Knowledge Strategy and Firm Performance: The Moderating Role of Organizational Culture

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ABSTRACT

Organizational knowledge is increasingly gaining attention in strategic management and related fields. Theoretically, there is consensus that knowledge strategy is related to organizational performance. However, few empirical studies have examined the relationship between knowledge strategy and organizational performance. Further, the few empirical studies examining the link between the variables have yielded inconsistent results. This calls for research adopting a contingency approach to examine the interaction effect of situational factors on the relationship between knowledge strategy and performance. The purpose of this study was to determine the influence of organizational culture on the relationship between knowledge strategy and performance. The study was based on the resource-based theory and contingency theory. The study adopted explanatory and cross-sectional survey research design. Primary data was collected from 184 firms using structured questionnaire administered to the managers of the firms. To test the research hypothesis, Hayes' PROCESS macro was used. The results revealed that organizational culture moderated the relationship between knowledge strategy and organizational performance. The finding demonstrate that the influence of knowledge strategy on performance is contingent on interaction of organizational culture; hence the need to align knowledge strategy with organizational culture to enhance performance.

Keywords: Knowledge strategy, Knowledge exploration, Knowledge exploration, Organizational culture, Organizational performance, Manufacturing sector, Kenya

INTRODUCTION

Knowledge management literature suggests that organizational knowledge is crucial in generating insights necessary for innovation in products and processes required to enhance customer satisfaction and creation of competitive advantage (Darroch & McNaughton, 2003; Lopez-Nicolas & Merono-Cerdan, 2011). This suggests that development and utilization of knowledge improves organizational performance. Strategic management literature suggests that firms make strategic choices regarding the focus of their resources on knowledge exploration and knowledge exploitation. These knowledge strategies are key ingredients for superior organizational performance (March, 1991).

Contingency theory suggests that organizations align their internal aspects such as strategy, structure, leadership and culture, to achieve higher performance outcomes (Donaldson, 1987). Thus, organizations which align their knowledge strategies with internal organizational characteristics would improve firm performance (Donaldson, 1987; Venkatraman & Prescott, 1990). Further, the relationship between knowledge strategy and performance requires supportive contextual factors such as organizational structure, leadership and culture.

Theoretical literature suggests a linkage between knowledge strategy and organizational performance. Despite the theoretical link between knowledge strategy and organizational performance, empirical studies testing the relationship are scanty. The few empirical studies examining the relationship between knowledge exploration and exploitation, and firm performance have yielded inconsistent results. Whereas some studies (He & Wong, 2004; Lubatkin, et al., 2006) reported direct positive relationship between knowledge strategy and

organizational performance, other studies (Siren, Kohtamaki, & Kuckertz, 2012; Venkatraman, Lee, & Iyer, 2007) did not find a direct relationship between the variables.

The inconsistent findings regarding the effect of knowledge exploration and exploitation on performance suggests that there may be other factors moderating or mediating the relationship. Li, Lee, Li and Liu (2010) recommended a contingency perspective when studying relationships between variables. This would involve examining the role of situational factors.

Manufacturing firms in Kenya are operating in a competitive environment. Hence, the firms are under pressure to enhance effectiveness and efficiency for success in the competitive environment. Thus, it is important for the firms to adopt the practice of knowledge management (KM) to enhance innovation and competitive advantage, and improvement in performance. Studies examining KM strategy and competitiveness of manufacturing firms in Kenya (Cheruiyot et al., 2012; Mwihia, 2008) found that the firms were sourcing and using knowledge as a basis of improving effectiveness and efficiency, and hence competitiveness. However, the studies did not focus on the effect of knowledge exploration and exploitation on the performance of the firms and the role of organizational characteristics in the relationship.

While organizational culture is critical for knowledge initiatives and performance, prior studies have not focused on its role in the linkage between knowledge strategy and organizational performance. This study adopted contingency perspective to examine the influence of organizational culture on the relationship between knowledge strategy and organizational performance in manufacturing firms in Kenya.

LITERATURE REVIEW

Knowledge Strategy

Knowledge strategy is a relatively new concept in knowledge literature. Knowledge strategy refers to the overall approach an organization intends to take regarding the focus of its resources on two knowledge domains: knowledge exploration and knowledge exploitation (March, 1991). Thus knowledge strategy describes a firm's strategic choice on whether the firm focuses more of its resources on knowledge exploration, which deals with the creation, discovery or acquisition of new knowledge; or knowledge exploitation that is, incremental refinement or reuse of existing knowledge. Knowledge exploration is more innovation-oriented and knowledge exploitation aims at attaining efficiency (March, 1991; Levinthal & March, 1993; Bierly & Daly, 2007).

