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## Article

# How organizational learning dimensions influence firms' competitive strategy and performance in a lower-middle-income country: A mediation model

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## OPERATIONS MANAGEMENT | RESEARCH ARTICLE

# How organizational learning dimensions influence firms' competitive strategy and performance in a lower-middle-income country: A mediation model

Marian Maclean<sup>1\*</sup>, Michael Karikari Appiah<sup>2</sup> and Joyce Francisca Addo<sup>1</sup>

**Abstract:** Organizational learning (OL) offers knowledge sharing and innovation to firms. OL is a driver of firms' competitive advantage and performance, yet this symbiotic relationship has not been adequately explored in most developing countries. It is against this backdrop that the current study aims to develop a baseline model in the context of a low- and middle-income country to explain the extent to which OL dimensions impact firms' competitive strategy and performance. Our article utilizes a quantitative research approach and deductive reasoning. Cross-sectional survey data have been collected from small and medium enterprises across manufacturing, hospitality, extraction, transportation, construction, and oil and gas subsectors. Our data have been analyzed using the structural equation modelling technique. The study has revealed that OL dimensions of knowledge acquisition, knowledge distribution, and knowledge interpretation have positive and significant impacts on firms' competitive strategy and performance. Moreover, competitive strategy significantly and positively mediates the relationship between OL dimensions and firm performance. The theoretical implications of the study include the development of a baseline model to explain the extent to which OL dimensions impact firms' competitive strategy and performance in the context of lower-middle-income countries, where such studies are largely inadequate. Practically, this study is among the very few to present contextual determinants of firm competitive strategy and performance to guide investors and business owners in attracting, retaining, and transferring knowledge in order to formulate fierce strategies.

**Subjects:** Economic Psychology; Development Studies; Culture & Development; Sustainable Development; Sociology of Work & Industry;

**Keywords:** organizational learning; competitive strategy; performance; small and medium enterprises

### 1. Introduction

The influx of COVID-19 pandemic and its concomitant effects have changed the business landscapes in most developing countries including India and Sub-Saharan African Countries (Gaan et al., 2023; Guru et al., 2023; Piwowar-Sulej et al., 2023), leading to a new form of organizational learning (OL). Organisational learning offers knowledge sharing and innovation to firms. It is a driver of firms'

competitive advantage and performance, yet this symbiotic relationship has not been adequately explored in most developing countries. It is the process of creating, maintaining, and transferring knowledge within an organization. It encompasses the improvement of processes that can increase efficiency, accuracy, and profits (Karnopp, 2022; Mai et al., 2022; Meher & Mishra, 2022; Mishra & Reddy, 2021; Subramanian & Suresh, 2022). An organization evolves over time as it gains experience. Organizational learning is one aspect and a robust element of corporate strategy that enable firms to flourish in the market environment (Keskin et al., 2021; Kharub et al., 2022; Koçyiğit & Tabak, 2020). Through, learning organizations gain the ability to identify not only opportunities but forecast market trends and embark on events that would yield better products and services, enhance customer satisfaction, and performance in general (Saeidi et al., 2021). Thus, organization learning is a mean through which organizations are equipped with knowledge and experiences to improve their capabilities. It is considered one of the most important mechanisms and fundamental approaches and refers to the joint development of information and knowledge involving two or more organizations (Karnopp, 2022; Mutebi et al., 2022).

Moreover, OL is reflected in the many benefits to organizations that develop a learning culture: higher employee satisfaction, lower turnover, increased productivity, profits and efficiency, development of managers at all levels, and better adaptability throughout the organization. Due to the relevance of OL, avalanches of previous related studies have argued that OL could be linked to competitive strategy of a firm (Eymas & Bensebaa, 2021; Gonzalez-Benito et al., 2022; Khan & Bashir, 2020; Ngah & Wong, 2020; Santos et al., 2021). According to Edson and Muranda (2021), competitive strategy is a process that aims to develop a competitive yield and create superior returns for stakeholders. Competitive strategy is how a company develops a competitive advantage over its competitors in an industry (Ali et al., 2022; Danso et al., 2019; Das & Canel, 2022; Sahoo, 2021). It is concerned with how a company establishes a competitive yield over its competitors in an industry. Competitive strategy is considered one of the most pressing requirements for companies to develop and sustain themselves in an unstable and constantly changing environment (Barniatzi et al., 2016; Gorondutse & Hilman, 2014; Schilling & Fang, 2014). Evidence from prior studies (Hermelingmeier & Von Wirth, 2021; Jerez-Gómez et al., 2019; Peschl, 2022; Ryu et al., 2022; Yadegaridehkordi et al., 2020; YahiaMarzouk & Jin, 2022; Zhou et al., 2022) have indicated that it is imperative for firms to ensure that the knowledge created through the aforementioned process is retained and used to enhance growth and development.

