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The Impact of Dynamic Capabilities on the Performance of Quality Management Systems in Manufacturing Companies in Kenya

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Abstract

This study investigates the relationship between dynamic capabilities and the performance of quality management systems (QMS) in Kenyan manufacturing companies. Despite significant investments in quality management frameworks like ISO 9001, many manufacturing firms in Kenya continue to struggle with effective implementation and sustainable performance improvement. This research addresses this gap by examining how three dimensions of dynamic capabilities—sensing, seizing, and reconfiguring; influence QMS performance outcomes. Using a mixed-methods approach, data was collected from 187 manufacturing companies across various industrial sectors in Kenya through structured questionnaires and semi-structured interviews with quality managers and executives. Structural equation modeling revealed that all three dynamic capability dimensions positively influence QMS performance, with reconfiguring capabilities demonstrating the strongest effect ($\beta=0.58$, $p<0.001$), followed by sensing ($\beta=0.42$, $p<0.001$) and seizing capabilities ($\beta=0.39$, $p<0.001$). The qualitative findings further indicated that firms with well-developed dynamic capabilities were better positioned to adapt their QMS to changing market conditions, integrate innovative quality practices, and transform quality management from a compliance-focused activity to a strategic organizational capability. Additionally, the research found that organizational learning orientation moderates the relationship between dynamic capabilities and QMS performance. The findings contribute to the theoretical understanding of quality management by extending dynamic capabilities theory to QMS implementation in developing economies and provide practical insights for manufacturing managers seeking to enhance their quality management initiatives in turbulent business environments. The study recommends that Kenyan manufacturing firms develop and nurture dynamic capabilities as a foundation for sustaining effective quality management systems.

Keywords: Dynamic capabilities; Quality management systems; Organizational performance; Sensing capabilities; Seizing capabilities; Reconfiguring capabilities; ISO 9001; Developing economies

Introduction

Quality management systems (QMS) have become a cornerstone of organizational competitiveness in the global manufacturing landscape. In Kenya, as in many developing economies, manufacturing companies have increasingly adopted standardized QMS frameworks such as ISO 9001 to enhance product quality, operational efficiency, and market credibility (Kariuki & Mburu, 2018). However, studies indicate that despite significant investments in quality certifications, many Kenyan manufacturers fail to realize the anticipated performance benefits (Magutu et al., 2020; Nyangau, 2019). This implementation gap represents not only wasted resources but also missed opportunities for improved

competitiveness in both local and international markets. The dynamic capabilities perspective offers a promising lens through which to examine this persistent challenge. Originally conceptualized by Teece et al. (1997) and further developed by Eisenhardt and Martin (2000) and Teece (2007), dynamic capabilities refer to an organization's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. While considerable research has established the positive influence of dynamic capabilities on firm performance in developed economies (Pezeshkan et al., 2016; Wilden et al., 2013), there remains limited understanding of how these capabilities specifically affect quality management outcomes, particularly in the context of developing economies like Kenya.

This research gap is particularly significant for several reasons. First, Kenya's manufacturing sector contributes approximately 7.2% to the country's GDP and employs over 300,000 people in the formal sector (Kenya National Bureau of Statistics, 2023). However, the sector faces significant challenges, including inconsistent quality standards, which hamper its competitiveness in regional and global markets (Kenya Association of Manufacturers, 2022). Second, while quality management research in African contexts has grown in recent years, most studies have focused on implementation challenges or certification impacts rather than the dynamic organizational capabilities that enable effective quality management (Muturi et al., 2018; Ouma et al., 2021).

The present study addresses these gaps by investigating how three dimensions of dynamic capabilities—sensing, seizing, and reconfiguring—impact the performance of quality management systems in Kenyan manufacturing companies. Specifically, the research seeks to answer the following questions:

i. How do sensing capabilities influence the performance of quality management systems in Kenyan manufacturing companies?
ii. What is the relationship between seizing capabilities and QMS performance outcomes?
iii. To what extent do reconfiguring capabilities affect the implementation and effectiveness of quality management systems?
iv. What organizational factors moderate the relationship between dynamic capabilities and QMS performance?