Knowledge exploration and exploitation are conceptualized as two distinct constructs, implying that they are not simply two extremes of a single continuum. Rather, they are two sets of strategic choices that involve trade-offs and require different organizational capabilities; and organizations may pursue one, both simultaneously, or neither of the two strategies (March, 1991; Levinthal & March, 1993). In practice, organizations choose a combination of the two strategies, and an organization needs to find a balance between knowledge exploration and exploitation strategies. Focusing solely on exploration can mean that the organization never gains from its investment in exploration of new knowledge, and focusing solely on exploitation may lead to knowledge obsolescence or even the destruction of the organization (March, 1991; Levinthal & March, 1993). Bierly and Daly (2007) found positive correlation between knowledge exploration and exploitation supporting the argument that the strategies are complementary in organizations. Organizational ambidexterity, joint pursuit of a well-balanced combination of knowledge exploration and exploitation is essential for a healthy organization (March, 1991). Tushman and O'Reilly (1996) posit that firms should try to simultaneously excel at knowledge exploration and exploitation; and being an ambidextrous organization, simultaneously excelling at knowledge exploration and exploitation, leads to higher profits.

Organizational Culture

Culture comprises a set of values, beliefs, and assumptions shared by members of an organization (Schein, 1985). These underlying values influence the behaviour of organizational members and guide their behaviours

towards organizational goals (Schein, 1985). Research based on the resource based view has demonstrated that organizational culture is a source of competitive advantage for firms, since it is a firm-level resource which is valuable, rare and difficulty to imitate (Barney, 1991). In most organizational studies, culture is conceptualized in terms of involvement, consistency, adaptability and mission (Denison & Mishra, 1995), and trust and collaboration (Lee & Choi, 2003).

Involvement focuses on employees' commitment and sense of ownership, involvement in decisions that affect them, and team orientation. Consistency refers to the existence of organizational systems and processes that promote alignment and efficiency over time. It also focuses on a common set of management principles, consensus regarding ways of doing things and coordination and integration across the organization. Adaptability is the organization's capacity for internal change to external conditions. Mission refers to the degree to which an organization is clear on its purpose and direction, goals and objectives and a vision for the future (Denison & Mishra, 1995). Trust refers to when members of an organization believe in the integrity, character and ability of each other (Robbins, 1998). Collaboration can be described as the degree to which people in groups actively help one another in their tasks (Kreitner & Kinicki, 2004).

Organizational Performance

The purpose of every business enterprise is to consistently outperform competitors and deliver sustained superior returns to the owners while satisfying other stakeholders. Thus, organizational performance is one of the most important constructs in management research and its improvement is a dominant theme in the field of strategic management (Richard et al. 2009). Organizational performance construct is important in allowing researchers to evaluate firms over time and compare them to rivals (Richard et al., 2009). Strategy scholars and practitioners are concerned with the performance implications of management decisions and actions at firm level (Rumelt et al., 1994). Richard et al. observe that most studies in strategic management define performance as a dependent variable and seek to identify variables that produce variations in performance across organizations.

The concept of organizational performance is based upon the idea that an organization is the voluntary association of productive assets and those providing the assets expect to receive value in exchange (Barney, 1991). Hence, value creation as defined by the resource provider is the essential overall performance evaluation criteria for any organization. Organizational performance is a multidimensional concept that encompasses aspects including financial performance and market performance (Richard et al., 2009).

Knowledge Strategy, Organizational Culture and Performance

Knowledge can be considered the most strategic resource and the ability to acquire, integrate, share and apply it the most important capability for sustaining competitive advantage (Choo & Bontis, 2002). Knowledge literature suggests that organizations need to be ambidextrous, that is, balance knowledge exploration and exploitation, to achieve superior performance. March (1991) argues that returns from knowledge exploitation strategy are more predictable and closer in time, while exploration is risky and uncertain but may promote the firm's survival and success in the long run.

Prior research has reported direct and positive effects of joint pursuit of knowledge exploration and exploitation strategies on organizational performance. In a cross-sectional survey of 206 manufacturing firms in Singapore examining the effect of joint pursuit of knowledge exploration and exploitation on sales growth performance, He and Wong (2004) found that the interaction between knowledge exploration and exploitation strategies was positively related to sales growth. They also found that relative imbalance between explorative and exploitative strategy was negatively related to sales growth rate. The study provided insights regarding the relationship between knowledge exploration and exploitation on performance however, the study did not examine how the relationship may be contingent on situational factors.