Inferring from the Organizational Learning Theory (OLT), this article aims to develop a baseline model in the context of lower-middle-income country to explain the extent to which OL dimensions impact on firms' competitive strategy and performance. Organizational Learning Theory further emphasizes the importance of developing a learning culture in an organization.

According to this theory, organizations should develop a culture that values knowledge sharing; take time to learn from mistakes, encourage employees at all levels to engage in lifelong learning, and enable individuals and groups to challenge the organizational status quo. In order to address the palpable gaps and discrepancies in previous reports, this article builds on the premise that prior studies have focused on the relationship between OL and firm performance. The article argues that although the relationship between OL and firm performance has been widely studied, the extent to which competitive strategy (cost leadership and differentiation) mediates such a relationship has not been adequately explored. The article further argues that the relationship between OL and firm performance is not direct and impactful unless competitive strategy is considered in the relationship as the intervening variable (mediator). Moreover, given that majority of firms collapse during their initial 5 years of operations in emerging countries, including Ghana, there is the need to reconsider the nexus between OL, competitive strategy, and firm performance with a focus on Ghanaian firms. This article is expected to develop a model that could be used to enhance the process of conceiving, acting, and transferring knowledge within an organization. Again, this article is among the very few to disaggregate OL into knowledge acquisition, knowledge interpretation, knowledge distribution, and organizational memory and analyze how each dimension impacts on competitive strategy and subsequently firm performance.

The present study is conducted among small- and medium-sized enterprises (SMEs) in Ghana. Ghana is member of the Economic Community of West African (ECOWAS). It is currently described as lower-middle-income country. This study is relevant to enhance SMEs’ growth and development through employment creation, revenue generation, innovation, human capital development, exportations, and Gross Domestic Products. SMEs are the main economic drivers in most countries. Ghana is no exception, as more than 85% of the country’s businesses are SMEs. However, recent studies have shown that most SMEs are unable to compete, survive, and grow. The Ghanaian government and relevant support agencies have put in place strategies for sustainable and inclusive growth through a number of interventions, including the following national export strategy, which aims to diversify non-traditional exports; a sweet potato sector strategy, which has developed a roadmap for risk diversification strategies; and a Made-in-Ghana campaign, which has promoted the development of local content by integrating it into the supply chain of local suppliers.

Section 1 presents the general introduction, objective, research questions, and contributions of the study; Section 2 presents literature review and research framework; Section 3 presents research methods and techniques; Section 4 presents results and discussions; and Section 5 presents the conclusion, implications, and limitations of the study.

**2. Theoretical background and hypotheses development**

Our study is based on the proposition that knowledge creation, retention, and sharing have strong positive impact on firm’s competitive advantage and can subsequently boost firm performance, which is consistent with the OLT (Argyris & Schön, 1978). The main assumption of OLT focuses on the creation of knowledge and its utilization in an organization. The basic principles of OLT are that learning occurs when people interact in the process of solving and resolving problems. Organizational learning theory further emphasizes the importance of developing a learning culture in an organization.

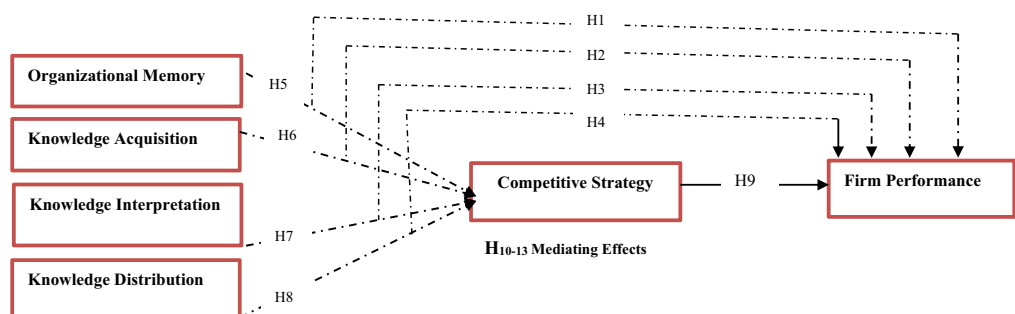
According to this theory, organizations should develop a culture that values knowledge sharing, take time to learn from mistakes, encourage employees at all levels to engage in lifelong learning, and enable individuals and groups to challenge the organizational status quo. Inferring from these assumptions, the article has postulated that knowledge acquisition, knowledge distribution, knowledge interpretation, and organizational memory exert a positive effect on firm’s strategy which subsequently affect performance as illustrated in Figure 1. The proposed research framework has been developed to test the mediating effect of competitive strategy on the relationship between OL dimensions and firm performance. Each of these constructs has been elucidated in the next section.