By addressing these questions, this study contributes to both theory and practice. Theoretically, it extends the application of dynamic capabilities theory to quality management in developing economy contexts. Practically, it provides insights for manufacturing managers on how to cultivate organizational capabilities that enhance QMS effectiveness beyond mere compliance with certification requirements. The following sections present the theoretical foundation and hypotheses development, followed by the research methodology, findings, discussion, and conclusions. The paper concludes with implications for theory and practice, limitations, and directions for future research.

Theoretical Framework and Hypotheses Development

Dynamic Capabilities Theory

The dynamic capabilities framework, initially proposed by Teece et al. (1997), has evolved into a robust theoretical perspective for understanding how firms develop and deploy capabilities to achieve competitive advantage in changing environments. Dynamic capabilities represent "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (Teece et al., 1997, p. 516). Teece

(2007) further delineated dynamic capabilities into three components: sensing (identifying opportunities and threats), seizing (mobilizing resources to address opportunities), and reconfiguring (continuous renewal of assets and organizational structures). This theoretical framework is particularly relevant for studying quality management systems, which require organizations to continuously adapt and improve their processes in response to changing customer requirements, technological advancements, and competitive pressures (Gutierrez-Gutierrez et al., 2018). The dynamic capabilities perspective transcends traditional explanations of QMS implementation, which often focus on technical compliance, by emphasizing the organizational capabilities that enable sustainable quality improvement.

Quality Management Systems in Manufacturing

Quality management systems encompass the formal processes, structures, and responsibilities that organizations implement to achieve consistent product quality (Prajogo & Sohal, 2004). In manufacturing contexts, QMS typically involve standardized frameworks such as ISO 9001, Total Quality Management (TQM), Six Sigma, or Lean Manufacturing. These systems aim to enhance product conformance, reduce defects, improve customer satisfaction, and ultimately drive organizational performance (Terziovski & Guerrero, 2014). In Kenya, as in many developing economies, ISO 9001 certification has become the predominant QMS framework, with over 500 organizations certified as of 2022 (ISO Survey, 2023). However, research indicates considerable variation in the performance outcomes of these implementations. While some companies report significant improvements in process efficiency and product quality (Magutu et al., 2020), others view certification primarily as a market requirement with limited operational impact (Nyangau, 2019). This variation suggests that factors beyond the technical implementation of QMS influence their effectiveness.

Dynamic Capabilities and QMS Performance

The relationship between dynamic capabilities and QMS performance represents the central focus of this study. Previous research suggests that organizations with strong dynamic capabilities are better positioned to implement effective quality management practices (Prajogo & Sohal, 2006; Wu et al., 2012). However, most of these studies have been conducted in developed economies, leaving uncertainty about their applicability in developing economy contexts like Kenya.

Sensing Capabilities and QMS Performance

Sensing capabilities involve scanning the environment, identifying market opportunities, technological developments, and evolving customer requirements (Teece, 2007). In the context of quality management, sensing capabilities enable organizations to identify emerging quality standards, changing customer preferences, and innovative quality improvement methodologies (Gutierrez-Gutierrez et al., 2018). For manufacturing companies in Kenya, sensing capabilities may be particularly important given the rapidly evolving regional market dynamics and increasing global competition. Organizations with superior sensing capabilities can identify quality-related challenges and opportunities before they become evident to competitors, allowing for proactive rather than reactive quality management (Ouma et al., 2021). Based on this reasoning, This study proposes that:

H_1: Sensing capabilities positively influence the performance of quality management systems in Kenyan manufacturing companies.

Seizing Capabilities and QMS Performance

Seizing capabilities involve mobilizing resources to address opportunities and implement strategic decisions (Teece, 2007). In quality management contexts, seizing encompasses investing in quality improvement initiatives, allocating resources to address quality challenges, and implementing new quality practices (Gutierrez-Gutierrez et al., 2018). For Kenyan manufacturers, many of whom operate under resource constraints, the ability to effectively allocate limited resources to quality initiatives may significantly impact QMS performance. Companies with strong seizing capabilities can better translate quality policies into operational practices by ensuring adequate resource allocation and organizational commitment (Muturi et al., 2018). Therefore:

H_2: Seizing capabilities positively influence the performance of quality management systems in Kenyan manufacturing companies.