Auh and Menguc (2005) conducted a survey study of 260 Australian manufacturing firms to test the moderating role of competitive intensity on the relationship between knowledge exploration and exploitation,

and firm performance. The results showed existence of different impacts of knowledge exploration and exploitation on firm performance, moderated by strategic type. Knowledge exploration had a greater effect than exploitation on firm performance for prospectors, while exploitation exerted a greater impact than exploration for defenders. Auh and Menguc's study made a contribution in examining the moderating effect of strategic type on the relationship between knowledge strategy and performance however, the study did not consider the role of internal contextual factors on the relationship.

Lubatkin et al. (2006) tested the effect of joint pursuit of knowledge exploration and exploitation on firm performance using cross-sectional survey data from 139 small and medium-sized firms in New England, USA. They found that the joint pursuit of an exploitative and exploratory orientation positively affects firm performance. Further, the study revealed that top management team's behavioural integration influences successful pursuit of the knowledge strategies. The study by Lubatkin et al. however, did not consider the influence of organizational characteristics such as structure and culture on the relationship between knowledge strategy and organizational performance.

Contingency theorists illustrate the importance of alignment or fit among different constructs related to organizations, and explain how the relationship between measures of strategy and performance can be moderated by various contextual factors (Venkatraman & Prescott, 1990). Knowledge strategy scholars argue that even though there are challenges for firms to simultaneously pursue knowledge exploration and exploitation, there are organizational systems and human resource practices that support it. For example, team-based structures, organizational cultures that value and promote change, open communication channels, and human resource practices that promote creativity and innovation will help sustain both exploration and exploitation required to enhance organizational innovation and performance (Bierly & Daly, 2007).

In a survey of 58 Korean listed firms examining KM enablers, processes, and organizational performance, Lee and Choi (2003) found that organizational factors were important KM enablers. The study also revealed that cultural aspects of collaboration and trust were important for successful KM. The more employees trust each other, the greater the possibility that they would interact and share knowledge with others. Elsewhere, He and Wong (2004) also found that knowledge exploration and exploitation draw on different structures, processes and resources generating significantly different performance outcomes over time.

In a study examining knowledge process effectiveness, Chong and Chong (2009) found that leadership influences KM process effectiveness. They pointed out that one of the important roles of top management is providing the necessary direction of how to implement a firm's knowledge strategy. This includes establishing a conducive knowledge sharing culture as well as incentives to which employees will be stimulated and motivated to create, organize and share knowledge.

Lam et al. (2021) conducted a study exploring the relationship among organizational culture, knowledge management and innovation capability in 182 high tech firms in Vietnam. The results confirmed that the relationship between organizational culture and knowledge management was positively significant, suggesting that an organization in which a culture of mutual trust, collaboration and learning are promoted, is more likely to increase efficiency of knowledge management practices; thus eventually leading to positive outcomes. Other studies (Abdelrahman et al., 2025; Mambo & Smuts, 2022) demonstrated that a supportive organizational culture is essential in fostering effective knowledge management in organizations. A study by Alzuod et al. (2021) revealed that organizational culture moderates the relationship between knowledge management and organizational learning in Jordanian universities hence, the need to facilitate the right culture for the reinforcement of continuous learning.

Reviewed studies support the proposition that organizational characteristics are influencers of KM initiatives for improvement of organizational performance. The contingency theory also suggests that organizational performance is enhanced when organizational processes are aligned to supportive organizational contingencies (Donaldson, 1987). Thus, alignment of knowledge strategy with organizational characteristics such as culture would achieve higher performance outcomes. Hence, the following hypothesis was proposed:

H1: The effect of knowledge strategy on organizational performance is moderated by organizational culture.

METHODOLOGY

Research Design

This study adopted explanatory and cross-sectional survey research design. This entails collection of data across many research units at one point in time predominantly by questionnaire to determine causal relationships (Bryman & Bell, 2007). Thus, data on the research variables were collected at a single point in time from sample units to examine potential relationships among the variables. Cross-sectional survey was considered appropriate because of the need to collect data from a cross-section of the population at one point in time and the results generalized to represent the entire population of the study.

Population and sample

This study focused on the influence of organizational culture on the relationship between knowledge strategy and performance of manufacturing firms in Kenya. The population of this study comprised 750 manufacturing firms in Kenya listed at the Directory of Kenya Manufacturers and Exporters (KAM, 2024). The firms comprised small, medium and large firms; and are classified into 12 sub-sectors of manufacturing on the basis of the products they manufacture. The sub-sectors are: Food, Beverages and Tobacco; Metal and Allied; Leather and Footwear; Chemical and Allied; Textile and Apparels; Plastics and Rubber; Paper and Board; Timber, Wood and Furniture; Pharmaceutical and Medical Equipment; Motor Vehicle and Accessories; Energy, Electricals and Electronics; and Building, Mining and Construction Sector.