**2.1. Organizational learning on firm performance**

Organizational learning is one aspect and a robust element of corporate strategy that enables firms to flourish in the market environment (Bamiatzi et al., 2016; Karnopp, 2022; Mai et al., 2022; Meher & Mishra, 2022; Mishra & Reddy, 2021; Schilling & Fang, 2014). Learning organizations have the ability to identify opportunities, forecast market, and embark on events that would enhance customer satisfaction and performance in general (Mutebi et al., 2022; Saeidi

**Figure 1. Research framework.**

Source: Authors ‘Construct, 2023



et al., 2021; Subramanian & Suresh, 2022; Zhou et al., 2022). Thus, OL is a means through which organizations are equipped with knowledge and experiences needed to improve their capabilities. It is considered one of the most important mechanisms and fundamental approaches to the joint development of information and knowledge involving two or more organizations (Khan & Bashir, 2020; Mutebi et al., 2022; Subramanian & Suresh, 2022; Yadegaridehkordi et al., 2020). Moreover, OL is a process that deals with knowledge and is the ability of the organization to develop sustainably. Its function is to understand (Hermelingmeier & Von Wirth, 2021) and enable organizations to effectively change existing processes, thus improving innovation performance (Jerez-Gómez et al., 2019). Wujabudula and Zehir (2016) explored the effective means of firm performance and considered how product innovation is influencing the association.

The study postulates that through learning managers are able to enhance their organizational performance in positive terms. Besides, innovative product influence such relationship. Similarly, Wujabudula and Zehir (2016) considered the OL and performance and understand the nexus between the variables following a descriptive cross-section approach. The study finalized that although the nexus emerges as positive and significant, with respect to financial aspect of performance, the relation proved to be insignificant. Ali and Anwar (2021) studied OL as a determinant of firm performance and revealed that the factors of OL, openness, experimentation, and management commitment contribute enormously to firm performance. Al-Mujaini et al. (2021) analyzed the moderating and mediating effects of digital transformation and innovation on the relationship between exogenous and endogenous constructs. They found that the effect of entrepreneurial foresight on organizational performance was positive although not significant, and the impact of learning capabilities on performance was significant (Peschl, 2022; Ryu et al., 2022; YahiaMarzouk & Jin, 2022; Zhou et al., 2022). Furthermore, innovation was found to mediate the relationship between OL and performance dynamics. In view of the presentation herein and the basis of the OLT, the paper hypothesizes as follows:

**H1-4:** Organizational learning dimensions (organizational memory knowledge acquisition, knowledge interpretation, knowledge distribution) have significant and positive effects on firm performance.

## **2.2. Organizational learning and competitive strategy**

Organizational learning has been widely studied (Karnopp, 2022; Mai et al., 2022; Meher & Mishra, 2022; Mishra & Reddy, 2021). It has been further argued that OL is a key determinant in firm's competitive strategy. Makabilla et al. (2017) investigated how state-owned companies achieve competitive advantages via corporate learning. ATLAS was used for qualitative analysis. The results of single and multiple regressions showed that each independent variable was significantly and positively associated with competitive advantage. Learning speed partially mediated the relationship between learning process and competitiveness, systematic thinking and competitive advantage. Furthermore, Saleem et al. studied the nexus between OL, innovation, and competitive advantage, understand how organizational culture mediate the nexus, and found that learning culture has a substantial impact on innovation and competitive advantage just as OL on competitive advantage. Moreover, Ryu et al. (2022) examined how higher OL improves SMEs' performance and the mediating effect of competitive advantage. Using Preacher and Hayes' mediation analysis, it is confirmed that through higher OL, performance can be improved significantly. Also, SEM results confirmed the mediation impact of competitive advantage on the nexus. Asabbagh and Al Khalil (2017) investigated the effect of OL on innovation in public and private universities in Damascus. The study found that all elements of OL had a significant effect on innovation. Regression analysis also showed that four elements of OL explained the variation in innovation capacity. In view of the presentation herein and the basis of the OLT, the article hypothesizes as follows:

**H5-8:** Organizational learning dimensions (organizational memory knowledge acquisition, knowledge interpretation, knowledge distribution) have significant and positive effects on competitive strategy.

### **2.3. Competitive strategy and firm performance**

The relationship between competitive strategy and firm performance has been studied extensively (Keskin et al., 2021; Kharub et al., 2022; Koçyiğit & Tabak, 2020). According to Edson and Muranda (2021), competitive strategy is a process that aims to develop a competitive yields and create superior returns for stakeholders. Competitive strategy is how a company develops a competitive advantage over its competitors in an industry (Danso et al. (2019). It is concerned with how a company establishes a competitive yields over its competitors in an industry. Competitive strategy is considered one of the most pressing requirements for companies to develop and sustain themselves in an unstable and constantly changing environment (Gorondutse & Hilman, 2014). Doreen (2017) also argued that these activities are different from those of other companies. Kovaleva and de Vries (2016) used longitudinal data to investigate what strategies incumbent microenterprises adopt when faced with various levels of competition and reported that perceived competitive threats induce firms' strategic behavior, but market-level competitive behavior does not affect firms' strategic behavior. Edson and Muranda (2021) examined the impact of competitive strategy and innovation on firm performance and found that focus and differentiation strategies were directly positively correlated with firm performance and innovation. However, cost leadership is inversely correlated with firm performance and positively correlated with innovation. Furthermore, Kharub et al. (2019) found an indirect association between cost control strategies and performance while measuring the impact of competitive differentiation and cost control strategies on firm performance. However, quality management as a mediator proves to be positive and significant on the association. The study further revealed factors including supplier management, information distribution, and evaluation, as well as consistent improvement as effective to promote quality management among SMEs. Also, Hamzat (2020) examined the impact of competitive strategies on performance in the broadcasting industry. The results unveiled that firms in the broadcasting industry in Ilorin employed three different competitive strategies, two of which had a significant impact on market share, with the hybrid strategy performing better than the other strategies. In view of the presentation herein and the basis of the OLT, the article hypothesizes as follows:

**H9:** Competitive strategy significantly and positively affects firm performance.

**H10-13:** Competitive strategy significantly mediate the relationships between *organizational learning dimensions (organizational memory, knowledge acquisition, knowledge interpretation, knowledge distribution)* and firm performance.

## **3. Research methodology**

### **3.1. Research design and approach**

Our article has utilized a quantitative research approach and deductive reasoning, because quantitative research entails the use of appropriate statistical and mathematical models in research to achieve an objective outcome. A quantitative approach in the form of a questionnaire survey was used in this study to explore observable facts and provide specific explanations for the issues identified. The questionnaire developed was closed-ended. In social research, cross-sectional surveys are most commonly used. A cross-sectional survey collects data at a specific point in time. Zikmund et al. (2012) argued that this design has the advantage of measuring current attitudes or practices. It also provides valuable information in a short period of time, such as the time it takes to conduct the survey and gather information. However, the timing of cross-sectional surveys may not be representative of the behaviour of the whole group (Appiah et al., 2021, 2021; Saunders et al., 2012; Zikmund et al., 2007).

### **3.2. Population and sampling**

The population of the study comprised SMEs across different subsectors including manufacturing, hospitality, extraction, transportation, construction, and oil and gas in Ghana. According to Ghana

Enterprise Agency (GEA), there are currently 2,825 formal registered SMEs in Ghana (Appiah, 2022; Appiah et al., 2022, 2022). The sample size was calculated using a guide. Accordingly, the authors argued that given the population of 2,825, the study adopted the rule of 10 by Hair et al. (2017). According to this rule, the sample size of an article is determined by multiplying the total number of paths directed towards a latent variable in the research framework. The current study has 13 paths comprising of 9 direct and 4 indirect. Therefore, the required minimum sample size for this article is  $(13 \times 10)$  130. The study employed 347 participants. Meanwhile, the total useable responses from the survey were 232, which corresponded to 66.9% response rate. A pre-test was also conducted before the distribution of the questionnaires to check the initial reliability and validity of each indicator. The Cronbach Alpha and factor loading values have been presented in Table 1. The questionnaires were distributed to Ghanaian SMEs from 5 December 2021 to 25 January 2022 via a link to a Google Form. The Google form has been used to coverage, cost effectiveness, and representativeness of participants. A random sampling method (Stratified Sampling) was used to collect respondents' data because a majority of formal SMEs in Ghana are registered in SME associations, and therefore, it was not difficult to use probability sampling method in this study.

### **3.3. Construct measurements and data collection structure**

All the measurement instruments for the study were adopted from previous studies as shown in Table 2. Each of these factors was measured on a 5-point Likert's type scale from "strongly disagree" (1) to "strongly agree" (5). The number of questions (items) for each construct has been provided including the specific sources of the measurement items. The research focused on data collection procedures, such as the purpose of the study, questionnaire administration, and ethical issues. Confidentiality requirements were observed for all respondents. Participation in the survey was entirely voluntary, and respondents could withdraw at any time without fear of being subjected to abuse or discrimination. The questionnaire was structured into five sections as follows: The first section presents the consent statement and the purpose of the study. It is important to state that participation in the study was voluntary. The section two, presents demographic information; the section three focused on measures of OL. The section four focused on measures of measures of competitive strategy, and the final section presents measures on firm performance.

### **3.4. Data analysis**

The study employed Statistical Package for Social Sciences version 25 for the data analysis. The study used a Structural Equation Modelling (SEM) to estimate causal relationships. The resulting data were analysed using descriptive statistics, validity and reliability tests, and SEM. SEM is important in early development of a model at its earlier stage of model development. Both measurement model (Construct validity) and structural (t-values) model have been reported. Hair et al. (2017; 2019) we have argued that there are minimum requirements for all measurement model to be valid. Specifically, in this study Composite Reliability (CR), Cronbach Alpha (CA), factor loadings and Average Variance Extracted (AVE) scores have been used to assess convergent validity. CA score must be 0.7 or better, CR must be 0.7 or better, AVE must be 0.5 or bet