Reconfiguring Capabilities and QMS Performance

Reconfiguring capabilities involve organizational transformation, continuous renewal, and the ability to adapt organizational structures and processes to changing circumstances (Teece, 2007). In quality management, reconfiguring encompasses revising quality procedures, restructuring quality responsibilities, and adapting quality systems to accommodate new technologies or market requirements (Gutierrez-Gutierrez et al., 2018). The Kenyan manufacturing environment is characterized by significant volatility, including fluctuating input costs, political transitions, and evolving regional trade dynamics (Kenya Association of Manufacturers, 2022). In this context, the ability to reconfigure quality management approaches may be particularly valuable. Organizations that can adapt their QMS to changing circumstances are likely to maintain quality performance despite environmental turbulence (Kariuki & Mburu, 2018). Therefore:

H_3: Reconfiguring capabilities positively influence the performance of quality management systems in Kenyan manufacturing companies.

Moderating Factors

The relationship between dynamic capabilities and QMS performance may be influenced by various organizational factors. Based on previous research, we identify organizational learning orientation as a potential moderator of this relationship. Organizational learning orientation reflects a company's propensity to create and use knowledge (Baker & Sinkula, 1999). In quality management contexts, learning orientation influences how organizations interpret quality data, learn from quality failures, and disseminate quality knowledge (Gutierrez-Gutierrez et al., 2018). Companies with strong learning orientation may derive greater benefits from their dynamic capabilities as they more effectively convert capabilities into quality improvements (Wu et al., 2012). Therefore:

H_4: Organizational learning orientation positively moderates the relationship between dynamic capabilities and QMS performance in Kenyan manufacturing companies.

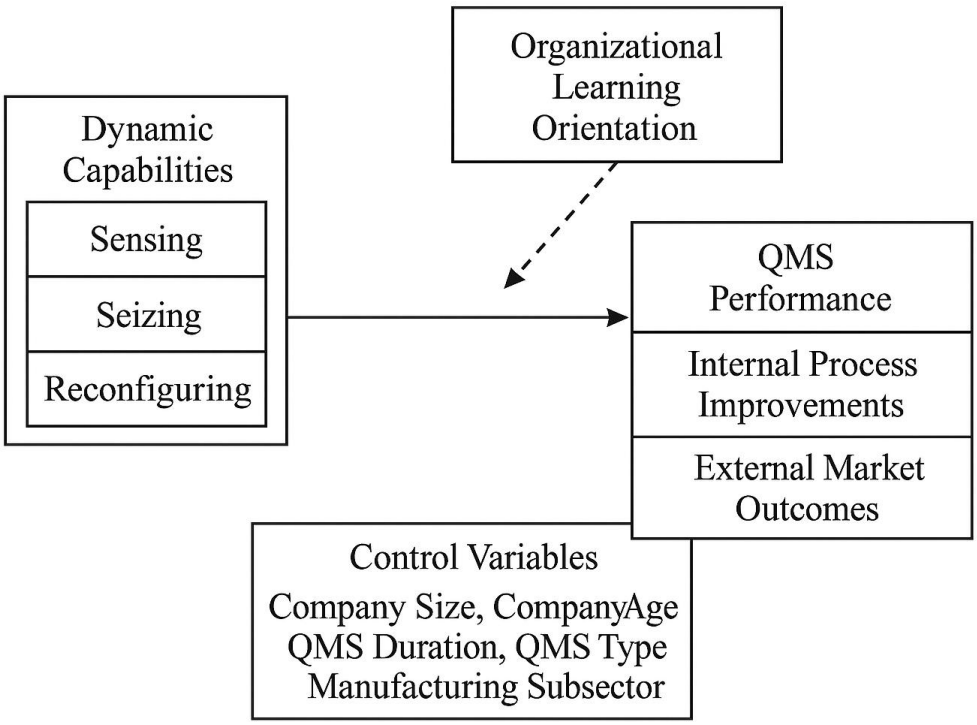

Figure 1: Conceptual Framework on the Moderating Role of Organizational Learning Orientation

The conceptual framework illustrates how dynamic capabilities—specifically sensing**,** seizing**,** and reconfiguring—influence Quality Management System (QMS) performance, which includes internal process improvements and external market outcomes. The framework posits that this relationship is moderated by organizational learning orientation, meaning that companies with a strong learning culture are better able to translate their dynamic capabilities into improved QMS outcomes. Additionally, the model controls for external factors like company size, age, QMS duration, QMS type**,** and manufacturing subsector, ensuring that the core relationships are not distorted by these variables.