To determine the sample size, the statistical formula suggested by Saunders et al. (2009) was used. Hence, a sample of 266 firms was used for this study. To select the 266 firms which constituted the sample units, disproportionate stratified random sampling method was used to ensure the sample was representative of the 12 sub-sectors of manufacturing to enhance generalizability of the results. To select sample units from each of the manufacturing sub-sector strata, systematic sampling method was used. The sampling frame was constructed from the list of manufacturing firms in Kenya which were members of KAM at the time of the study.

Data Collection

To achieve the objectives of this study, primary data was collected. In gathering the data, a questionnaire was developed to measure the respondents' perceptions of the existence and magnitude of the research variables: knowledge strategy, organizational culture and organizational performance in their organizations. Questionnaire items were developed using Likert-type scales based on these dimensions of the variables.

The unit of analysis in this study was the organization; hence one respondent was targeted in each firm. The respondents were the executive officers of the firms who included chief executive officers, production managers, human resource managers and administrators. These managers were chosen as the respondents because they are considered to be better informed about organizational characteristics and processes.

Measurement of variables

The variables in this study were operationalized by borrowing from related past studies. Knowledge strategy was measured using the widely used dimensions of knowledge exploration and exploitation (Bierly & Daly, 2007; March, 1991; Miller et al., 2007). Organizational culture was measured using the operationalization developed by Denison and Mishra (1995) that encompasses four dimensions: involvement, consistency, adaptability, and mission; and collaboration and trust (Lee & Choi, 2003). Organizational performance was measured using financial performance in terms of return on assets and return on equity, and market performance in terms of market share or sales growth.

Scholars (Atalay et al, 2013; Dess & Robinson, 1984) posit that where objective measures of performance are unavailable or difficult to gather especially for private firms due to confidentiality, a researcher might consider using subjective perceptual data. Since most of the manufacturing firms in Kenya are private firms and hence

absence of publicly available objective data, this study used self-reported perceptual data on financial and market performance of the firms.

Data Analysis

Descriptive statistics were used to describe the research variables. This study used the most widely used summary measure: the mean to describe knowledge strategy, organizational culture and performance of the firms (Easterby-Smith et al., 2012). To determine relative dispersion across the variables, the mean was paired together with the standard deviation. Pearson's product moment correlation was used to analyze how the variables of the study: knowledge strategy, organizational culture and organizational performance were related.

To test the study hypothesis, H1 which proposed that the effect of knowledge strategy on organizational performance is moderated by organizational culture, PROCESS macro developed by Hayes (2013) was used. PROCESS macro was specifically employed to test the moderating effect because it provides a more robust and precise method for analyzing moderated relationships compared to standard regression techniques (Hayes, 2013). While simple and multiple regressions primarily assess direct and additive effects between independent and dependent variables, the PROCESS macro extends this analysis by explicitly modeling interaction effects. It allows for a more comprehensive examination of moderation and mediation relationships by incorporating bootstrapping techniques and generating confidence intervals, thus reducing the risk of Type I and Type II errors. Thus, PROCESS macro was the preferred tool for testing interactions involving the moderating variable, ensuring greater statistical rigor and accuracy.

The model is shown in the equation below:

$$Y = \beta_0 + \beta_1 X + \beta_2 M + \beta_3 (XxM) + \mathcal{E}$$

Y = Organizational performance, X= Knowledge strategy, M = Organizational culture, $X\ x\ M$ = Interaction term, β_0 = Y Intercept, β_1 - β_3 = Regression coefficients, $\mathcal{E}$ = Error term

The analysis using PROCESS macro followed a structured four-step approach. First, composite scores were computed for knowledge strategy, organizational culture and performance to standardize the variables. Second, an interaction term was created by multiplying the composite scores of knowledge strategy and organizational culture. This term was designed to capture the potential moderating effect of organizational culture on the effect of knowledge strategy on organizational performance. Third, the dependent variable, organizational performance; independent variable, knowledge strategy; and the moderator, organizational culture were entered into the regression model. The significance of the interaction term and change in R square were examined to determine moderating effect.

RESULTS AND DISCUSSIONS

Response Rate

To collect data for this study, questionnaires were distributed to 266 companies. After follow-ups, questionnaires from 184 companies were completed and returned in a form usable for analysis, which constituted a response rate of 69 percent. This response rate was considered good as suggested by Bryman and Bell (2007).

Reliability, Validity and Regression Assumptions

Test of Internal Consistency Reliability

The research scales were examined to determine their reliability. To test the internal consistency of the scale items, Cronbach's alpha coefficient was used. The results of the analysis are presented in Table 1.