## **4. Results and discussions**

### **4.1. Firms' profile**

As indicated in Table A1 (refer to appendix), the survey results have shown that nearly one-third (28.8%) of the participants work within the manufacturing sector, slightly below one-fifth (18.1%) of the participants work in the hospitality sector, 15.9% work in the transportation sector, 12.9% work in the agribusiness sector, 9.9% work on the mining sector, and finally the least (5.2%) number of participants worked in the oil and gas sector. Moreover, business stability has been assessed using the number of years business has existed. Besides, the survey results have shown that slightly one-third of the participating businesses have existed between 5.9 years, slightly below 42.8%, 17.7% of the firms have fell within 15-19 years, and finally, 8.5% have existed 20



**Table 1. Measurements instruments: constructs, items, and sources**

Constructs	Number of Items	Likert Scale	Sources
<b>Organizational Learning</b>			
Knowledge Acquisitions	3	5-point Likert's Scale	Karnopp (2022) Mai et al. (2022)
Knowledge Distribution	3	5-point Likert's Scale	Jimenez-Jimenez and Sanz-Valle (2011) Karnopp (2022) Mai et al. (2022)
Knowledge Interpretation	3	5-point Likert's Scale	Jimenez-Jimenez and Sanz-Valle (2011) Karnopp (2022) Mai et al. (2022)
Organizational Memory	4	5-point Likert's Scale	Jimenez-Jimenez and Sanz-Valle (2011) Karnopp (2022) Mai et al. (2022)
<b>Competitive Strategy</b>			
Cost-Leadership	4	5-point Likert's Scale	Koçyiğit and Tabak (2020), Keskin et al. (2021)
Differentiation	4	5-point Likert's Scale	Bayraktar et al. (2016), Koçyiğit and Tabak (2020), Keskin et al. (2021)
<b>Firm Performance</b>			
Learning And Growth Performance	4	5-point Likert's Scale	Meher and Mishra (2022) Igashi et al. (2022)
Financial Performance	4	5-point Likert's Scale	Karabulut (2015) Meher and Mishra (2022) Igashi et al. (2022)

Source: Authors Compilation, 2023

years and beyond. In addition, number of employees have been used to measure firm size. The results showed that less than one-third of the selected firms had employees size ranging between 10 and 49, slightly below half (43.5%) of the firms employ between 10–49 employees, 16.4% of the firm's employees between 50–199 employees, finally 10.8% of the firms employ 100 and above employees.

#### 4.2. Convergent validity, discriminant, and validity multicollinearity test

As shown in Table 2, the CA scores ranged between 0.827 and 0.962, which is higher than the required minimum rate, CR scores ranged from 0.829 to 0.904, which is above the minimum required rate, and again, the factor loadings ranged from 0.748 to 0.939. These results have proven that the measurements are valid and suitable for convergent validity as shown in Table 2. To measure discriminant validity, the squared root of the AVEs was evaluated. The squared AVEs values were higher than the scores of the correlation matrix as shown in Table 3. The result has confirmed that discriminant validity of the model has been met. As showed in Table A1, to determine the presence of multicollinearity problems in the model, Variance Inflation Factor (VIF) was assessed. The scores ranged from 1.00 to 4.6, which is lower than the minimum recommended value of 5. Therefore, multicollinearity was not a major issue (VIF < 5) in this article. Therefore, the results have confirmed that multicollinearity was not a major issue in the model.

**Table 2. Convergent validity**

	<b>Factor Loading</b>	<b>Cronbach <math>\alpha</math></b>	<b>Composite Reliability (CR)</b>	<b>AVE</b>
OrgMem1	.828	0.861	0.841	0.708
OrgMem2	.841			
OrgMem3	.832			
OrgMem4	.865			
KnoAcq1	.873	0.886	0.904	0.819
KnoAcq2	.939			
KnoAcq3	.902			
KnoInt1	.814	0.857	0.882	0.781
KnoInt2	.912			
KnoInt3	.922			
KnoDis1	.898	0.827	0.867	0.757
KnoDis2	.930			
KnoDis3	.775			
FirmPerf1	.860	0.934	0.830	0.693
FirmPerf2	.775			
FirmPerf3	.922			
FirmPerf4	.855			
FirmPerf5	.757			
FirmPerf6	.748			
FirmPerf7	.803			
FirmPerf8	.922			
ComStrat1	.856	0.962	0.829	0.690
ComStrat2	.801			
ComStrat3	.881			
ComStrat4	.844			
ComStrat5	.785			
ComStrat6	.758			
ComStrat7	.815			
ComStrat8	.895			