Methodology

This study employed a mixed-methods approach, combining quantitative surveys with qualitative interviews to provide a comprehensive understanding of how dynamic capabilities influence QMS performance. The quantitative component allowed for statistical testing of the hypothesized relationships, while the qualitative component provided deeper insights into the mechanisms through which dynamic capabilities affect quality management outcomes. This methodological triangulation enhances the validity and reliability of the findings (Creswell & Creswell, 2018).

The target population comprised manufacturing companies operating in Kenya with formally implemented quality management systems. According to the Kenya Association of Manufacturers (2022), approximately 500 manufacturing companies in Kenya have implemented formal QMS, primarily ISO 9001 certification. Using Yamane's (1967) formula for sample size determination with a 5% margin of error, the minimum required sample was calculated as 222 companies. A stratified random sampling approach was used to ensure representation across manufacturing subsectors, including food processing, textile and apparel,

chemical and pharmaceuticals, metal and allied, and others. Within each stratum, companies were randomly selected from the Kenya Association of Manufacturers' directory. For the qualitative component, purposive sampling was used to select 15 companies for in-depth interviews, ensuring representation across different manufacturing subsectors and company sizes.

Quantitative data was collected through structured questionnaires administered to quality managers or senior executives responsible for quality management in the selected companies. The questionnaires were distributed both electronically (via email) and through in-person visits between January and March 2023. After follow-up efforts, 187 usable responses were received, representing an 84.2% response rate. Non-response bias was assessed by comparing early and late respondents, with no significant differences found. Qualitative data on the other hand was obtained through semi-structured interviews with quality managers and executives from 15 manufacturing companies. The interviews, lasting 45-60 minutes each, explored how companies develop and deploy dynamic capabilities in their quality management processes, the challenges they face, and the perceived impacts on QMS performance. The interviews were audio-recorded with permission and subsequently transcribed for analysis.

Dynamic capabilities were measured using adapted scales from previous studies (Wilden et al., 2013; Pezeshkan et al., 2016). Sensing capabilities were assessed using six items measuring environmental scanning, market intelligence, and technology monitoring activities. Seizing capabilities were measured using seven items assessing resource allocation, opportunity response, and implementation processes. Reconfiguring capabilities were measured using eight items capturing organizational flexibility, process adaptation, and continuous renewal activities. All items were measured on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). QMS performance was operationalized as a multidimensional construct encompassing both internal process improvements and external market outcomes (Prajogo & Sohal, 2004). Internal performance was measured using six items assessing process efficiency, defect reduction, and employee quality awareness. External performance was measured using five items capturing customer satisfaction, market reputation, and certification benefits. As with dynamic capabilities, all items were measured on a five-point Likert scale. Organizational learning orientation was measured using a five-item scale adapted from Baker and Sinkula (1999), capturing a company's commitment to learning, shared vision, and open-mindedness. These items were also measured on a five-point Likert scale. Additionally, Several control variables were included to account for factors that might influence QMS performance independent of dynamic capabilities. These included company size (measured by number of employees), company age, duration of QMS implementation, type of QMS implemented (e.g., ISO 9001, TQM), and manufacturing subsector.

Analysis of quantitative data was done using structural equation modeling (SEM) with AMOS 26.0 software. The analysis proceeded in two stages: first, confirmatory factor analysis (CFA) was conducted to assess the measurement model's validity and reliability; second, structural equation modeling was performed to test the hypothesized relationships. The moderating effect of organizational learning orientation was tested using multi-group analysis and interaction terms. Qualitative data from the interviews was analyzed using thematic analysis following Braun and Clarke's (2006) six-step process. The analysis involved familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. NVivo 12 software was used to facilitate this analysis.

