, product innovation and research and development, and product-driven cultural practices are more likely to achieve superior competitive outcomes. The positive coefficient suggests that improvements in product-oriented capabilities contribute directly to an organization's ability to sustain market relevance, strengthen differentiation, and maintain long-term competitiveness. Although the explanatory power of the model was modest ($R^2 = 0.074$), the findings confirm that Product Orientation constitutes an important strategic capability that contributes meaningfully to competitive performance within pharmaceutical firms.

The findings support the argument that product-related capabilities remain fundamental sources of competitive advantage in knowledge-intensive industries. Pharmaceutical firms operate in environments characterized by rapid technological change, stringent quality requirements, evolving healthcare needs, and intense market competition. Under such conditions, organizations must continuously develop products that meet regulatory standards while simultaneously creating value for customers and healthcare systems. The significant relationship observed in this study suggests that firms that successfully integrate quality management, innovation activities, and product-focused organizational practices are better positioned to create differentiated products and sustain competitiveness over time. The findings therefore reinforce the resource-based view which argues that valuable, rare, difficult-to-imitate, and organizationally embedded capabilities constitute important sources of sustained competitive advantage.

The positive influence of Product Orientation identified in this study is consistent with prior empirical evidence linking product-focused strategies to superior organizational performance. Saemaldaher and Emeagwali (2025) found that product innovation enhances firm performance by improving market responsiveness and strengthening organizational adaptability. Similarly, Rajapathirana and Hui (2018) reported that innovation capability contributes significantly to organizational competitiveness because it enables firms to develop differentiated products and respond effectively to environmental changes. The present findings extend this literature by

demonstrating that product orientation, when conceptualized as a multidimensional capability encompassing quality, innovation, and product-driven culture, contributes significantly to sustained competitive advantage within pharmaceutical firms. This suggests that competitiveness is not driven by isolated innovation activities alone but by the broader strategic commitment to product excellence across the organization.

The findings further align with studies emphasizing the strategic importance of research and development in sustaining organizational competitiveness. Bhatnagar et al. (2023) observed that firms possessing strong research and development capabilities are more likely to generate innovative products and create value from scientific knowledge. Likewise, Liu et al. (2021) found that innovation activities supported by internal and external knowledge resources significantly improve pharmaceutical development outcomes. The positive relationship identified in the present study suggests that firms investing in research and development activities are better positioned to convert technological knowledge into products that strengthen competitive advantage. These findings support the view that innovation capabilities remain central to competitiveness within pharmaceutical industries where product differentiation is heavily dependent on scientific advancement and technological expertise.

The study also highlights the importance of product quality as a strategic determinant of competitive advantage. Pharmaceutical products directly affect patient health and safety, making quality an essential requirement for regulatory compliance, customer trust, and market acceptance. The findings are consistent with those of Khalid et al. (2021), who found that quality management practices contribute significantly to organizational competitiveness through improved reliability, customer satisfaction, and operational effectiveness. Similarly, Mackintosh et al. (2018) emphasized that quality assurance systems are critical for pharmaceutical firms seeking to compete effectively within increasingly demanding healthcare markets. The positive influence of Product Orientation therefore suggests that organizations that maintain strong quality management systems are more likely to establish credibility, strengthen customer confidence, and sustain competitive positions over time.

The findings further support literature emphasizing the role of organizational culture in facilitating innovation and sustaining competitive performance. Product-driven cultures encourage experimentation, continuous learning, collaboration, and knowledge sharing, thereby creating environments conducive to innovation and product development. Naqshbandi and Tabche (2018) found that innovation-supportive cultures enhance organizational performance by strengthening creativity and facilitating knowledge exchange. Similarly, Naranjo-Valencia et al. (2019) reported that innovation-oriented cultures positively influence organizational competitiveness by supporting continuous improvement and innovative behavior. The significant effect observed in this study suggests that cultural practices that prioritize product excellence and innovation contribute meaningfully to sustained competitive advantage by strengthening the effectiveness of product development activities.

While Product Orientation was found to significantly influence Sustained Competitive Advantage, the relatively modest coefficient of determination indicates that competitive advantage is influenced by multiple organizational and environmental factors beyond product-related capabilities alone. The R^2 value of 7.4 percent suggests that although Product Orientation

contributes significantly to competitiveness, other strategic orientations, organizational resources, market conditions, leadership capabilities, and environmental factors may also play important roles in determining long-term performance outcomes. Similar observations have been reported by Hakala et al. (2019), who noted that competitive advantage often emerges from the interaction of multiple strategic capabilities rather than a single organizational attribute. Consequently, Product Orientation should be viewed as an important component of a broader strategic framework for sustaining competitiveness rather than as a standalone determinant of organizational success.