Source: Authors Estimation Using Field Data

### 4.3. Structural model

As shown in Table 4, the predictive power and hypotheses testing have been presented under the structural model. The predictive power of the model is very strong. In model 1, the dimensions of OL were able to explain 90.9% variations in firm performance; in model 2, competitive strategy explained 88.7% variance in firm performance; and in model 3, the dimensions of OL were able to explain 83.7% variations in competitive strategy. Moreover, the mediation analyses were able to explain between 91.8% and 92.2% variabilities in firm performance. The results have showed that OL dimensions such as knowledge acquisition (Beta = 1.060,  $t = 7.911$ ), knowledge interpretation (Beta = 0.826,  $t = 4.968$ ), and knowledge distribution (Beta = 0.712,  $t = 4.637$ ) have positive and significance effect on firm performance. The results have showed that all the dimensions of OL except organizational memory have significant effect on firm performance. Again, the result has revealed that competitive strategy (Beta = 0.946,  $t = 43.657$ ) has significant and positive effect on firm performance. Furthermore, the results have showed that OL dimensions such as knowledge acquisition (Beta = 0.828,  $t = 4.613$ ), knowledge interpretation (Beta = 0.479,  $t = 2.155$ ), and knowledge distribution (Beta = 1.091,  $t = 5.314$ ) have positive and significance effect on competitive strategy. The results have showed that all the dimensions of OL except

**Table 3. Discriminant validity**

	Composite Mean ±Std D	AVE	OM	KA	KI	KD	CS	FP
Organisational Memory	3.61 ± .93	0.708	<b>0.841</b>					
Knowledge Acquisition	3.56 ± 1.03	0.819	0.90	<b>0.904</b>				
Knowledge Interpretation	3.69 ± .94	0.781	0.71	0.79	<b>0.883</b>			
Knowledge Distribution	3.64 ± .97	0.757	0.78	0.78	0.70	<b>0.870</b>		
Competitive Strategy	3.63 ± .93	0.690	0.76	0.76	0.74	0.79	<b>0.830</b>	
Firm Performance	3.60 ± .93	0.693	0.70	0.61	0.69	0.72	0.74	.832

Source: Authors Estimation Using Field Data OM=Organisational Memory; KA=Knowledge Acquisition; KI=Knowledge Interpretation; KD=Knowledge Distribution; CS=Competitive Strategy; FP=Firm Performance; Italics values in the diagonal row are square roots of the AVE.

**Table 4. Multiple regression**

Hypothesized Paths	Firm Performance			Competitive Strategic			Firm Performance		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7		
<b>Control:</b>									
Firm Type	-0.45(1.045)	-0.17(0.86)	0.28 (0.49)	0.08(0.32)	0.03(0.35)	-0.11(0.75)	0.17(0.05)		
Firm Age	-0.32(1.041)	-0.11(0.88)	0.23(0.43)	0.09(0.12)	-0.07(0.19)	0.21(0.03)	-0.06(0.09)		
Firm Size	-0.34(1.045)	-0.17(0.86)	0.28 (0.49)	0.08(0.32)	0.05(0.11)	0.33 (0.05)	0.19 (0.50)		
<b>Direct Effect</b>									
OM	-0.043(-0.308 <sup>ns</sup> )								
KA	1.060(7.911 <sup>***</sup> )								
KI	0.826(4.968 <sup>***</sup> )								
KD	0.712(4.637 <sup>***</sup> )								
CS	0.946(4.3.657 <sup>***</sup> )								
OM			0.018(0.094 <sup>ns</sup> )						
KA			0.828(4.613 <sup>***</sup> )						
KI			0.479(2.155 <sup>**</sup> )						
KD			1.091(5.314 <sup>***</sup> )						
<b>Indirect Effect</b>									
OM on FP thru. CS				0.712(9.676 <sup>***</sup> )					
KA on FP thru. CS					0.902(9.955 <sup>***</sup> )				
KI on FP thru. CS						0.872(9.245 <sup>***</sup> )			
KD on FP thru. CS							1.034(9.414 <sup>***</sup> )		
<b>Model Fit Indices</b>									
R	0.954	0.942	0.916	0.959	0.960	0.958	0.959		
Adjusted R Square	0.909	0.887	0.837	0.920	0.922	0.918	0.918		

(Continued)

**Table 4. (Continued)**

Hypothesized Paths	Firm Performance		Competitive Strategic	Firm Performance				
	Model 1	Model 2		Model 3	Model 4	Model 5	Model 6	Model 7
Control:								
Δ R Square	0.911	0.888	0.839	0.920	0.921	0.918	0.919	
Δ F-statistics	578.776	1819.609	296.472	1322.983	1347.440	1286.714	1300.724	
Durbin Watson	1.773	1.361	1.486	1.543	1.626	1.565	1.557	
Sig.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Notes: t-values are in parenthesis. OM=Organisational Memory; KA=Knowledge Acquisition; KI=Knowledge Interpretation; KD=Knowledge Distribution; CS=Competitive Strategy; \*p<0.05; \*\*p<0.01; \*\*\*p<0.001; ns=not significant; thru=through.

organizational memory have significant effect on competitive strategy. Also, the study has revealed that competitive strategy significantly mediates the relationship between organizational memory (Beta = 0.712,  $t = 9.67$ ), knowledge acquisition (Beta = 0.902,  $t = 9.955$ ), knowledge interpretation (Beta = 0.872,  $t = 9.245$ ), and knowledge distribution (Beta = 1.034,  $t = 9.414$ ) on firm performance. The results have showed that competitive strategy significantly mediates between the dimensions of OL and firm performance. As shown in Table 5, all the hypotheses of the study have been supported except that organizational memory as a dimension of OL failed to support the model. The study has revealed that OL dimensions of knowledge acquisition, knowledge distribution, and knowledge interpretation have significant impact on firms' competitive strategy and performance. Moreover, competitive strategy significantly mediates the relationship between OL dimensions and firm performance. These results imply that OL dimensions enhance corporate competitive strategic which in turn facilitates firm performance.