Results

Demographic Characteristics

The 187 participating companies represented diverse manufacturing subsectors, including food processing (27.3%), textile and apparel (18.2%), chemical and pharmaceuticals (15.5%), metal and allied (14.4%), and others (24.6%). In terms of size, 42.2% were large enterprises (>250 employees), 35.3% were medium-sized (51-250 employees), and 22.5% were small enterprises (<50 employees). Most companies (78.6%) had implemented ISO 9001 as their primary QMS, with the remainder implementing TQM (12.3%), Six Sigma (5.9%), or other frameworks (3.2%). The average duration of QMS implementation was 6.8 years (SD = 4.2).

Measurement Model Assessment

Confirmatory factor analysis indicated that the measurement model demonstrated satisfactory fit ($\chi^2 = 427.63$, df = 215, $p < 0.001$; CFI = 0.93; TLI = 0.92; RMSEA = 0.058; SRMR = 0.052). All factor loadings exceeded 0.60, and composite reliability (CR) values ranged from 0.82 to 0.93, indicating good reliability. Average variance extracted (AVE) values ranged from 0.58 to 0.72, supporting convergent validity. Discriminant validity was confirmed as the square root of AVE for each construct exceeded its correlations with other constructs. Table 1 presents the correlations, means, standard deviations, and reliability measures for the key constructs.

Table 1: Descriptive Statistics, Correlations, and Reliability Measures

Variable	Mean	SD	CR	1	2	3	4	5
1. Sensing Capabilities	3.64	0.82	0.87	(0.76)				
2. Seizing Capabilities	3.42	0.91	0.89	0.51**	(0.78)			
3. Reconfiguring Capabilities	3.27	0.94	0.92	0.47**	0.56**	(0.82)		
4. QMS Performance	3.71	0.88	0.90	0.46**	0.43**	0.62**	(0.79)	
5. Learning Orientation	3.51	0.93	0.85	0.38**	0.41**	0.49**	0.45**	(0.76)

*Note: Diagonal values in parentheses represent the square root of AVE; CR = Composite Reliability; ** $p < 0.01$*

Hypothesis Testing

The structural model demonstrated adequate fit ($\chi^2 = 452.18$, df = 219, $p < 0.001$; CFI = 0.92; TLI = 0.91; RMSEA = 0.062; SRMR = 0.056). Table 2 presents the results of hypothesis testing.

As shown in Table 2, all three dimensions of dynamic capabilities positively influenced QMS performance, supporting hypotheses H1, H2, and H3. Reconfiguring capabilities demonstrated the strongest effect ($\beta = 0.58$, $p < 0.001$), followed by sensing capabilities ($\beta = 0.42$, $p < 0.001$) and seizing capabilities ($\beta = 0.39$, $p < 0.001$). The model explained 54% of the variance in QMS performance ($R^2 = 0.54$).

Regarding the moderating effect of organizational learning orientation (H4), the interaction terms were all significant, indicating that learning orientation positively moderated the relationships between all three dynamic capability dimensions and QMS performance. The moderating effect was strongest for reconfiguring capabilities ($\beta = 0.31$, $p < 0.001$).

Table 2: Results of Hypothesis Testing

Hypothesis	Path	Standardized Coefficient (β)	t-value	Result
H1	Sensing Capabilities → QMS Performance	0.42	5.63***	Supported
H2	Seizing Capabilities → QMS Performance	0.39	5.21***	Supported
H3	Reconfiguring Capabilities → QMS Performance	0.58	7.84***	Supported
H4	Interaction terms:			Partially Supported
	Sensing × Learning Orientation	0.23	2.87**	
	Seizing × Learning Orientation	0.19	2.43*	
	Reconfiguring × Learning Orientation	0.31	3.92***	

*Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$*

Among the control variables, company size ($\beta = 0.18$, $p < 0.05$) and duration of QMS implementation ($\beta = 0.22$, $p < 0.01$) had significant positive effects on QMS performance, suggesting that larger companies with more established quality management systems tend to achieve better performance outcomes.

Qualitative Findings

The qualitative analysis of interview data revealed several themes that provided deeper insights into how dynamic capabilities influence QMS performance in Kenyan manufacturing companies.