From a managerial perspective, the findings underscore the importance of strengthening product-oriented capabilities within pharmaceutical firms. Managers should prioritize investments in research and development, product innovation initiatives, quality management systems, and organizational practices that support continuous product improvement. Particular emphasis should be placed on aligning product development activities with changing customer needs and emerging healthcare demands while fostering organizational cultures that encourage innovation and learning. By strengthening these capabilities, pharmaceutical firms can enhance their ability to develop differentiated products, improve market responsiveness, and sustain competitive advantage in increasingly dynamic business environments. The findings therefore provide empirical support for strategic initiatives aimed at enhancing product excellence as a pathway toward long-term organizational competitiveness.

Conclusion

This study examined the influence of Product Orientation on Sustained Competitive Advantage among pharmaceutical firms in Kenya. The findings established that Product Orientation has a positive and statistically significant influence on Sustained Competitive Advantage, demonstrating that firms that prioritize product quality, product innovation and research and development, and product-driven cultural practices are more likely to achieve superior competitive outcomes. The results suggest that product-oriented capabilities constitute important strategic resources that enable pharmaceutical firms to strengthen differentiation, improve market responsiveness, and sustain competitiveness within increasingly dynamic and regulated business environments.

The study further concludes that Product Orientation is not merely a product development philosophy but a multidimensional strategic capability that enhances the ability of pharmaceutical firms to create and sustain value over time. Firms that invest in continuous product improvement, innovation activities, research and development initiatives, and quality assurance systems are better positioned to develop products that meet evolving customer needs while maintaining regulatory compliance and organizational credibility. The findings therefore affirm that sustained competitive advantage in pharmaceutical industries is increasingly driven by the ability of firms to consistently deliver superior products supported by strong innovation and quality management capabilities.

Although Product Orientation was found to significantly influence Sustained Competitive Advantage, the relatively modest explanatory power of the model suggests that competitive advantage is shaped by multiple organizational and environmental factors. Product-related capabilities therefore represent one important component of a broader strategic framework

required for long-term organizational success. Nonetheless, the significant positive relationship identified in this study confirms that strengthening product-oriented practices remains a viable and strategically important pathway through which pharmaceutical firms can enhance competitiveness and improve long-term performance.

Recommendations

Based on the findings, pharmaceutical firms should strengthen investments in product innovation and research and development activities as a strategic mechanism for sustaining competitive advantage. Management should establish structured innovation programmes that facilitate the continuous development of new products, improvement of existing formulations, and adoption of emerging technologies capable of addressing changing healthcare needs. Firms should further enhance collaboration with research institutions, universities, and technology partners to expand innovation capabilities and accelerate product development processes.

The study also recommends that pharmaceutical firms reinforce product quality management systems by integrating quality assurance practices throughout the product lifecycle. Organizations should invest in advanced quality control technologies, strengthen compliance monitoring mechanisms, and institutionalize continuous improvement practices that ensure product consistency, reliability, and safety. Given the critical role of quality in pharmaceutical markets, maintaining superior quality standards will not only strengthen regulatory compliance but also enhance customer trust, organizational reputation, and long-term market competitiveness.

Further, management should cultivate product-driven organizational cultures that encourage creativity, knowledge sharing, learning, and cross-functional collaboration. Leadership should actively promote innovation-oriented behaviours by providing employees with opportunities to contribute ideas, participate in product development initiatives, and engage in continuous professional development. Embedding product excellence within organizational culture will strengthen the effectiveness of innovation and quality management efforts while creating an environment that supports sustained competitive advantage.

From a policy perspective, industry regulators and government agencies should continue supporting initiatives aimed at strengthening local pharmaceutical innovation and product development capabilities. This may include providing incentives for research and development investments, supporting industry-academia partnerships, and facilitating access to innovation financing mechanisms. Such interventions would enhance the capacity of pharmaceutical firms to develop competitive products, strengthen local manufacturing capabilities, and contribute to the long-term growth and sustainability of the pharmaceutical sector in Kenya.

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Conflict of Interest Statement

The authors declare no conflict of interest.

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Author Contributions:

We the authors, declare that each author contributed significantly to the conception, research, writing and preparation of the final work.

Ethical Approval and Research License

Ethical approval for this study was obtained from United States International University-Africa Research Ethics Committee and NACOSTI (License No: *NACOSTI/P/25/416838*).

Licensing Statement

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