#### 4.4. Discussions

This article was aimed to develop a baseline model in the context of lower-middle-income country to explain the extent to which OL dimensions impact on firms' competitive strategy and performance. Specifically, the paper focused on the following research questions: What are the effects of OL dimensions on firm performance? What are the effects of OL dimensions on competitive strategy? What is the mediating role of competitive strategy between OL and firm performance? The article has revealed that OL dimensions of knowledge acquisition, knowledge distribution, and knowledge interpretation have significant impact on firms' competitive strategy and performance. Moreover, the result has revealed that competitive strategy has significant and positive effect on firm performance. Furthermore, the results have showed that OL dimensions such as knowledge acquisition, knowledge interpretation, and knowledge distribution have positive and significance effect on competitive strategy, which are consistent with existing studies (Ali et al., 2022; Danso et al., 2019; Das & Canel, 2022; Sahoo, 2021). This study was conducted to analyze the effect of OL on performance of SMEs and to develop a baseline model in the context of low-middle-income country to explain the extent to which OL dimensions impact on firms' competitive strategy and performance. The study has revealed that OL dimensions such as knowledge acquisition, knowledge interpretation, and knowledge distribution have positive and significance effects on firm performance. The results have showed that OL has a significant effect on firm performance, which is consisted with prior studies (Karnopp, 2022; Mai et al., 2022; Meher & Mishra, 2022; Mishra & Reddy, 2021). Learning organizations has the ability to not only identify opportunities but also forecast market trends and embark on events that would yield better products and services, enhance customer satisfaction, and performance in general (Mutebi et al., 2022; Peschl, 2022; Ryu et al., 2022; Saeidi et al., 2021; YahiaMarzouk & Jin, 2022; Zhou et al., 2022). Moreover, evidence from extant literatures on OL have argued that OL could be linked to competitive strategy of a firm. For instance, Edson and Muranda (2021) asserted that competitive strategy aims to develop a competitive yield and create superior returns for stakeholders. Competitive strategy involves how a company develops a competitive advantage over its competitors in an industry (Danso et al., 2019). It is concerned with how a company establishes a competitive yield over its competitors in an industry. Competitive strategy is considered one of the most pressing requirements for companies to develop and sustain themselves in an unstable and constantly changing environment (Gorondutse & Hilman, 2014). It is important for the organization to ensure that the knowledge created through this process is retained within the organization and is transferable and subsequently used as a strategic tool to enhance business performance. Also, the study has revealed that competitive strategy significantly mediates the relationship between organizational memory, knowledge acquisition, knowledge interpretation, and knowledge distribution on firm performance. The results have showed that competitive strategy significantly mediates between the dimensions of OL and firm performance, which are in agreement with past related studies. Competitive strategy is considered one of the most pressing requirements for companies to develop and sustain themselves in an unstable and constantly changing environment (Gorondutse & Hilman, 2014; Subramanian & Suresh, 2022). It is important for the organization to ensure that the knowledge created through this process is retained within the organization, is transferable, and is subsequently used as a strategic tool to enhance business performance (Peschl, 2022; Ryu et al., 2022; YahiaMarzouk & Jin, 2022).

**Table 5. Hypotheses testing**

<b>Statement of Hypotheses</b>	<b>Beta</b>	<b>T-value</b>	<b>Decision</b>
H1: Organizational memory has positive and significant effect on firm performance	-0.043	-0.308	Unsupported
H2: Knowledge acquisition has positive and significant effect on firm performance	1.060	7.911	Supported
H3: Knowledge interpretation has positive and significant effect on firm performance	0.826	4.968	Supported
H4: Knowledge distribution has positive and significant effect on firm performance	0.712	4.637	Supported
H5: Organizational memory has positive and significant effect on competitive strategy	0.018	0.094	Unsupported
H6: Knowledge acquisition has positive and significant effect on competitive strategy	0.828	4.613	Supported
H7: Knowledge interpretation has positive and significant effect on competitive strategy	0.479	2.155	Supported
H8: Knowledge distribution has positive and significant effect on competitive strategy	1.091	5.314	Supported
H9: Competitive strategy has positive and significant effect on firm performance	0.946	43.657	Supported
H10: Competitive strategy significantly mediates the relationship between organizational memory and firm performance	0.712	9.67	Supported
H11: Competitive strategy significantly mediates the relationship between Knowledge acquisition and firm performance	0.902	9.955	Supported
H12: Competitive strategy significantly mediates the relationship between knowledge interpretation and firm performance	0.872	9.245	Supported
H13: Competitive strategy significantly mediates the relationship between knowledge distribution and firm performance	1.034	9.414	Supported

Authors Compilation.