Development of Sensing Capabilities

Interview participants emphasized the importance of developing systematic market intelligence processes to enhance sensing capabilities. As one quality manager from a food processing company stated:

> *We've established quarterly customer feedback surveys and monthly competitor analysis sessions. These formal intelligence-gathering mechanisms have transformed our quality management from reactive to proactive. We can anticipate changing requirements rather than simply responding to complaints* (Personal Communication, Quality Manager).

Several participants also highlighted the role of technology in enhancing sensing capabilities, particularly for smaller manufacturers with limited resources. A manager from a medium-sized textile company explained:

> *We've leveraged digital platforms to monitor global quality trends and customer preferences. Social media monitoring and web analytics have become essential tools in our quality planning process, helping us identify emerging quality standards before they become mandatory in export markets* (Personal Communication, Manager).

Deployment of Seizing Capabilities
The interviews revealed that effective resource allocation processes were critical for translating quality opportunities into operational improvements. A senior executive from a pharmaceutical company noted:

> *What distinguishes successful quality initiatives is not just identifying improvement opportunities but having a systematic process for evaluating their potential impact and allocating resources accordingly. We've established a quality investment committee that meets monthly to prioritize quality initiatives based on both customer impact and financial return* (Personal Communication, Senior Executive).

Several participants also emphasized the importance of cross-functional collaboration in seizing quality improvement opportunities. A quality director from a metal manufacturing company explained:

> *Quality isn't just the quality department's responsibility. Our most successful improvements have come when we've formed cross-functional teams with representation from production, engineering, sales, and finance. This collaborative approach ensures that quality initiatives receive broad organizational support and necessary resources* (Personal Communication, Quality Director).

Importance of Reconfiguring Capabilities
Reconfiguring capabilities emerged as particularly critical in the Kenyan manufacturing context, characterized by significant market volatility and resource constraints. A manager from a large food processing company explained:

> *The ability to quickly adapt our quality procedures to changing circumstances has been essential. During the COVID-19 pandemic, we completely reconfigured our quality management approach within weeks, implementing new sanitation protocols and remote auditing procedures. Companies that couldn't adapt as quickly lost significant market share* (Personal Communication, Manager).

Another participant from a chemical manufacturing company highlighted the importance of organizational flexibility:

> *When we first implemented ISO 9001, we made the mistake of creating a rigid system that couldn't adapt to changing market conditions. Over time, we've learned to build flexibility into our QMS, with regular review points and clear procedures for modifying processes when necessary. This adaptability has been essential to maintaining certification while remaining competitive* (Personal Communication, Quality Officer).

Learning Orientation as a Cultural Foundation
The interviews consistently highlighted organizational learning orientation as a cultural foundation that enhanced the effectiveness of dynamic capabilities. A senior executive from a large manufacturing company stated:

> *Our company culture emphasizes continuous learning and improvement. We encourage employees to question existing processes, learn from mistakes, and propose new approaches. This learning orientation has made our quality management system much more than a documentation exercise—it's become a catalyst for ongoing innovation* (Personal Communication, Senior Executive).

Several participants noted that learning orientation was particularly important in developing reconfiguring capabilities. As one quality manager explained:

> *Companies that view quality primarily as compliance struggle to adapt to changing circumstances. Those that emphasize learning and improvement see change as an opportunity rather than a threat. This mindset enables much more effective reconfiguration of quality systems when necessary* (Personal Communication, Quality Manager).

Discussion

This study investigated the relationship between dynamic capabilities and QMS performance in Kenyan manufacturing companies. The findings provide several important insights that contribute to both theory and practice.

First, the results confirm that all three dimensions of dynamic capabilities—sensing, seizing, and reconfiguring—positively influence QMS performance in the Kenyan manufacturing context. This aligns with previous research in developed economies (Gutierrez-Gutierrez et al., 2018; Prajogo & Sohal, 2006) but extends these findings to a developing economy context. The relative importance of reconfiguring capabilities in this study highlights the particular value of adaptability in volatile economic environments like Kenya, where manufacturers face frequent changes in market conditions, regulatory requirements, and competitive landscapes.