Table 1: Reliability Statistics

Overall Reliability Statistics			
Cronbach's Alpha		Number of Items	
0.891		23	
Cronbach's Alpha Coefficients for the Measurement Scales for the Constructs			
Variable	**Dimension measured**	**Number of items**	**Alpha (α)**
Knowledge strategy	Knowledge exploration	4	0.745
	Knowledge exploitation	3	0.649
Organizational culture	Involvement	2	0.697
	Consistency	2	0.632
	Adaptability	2	0.760
	Mission	2	0.787
	Collaboration	4	0.822
	Trust	6	0.870
Organizational performance	Financial performance	2	0.788
	Market performance	2	0.757

As shown in Table 1, all the research constructs had alpha coefficients of above 0.7, except the coefficient for knowledge exploitation (0.649) and consistency culture (0.632) which were slightly low. The overall Cronbach's Alpha coefficient was 0.891. Overall, the instrument met the recommended threshold of 0.7 (Nunnally & Bernstein, 1994) and thus, was considered reliable.

Test of Validity

To test construct validity, factor analysis was conducted. Because of the large number of items involved, separate sets of factor analyses were conducted for the items in the research constructs. Exploratory factor analysis was used to check the extent to which each item in the scales contributed to the respective factor. Principal component analysis and varimax rotation extraction methods were used because of their wide usage and simplicity (Hair et al., 2011).

Factor Analysis of Knowledge Strategy

Exploratory factor analysis for items in knowledge strategy scale was conducted. Validity was assessed by examining the factor loadings to see if the items in the scale loaded highly on the construct. Table 2 presents the results of the analysis.

Table 2: Rotated Component Matrix for Measures of Knowledge strategy

Knowledge strategy items	**Component**
	1
At our firm employees frequently come up with creative ideas that challenge conventional ideas	.727
Our firm excels at refining existing technologies	.691
We are usually one of the first firms in our industry to use new breakthrough technologies	.689
We frequently experiment with radical new ideas	.685
Compared to our principal competitors, a high percentage of our firm's sales come from new products launched within the past 3 years	.674
At our firm a strong emphasis is placed on improving efficiency	.651
We frequently adjust our procedures, rules and policies to make things work better	.604
Extraction Method: Principal Component Analysis.	

The rotated component matrix in Table 2 shows that all the factor loadings of knowledge strategy items range from 0.604 to 0.727. The loadings met the cut-off of 0.4 (Hair et al., 2011) and were considered sufficiently high. Thus, all the factors were retained for analysis.

Factor Analysis of Organizational Culture

Factor analysis of organizational culture scale was conducted to check the extent to which each item in the scale contributed to the respective factors. Table 3 presents the results of the analysis.

Table 3: Rotated Component Matrix for Measures of Organizational Culture

Organizational culture items	**Component**				
	1	2	3	4	5
Our employees have trust in each other's commitment to the organizational goals	.833				
Our employees have trust in each other's ability	.801				
Our employees have relationships based on trust in each other	.739				
Our employees have trust in each other members' intentions and behaviours	.718				
Our employees are generally trustworthy	.666				
Our employees have trust in each other's commitment to the company as a whole	.660				
There is willingness to collaborate across organizational units within our organization		.830			
In our organization employees are highly willing to support each other		.731			
In our organization, collaboration among employees is high		.710			
There is willingness within our organization to accept responsibility for failure		.645			
Customers comments and recommendations often lead to changes in this organization			.853		
This organization is very responsive and adapts to changes easily			.762		
There is a high level of agreement about the way that we do things in this organization			.570		
Our approach to doing business is very consistent			.402		
This organization has a long term purpose and direction				.803	
There is a shared vision of what this organization will be like in future				.732	
Cooperation and collaboration across functional roles is actively encouraged					.856
Most people in this organization have input into the decisions affecting them					.775
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.					

As shown in Table 3, the rotated component matrix in the table indicates that all the factor loadings of organizational culture items ranged from 0.402 to 0.856. Although the loading of the item 'Our approach to doing business is very consistent' was low (.402), all the loadings met the cut-off of 0.4. Thus, all the factors were retained for analysis.

Factor Analysis of Organizational Performance

In conducting factor analysis for organizational performance, principal component analysis and varimax rotation was used to check the extent to which each item in the scale contributed to the respective factors. The results of the analysis are presented in Table 4.

Table 4: Rotated Component Matrix for Measures of Organizational performance

Organizational performance items	Component
	1
Return on equity	.831
Market share	.818
Return on assets	.754
Sales growth	.723
Extraction Method: Principal Component Analysis	

The rotated component matrix in Table 4 shows that all the factor loadings were sufficiently high and met the threshold of 0.4. All the factors were retained for analysis.