## 5. Conclusion, implications, and limitations

### 5.1. Conclusion

Drawing from theory of OL, our article was aimed to develop a baseline model in the context of lower-middle-income country to enhance OL dimensions impact on firms' competitive strategy and performance. Our article has utilized quantitative research approach and deductive reasoning. Cross-sectional survey data has been collected from Small and Medium Enterprises across manufacturing, hospitality, extraction, transportation, construction, and oil and gas subsectors. Our data have been analyzed using SEM with a focus on mediation analysis. The paper has revealed that OL dimensions of knowledge acquisition, knowledge distribution, and knowledge interpretation have significant impact on firms' competitive strategy and performance. Moreover, competitive strategy significantly mediates the relationship between OL dimensions and firm performance. The article concludes that OL is an important managerial tool that drives competitive advantage and firm performance when effectively utilized in the context of a lower-middle-income country which are largely consistent with prior knowledge.

### 5.2. Implications

The theoretical implications of the study include the development of a baseline model to explain the extent to which OL dimensions impact on firms' competitive strategy and performance in the context of low-middle-income country where such studies are largely inadequate. The emergence of a baseline model to enhance SMEs performance through OL and competitive strategy. This newly designed model could be used to develop further models in order to improve SMEs's growth and sustainability. Practically, OL has become so important as consequent of globalization and liberalization of trade regulations and barriers. Firms' survival has become so critical and imperative. This study is among the very few to present contextual determinants of firm competitive strategy and performance to guide investors and business owners to attract, retain and transfer knowledge in order to formulate fierce strategies. Policy- Makers are expected to use the findings in this report as guide to train public owned enterprises and agencies. Moreover, the private business owners could use this report to formulate strategic plans with a focus on knowledge acquisition, knowledge dissemination and knowledge retention. These knowledges could be used as a foundation to develop competitive advantage and subsequently enhance overall business performance in terms of operational efficiency and return on investments.

### 5.3. Limitations of the study

The limitations of the study include scope and research design. The study focused on SMEs in some specific sectors such as transportation, extraction, hospitality, manufacturing, construction, and oil and gas. It is suggested that future studies should consider other sectors of the Ghanaian economy such as Fast-Moving Consumer Goods, educational services, security services, Information technology services and automobile subsectors. Again, the study current study employed quantitative research approach and a cross sectional data. It is suggested that future studies should consider longitudinal studies. Moreover, it is suggested that future studies should consider using SMART-PLS to perform the SEM analysis which is robust as compared to the Sobel approach which takes the form of hierarchical regression.

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#### Disclosure statement

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## Appendix

<b>Table A1. Firm profile</b>		
	<b>Freq.</b>	<b>%</b>
<b>Firm-Industry</b>		
Hospitality	42	18.1
Mining/Extraction	23	9.9
Agribusiness	30	12.9
Manufacturing	67	28.8
Pharmaceutical	21	9.1
Transportation	37	15.9
Oil and Gas	12	5.2
<b>Business Stability (years firm has existed)</b>		
5-9 years	72	31.0
10-14 years	99	42.8
15-19 years	41	17.7
20 year and above	20	8.5
<b>Firm Size (number of employees)</b>		
1-9	68	29.3
10-49	101	43.5
50-99	38	16.4
100+	25	10.8

Source: Field Data, 2022

## Appendix 2

**Table A2. Multicollinearity test using (Variance Inflation Factor (VIF) test**

	<b>VIF</b>
OrgMem1	2.018
OrgMem2	2.044
OrgMem3	2.055
OrgMem4	2.313
KnoAcq1	2.796
KnoAcq2	3.726
KnoAcq3	4.217
KnoInt1	2.323
KnoInt2	3.568
KnoInt3	4.078
KnoDis1	2.988
KnoDis2	3.402
KnoDis3	1.513
FirmPerf1	4.325
FirmPerf2	2.179
FirmPerf3	4.232
FirmPerf4	4.186
FirmPerf5	1.971
FirmPerf6	4.128
FirmPerf7	4.272
FirmPerf8	1.000
ComStrat1	4.084
ComStrat2	2.419
ComStrat3	4.650
ComStrat4	4.034
ComStrat5	4.188
ComStrat6	2.018
ComStrat7	4.006
ComStrat8	4.014

Source: Authors Estimation: Org. Mem=Organisational Memory; Kno. Acq=Knowledge Acquisition; KnoInt=Knowledge Interpretation; KnoDis=Knowledge Distribution; ComStrat=Competitive Strategy; FirmPerf=Firm Performance.