Second, the study identifies organizational learning orientation as an important moderator that enhances the relationship between dynamic capabilities and QMS performance. This finding resonates with previous research suggesting that learning-oriented organizations derive greater benefits from their capabilities by creating environments conducive to continuous improvement (Baker & Sinkula, 1999; Wu et al., 2012). For Kenyan manufacturers, cultivating a learning orientation may be a cost-effective approach to enhancing the impact of dynamic capabilities, particularly important given the resource constraints that many face.

Third, the qualitative findings provide rich insights into how dynamic capabilities are developed and deployed in practice. The emphasis on systematic market intelligence processes, cross-functional collaboration, organizational flexibility, and learning culture offers practical guidance for manufacturing companies seeking to enhance their quality management effectiveness. These findings align with recent theoretical developments suggesting that dynamic capabilities require both formal processes and supportive organizational cultures to be effective (Schilke et al., 2018; Teece, 2018).

Fourth, the study reveals distinct patterns in how different types of manufacturing companies develop and deploy dynamic capabilities. Larger companies with more resources tend to establish formal intelligence-gathering systems and dedicated quality improvement teams. In contrast, smaller manufacturers often leverage technology and external partnerships to enhance

their capabilities within resource constraints. This diversity of approaches suggests that dynamic capabilities can be cultivated through various pathways, depending on organizational context.

Finally, the research highlights the evolving nature of quality management in developing economies like Kenya. While ISO 9001 certification remains prevalent, the findings suggest a gradual shift from compliance-focused implementation to more strategic approaches that integrate quality management with broader organizational capabilities. This evolution may reflect the increasing maturity of Kenya's manufacturing sector and growing recognition of quality as a strategic competitive factor rather than merely a market requirement.

Conclusions

Theoretical Implications

This study contributes to the theoretical understanding of quality management in several ways. First, it extends dynamic capabilities theory to quality management in developing economy contexts, demonstrating that the framework has explanatory power beyond developed economy settings. Second, it identifies the relative importance of different dynamic capability dimensions in influencing QMS performance, with reconfiguring capabilities emerging as particularly critical in volatile environments. Third, it establishes organizational learning orientation as an important moderator of the relationship between dynamic capabilities and QMS performance, highlighting the interplay between capabilities and organizational culture.

More broadly, the study advances quality management theory by moving beyond technical implementation aspects to examine the organizational capabilities that enable effective quality management. This perspective helps explain the persistent variation in QMS performance outcomes despite similar technical implementations, addressing a significant gap in the literature.

Practical Implications

For manufacturing managers, particularly in developing economies like Kenya, this research offers several practical insights. First, it suggests that investing in dynamic capabilities may be as important as investing in technical quality infrastructure. Specifically, managers should develop systematic processes for scanning the environment for quality-related developments, allocating resources to quality improvement initiatives, and reconfiguring quality systems in response to changing circumstances.

Second, the findings highlight the importance of organizational culture, particularly learning orientation, in enhancing QMS performance. Managers should foster environments that encourage questioning existing processes, learning from mistakes, and continuously improving quality practices. This cultural foundation appears particularly important for developing reconfiguring capabilities, which showed the strongest relationship with QMS performance.

Third, the study offers guidance for different types of manufacturing companies. Smaller manufacturers with limited resources can enhance their dynamic capabilities through technology-enabled intelligence gathering, collaborative partnerships, and flexible organizational structures. Larger companies may benefit from more formalized approaches, including dedicated market intelligence units and cross-functional quality improvement teams.

Limitations and Future Research Directions

This study faces several limitations that provide avenues for future research. The cross-sectional design restricts causal interpretations, highlighting the need for longitudinal studies to understand how dynamic capabilities influence QMS performance over time. The qualitative component, while valuable, involved a relatively small sample, limiting the generalizability of its insights. Additionally, the focus on Kenyan manufacturing firms confines the applicability of findings to that specific context; examining other industries or developing countries could broaden relevance. Moreover, while organizational learning orientation was identified as a moderator, other potential moderating factors such as leadership style or organizational structure remain unexplored. Lastly, the study does not account for the growing impact of digital technologies, which may significantly shape the development and application of dynamic capabilities in quality management settings.

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