Descriptive Statistics of Study Variables

Knowledge Strategy

The study examined knowledge strategy in the firms. Respondents were asked to indicate the extent to which they agreed that the statements on the items of dimensions of knowledge strategy described their firms. The dimensions of knowledge strategy were knowledge exploration and knowledge exploitation. Each item had a 5-point Likert-type scale, ranging from 'strongly disagree' (1) to 'strongly agree' (5). The responses were analyzed using mean scores and standard deviations. Table 5 presents the results of the analysis.

Table 5: Mean and Coefficient of Variation for Measures of Knowledge Strategy

Knowledge strategy items	N	Mean	Std. Deviation
Knowledge Exploration		**3.84**	
We frequently experiment with radical new ideas	183	3.82	.82
At our firm employees frequently come up with creative ideas that challenge conventional ideas	183	3.79	.82
Compared to our principal competitors, a high percentage of our firm's sales come from new products launched within the past 3 years	181	3.84	.86
We are usually one of the first firms in our industry to use new breakthrough technologies	182	3.90	.84
Knowledge Exploitation		**4.11**	
At our firm a strong emphasis is placed on improving efficiency	182	4.14	.77
Our firm excels at refining existing technologies	184	4.07	.77
We frequently adjust our procedures, rules and policies to make things work better	184	4.10	.74
Overall		**3.95**	

As shown in Table 5, the mean score for the knowledge exploration dimension was 3.84. The item with the highest score was 'we are usually one of the first firms in our industry to use new breakthrough technologies' (M = 3.90, SD = 0.84); the item with the lowest score was 'at our firm employees frequently come up with creative ideas that challenge conventional ideas' (M = 3.79, SD = 0.82). Further, the results show that data on items of knowledge exploration had low variability.

The mean for knowledge exploitation dimension was 4.11. The item with the highest score was 'at our firm a strong emphasis is placed on improving efficiency' (M = 4.14, SD = 0.77); the item with the lowest score was 'our firm excels at refining existing technologies' (M = 4.07, SD = 0.77).

The overall mean score for knowledge strategy was 3.95. These results indicate that the respondents strongly agreed with the statements regarding knowledge strategy in their organizations. These results were interpreted

to mean that the firms practice knowledge strategy that is, both knowledge exploration and knowledge exploitation strategies to a great extent. However, the organizations exhibit slightly more of knowledge exploitation (M = 4.11) than knowledge exploration (M = 3.84).

Organizational Culture

Regarding organizational culture, respondents were asked to indicate the extent to which they agreed that the statements of aspects of organizational culture described their firms. Each item had a 5-point Likert-type scale, ranging from 'strongly disagree' (1) to 'strongly agree' (5). The responses were analyzed using mean scores and standard deviations. Table 6 presents the results of the analysis.

Table 6: Mean and Standard Deviation for Measures of Organizational Culture

Organization Culture items	**N**	**Mean**	**Std. Deviation**
Involvement		**3.98**	
Most people in this organization have input into the decisions affecting them	183	3.86	.73
Cooperation and collaboration across functional roles is actively encouraged	183	4.10	.67
Consistency		**4.09**	
There is a high level of agreement about the way that we do things in this organization	184	4.08	.77
Our approach to doing business is very consistent	184	4.10	.79
Adaptability		**4.12**	
Customers comments and recommendations often lead to changes in this organization	184	4.14	.65
This organization is very responsive and adapts to changes easily	184	4.09	.72
Mission		**4.18**	
This organization has a long term purpose and direction	183	4.21	.65
There is a shared vision of what this organization will be like in future	184	4.15	.74
Collaboration		**4.03**	
In our organization, collaboration among employees is high	182	4.06	.72
In our organization employees are highly willing to support each other	184	4.05	.78
There is willingness to collaborate across organizational units within our organization	183	4.09	.73
There is willingness within our organization to accept responsibility for failure	184	3.93	.83
Trust		**3.99**	
Our employees are generally trustworthy	184	3.98	.72
Our employees have trust in each other members intentions and behaviours	184	3.92	.78
Our employees have trust in each other's ability	181	3.97	.72
Our employees have trust in each other's commitment to the organizational goals	184	4.05	.73
Our employees have trust in each other's commitment to the company as a whole	183	4.01	.74
Our employees have relationships based on trust in each other	184	4.02	.66
Overall Mean		**4.05**	

As shown in Table 6, the mean score for involvement dimension was 3.98. The item 'cooperation and collaboration across functional roles is actively encouraged' had a higher mean score (M = 4.10, SD = 0.67) and the item 'most people in this organization have input into the decisions affecting them' had a slightly low mean score (M = 3.86, SD = 0.73). The mean score for consistency is 4.09. The item 'our approach to doing business is very consistent' had a higher mean score (M = 4.10, SD = 0.79) and the item 'there is a high level of agreement about the way that we do things in this organization' had a slightly low mean score (M = 4.08,

SD = 0.77). The mean score for adaptability is 4.12. The item 'customers' comments and recommendations often lead to changes in this organization' had a higher mean score (M = 4.14, SD = 0.65) and the item 'this organization is very responsive and adapts to changes easily' had a slightly low mean score (M = 4.09, SD = 0.72). The mean score for mission is 4.18. The item 'this organization has a long term purpose and direction' had a higher mean score (M = 4.21, SD = 0.65) and the item 'there is a shared vision of what this organization will be like in future' had a slightly low mean score (M = 4.15, SD = 0.74).

The mean score for collaboration was 4.03. The item with the highest score was 'there is willingness to collaborate across organizational units within our organization' (M = 4.09, SD = 0.73); the item with the lowest score was 'there is willingness within our organization to accept responsibility for failure' (M = 3.93, SD = 0.83). The mean score for trust is 3.99. The item with the highest score was 'our employees have trust in each other's commitment to the organizational goals' (M = 4.05, SD = 0.73); the item with the lowest score was 'our employees have trust in each other member's intentions and behaviours' (M = 3.92, SD = 0.78).

The overall mean score for organizational culture was 4.05. The results indicate that the respondents agreed with the statements regarding the dimensions of culture to a great extent. Thus, it can be concluded that to a great extent, the organizations are characterized by culture of involvement, consistency, adaptability, mission, collaboration and trust.

Organizational Performance

The study sought to describe the performance of manufacturing firms in Kenya. Respondents were asked to estimate how their firms' performance ranked compared to other firms in their industries on each dimension of performance. Each item had a 5-point Likert-type scale, ranging from 'lowest 20%' (1) to 'top 20%' (5). The responses were analyzed using mean scores and standard deviations. Table 7 presents the results of the analysis.

Table 7: Mean and Standard Deviation for Measures of Organizational Performance

Organizational Performance	**N**	**Mean**	**Std. Deviation**
Financial performance		**3.82**	
Return on assets	181	3.83	.87
Return on equity	181	3.81	.95
Market performance		**3.76**	
Market share	184	3.77	.91
Sales growth	184	3.76	.91
Overall Mean		**3.79**	

As shown in Table 7, the mean score for financial performance dimension was 3.82. The item 'return on assets' had a higher mean score (M = 3.83, SD = 0.87) and the item 'return on equity' had a slightly low mean score (M = 3.81, SD = 0.95). The score for market performance dimension was 3.76. The means for the items were almost the same ('market share' had a mean score M = 3.77, SD = 0.91; and 'sales growth' had a mean score M = 3.76, SD = 0.91). The overall mean for organizational performance was 3.79. This mean score indicates that the respondents estimate the performance of their firms to rank in the top 40% in their respective industries.

Correlation Analysis

The study sought to examine how the variables of the study: knowledge strategy, organizational culture and organizational performance were related. The analysis was done using Pearson product moment correlation. The results of the analysis are presented in Table 8.

Table 8: Correlation Matrix for Knowledge Strategy, Organizational Culture and Organizational Performance

		Knowledge strategy	Organizational culture	Organizational performance
Knowledge Strategy	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	179		
Organizational culture	Pearson Correlation	.552**	1	
	Sig. (2-tailed)	.001		
	N	172	176	
Organizational performance	Pearson Correlation	.363**	.382**	1
	Sig. (2-tailed)	.001	.001	
	N	176	173	181
**. Correlation is significant at the 0.05 level (2-tailed).				

The correlation results in Table 8 show a significant positive relationship between knowledge strategy and organizational performance ($r = 0.363$, $p < 0.05$). The correlation results also reveal that there is a positive and significant relationship between organizational culture and organizational performance ($r = 0.382$, $p < 0.05$). Further, the results show a significant positive relationship between knowledge strategy and organizational culture ($r = 0.552$, $p < 0.05$). These results are consistent with findings of past studies which found a positive relationship between knowledge strategy and organizational performance (He & Wong, 2004; Lubatkin et al., 2006). The findings also support the findings of Lee and Choi (2003) who found a relationship between KM initiatives and organizational culture of trust and collaboration.

Test of Hypothesis

Knowledge Strategy, Organizational Culture and Performance

The study hypothesis H1 predicted that the effect of knowledge strategy on organizational performance is moderated by organizational culture. The hypothesis was tested using **PROCESS macro**. The results of the analysis are presented in Table 9.

Table 9. Results showing the effect of organizational culture on the relationship between knowledge strategy and organizational performance

Model Information:

- Model: 1
- Outcome Variable (Y): Organizational Performance (OP)
- Predictor (X): Knowledge Strategy (KS)
- Moderator (W): Organizational Culture (OCLT)
- Sample Size: 169

Model Summary:

R	R-sq	MSE	F	df1	df2	p
.4838	.2340	.4189	16.8058	3	165	<.0001

Regression Coefficients:

Variable	Coeff	SE	t	p	LLCI	ULCI
Constant	3.8466	.0531	72.4305	<.0001	3.7417	3.9514
KS	.1995	.1117	1.7861	.0759	-.0210	.4199
OCLT	.3176	.1359	2.3370	.0206	.0493	.5859
KS × OCLT	.4441	.1312	3.3842	.0009	.1850	.7033

Test of Moderation Effect:

Interaction	R^2-change	F	df1	df2	p
KS × OCLT	.0532	11.4529	1	165	.0009

Note: LLCI = Lower Level Confidence Interval; ULCI = Upper Level Confidence Interval (95% CI)

The results in Table 9 show that the model incorporating knowledge strategy and organizational culture accounted for 23.4% of the variance in organizational performance (R square = 0.2340) indicating that 23.4% of the variability in organizational performance is explained by the joint effect of knowledge strategy and organizational culture. Further analysis shows that organizational culture ($\beta = .3176$, $t = 2.3370$, $p < 0.05$) has statistically positive and significant effect on organizational performance. However, knowledge strategy ($\beta = .1995$, $t = 1.7861$, $p > 0.05$) has positive but insignificant effect on organizational performance. The interaction term also has a statistically significant effect ($\beta = .4441$, $t = 3.3842$, $p < 0.05$), demonstrating that organizational culture significantly moderates the relationship between knowledge strategy and organizational performance. When the interaction term between knowledge strategy and organizational culture was included in the regression model, it accounted for an additional 5.32% of the variance in organizational performance (R^2 change = 0.0532, $F = 11.4529$, $p < 0.05$) indicating a significant change in organizational performance. Thus, the data supports the research hypothesis that the effect of knowledge strategy on organizational performance is moderated by organizational culture.

The results of this study confirm the argument from previous studies that in order to succeed, KM initiatives require important enablers such as a culture of collaboration and trust (Chong & Chong, 2009; Lam et al., 2021; Lee & Choi, 2003) and friendly culture that supports learning and sharing of knowledge (Abdelrahman et al., 2025; Alzuod et al., 2021; Bierly & Daly, 2007; Mambo & Smuts, 2022). Alignment of KM initiatives to these factors increases the effect of knowledge strategy on organizational performance. However, unlike prior studies which examined the role organizational culture plays as enabler of KM initiatives, this study focussed on the moderating effect of organizational culture on the relationship between knowledge strategy and organizational performance. The study contributes to knowledge by showing empirically that supportive organizational culture is a necessary condition for the effect of knowledge strategy on organizational performance.

CONCLUSION

The objective of the study was to determine the influence of organizational culture on the relationship between knowledge strategy and organizational performance. PROCESS macro analysis results revealed that the effect of the interaction term on organizational performance was significant, and interaction between knowledge strategy (independent variable) and organizational culture (a moderator) explained significant variance in organizational performance. Hence, data supports Hypothesis H1 which stated that the effect of knowledge strategy on organizational performance is moderated by organizational culture. Thus, the results reveal that organizational culture moderates the relationship between knowledge strategy and organizational performance. That is, aligning knowledge strategy with organizational culture enhances the effect of knowledge strategy on organizational performance. The finding of this study supports the arguments of contingency theory which suggests that congruency among organizational variables such as strategy and organizational culture is critical in enhancing performance. This study adds to the empirical support of the contingency perspective that interaction of organizational processes like knowledge strategy and situational factors such as organizational culture results in higher performance outcomes.

RECOMMENDATIONS

This study was based on the resource based theory and contingency theory to determine the moderating effect of organizational culture on the relationship between knowledge strategy and organizational performance. The findings show that the relationship between knowledge strategy and organizational performance is moderated by organizational culture. This implies that managers should understand under which circumstances

knowledge strategy leads to superior performance, and pay attention to the influence of the contingency factors in managing the relationship. In light of the findings of this study, to improve organizational performance, managers should align knowledge strategy with supportive organizational culture. This would include developing organizational cultures that value and promote change, open communication, collaboration and trust that are important for successful knowledge exploration and exploitation, required to enhance organizational innovation and performance.

This study has made a contribution in providing understanding of the role of organizational culture in the relationship between knowledge strategy and organizational performance. Future studies may consider inclusion of other organizational variables which may influence the relationship between knowledge strategy and organizational performance either as moderating or mediating variables. The variables may include organizational resources and structure.

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