



# MALAYSIAN ONLINE JOURNAL OF EDUCATIONAL MANAGEMENT (MOJEM)

JULY 2021, VOLUME 9, ISSUE 3, 23-40

E-ISSN NO: 2289 – 4489

## STRATEGIC LEADERSHIP AS A MEDIATING VARIABLE BETWEEN ORGANIZATIONAL CLIMATE AND QUALITY IMPROVEMENT IN HIGHER EDUCATION

Shorouk Mohamed Farag Mohamed Aboudahr\* & Mua'azam Bin  
Mohamad

### ABSTRACT

Higher education is essential in Egypt as it enhances human capital development, socio-political and economic development. However, the quality of educational systems depends mainly on leaders in the education sector. Similarly, strategic leadership has significance on organizational climate and enhances the continuous quality improvement of a university. Despite its importance, this idea is insufficiently discussed in Public Universities in Egypt. Hence, the study sought to examine the mediating impact of strategic leadership on the relationship between organizational climate and continuous quality improvement in a specific context of Tanta universities in Egypt. A quantitative research design was used in this study. Data were collected from 165 lecturers selected through the G\* power sampling technique using a survey instrument. SPSS version 26 and Smart PLS 3.3 were used to analyze data. The study revealed that strategic leadership has a full mediating influence on the relationship between organizational climate and continuous quality management. Therefore, more emphasis should be laid on organizational climate in terms of university source. The study concluded that the organizational climate could be improved through strategic leadership. The study recommends that the top management creates a suitable climate that improves quality improvement in Egypt's public university.

**Keywords:** Organizational Climate; Strategic Leadership; Continuous Quality Improvement; public university; Egypt

*Corresponding Author:*  
*School of Education and Modern*  
*Languages*  
*Universiti Utara Malaysia (UUM)*

*E-mail:*  
*shroukaboudaheer@gmail.com*



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## INTRODUCTION

The current era is witnessing tremendous and rapid changes in most aspects of life, which has led many organizations to pay great attention to adopting modern management concepts in educational institutions (Ali, 2020). Thereby, the quality management practice in higher education institutions (HEI) has been a debate among academic scholars for quite some time. Unquestionably, quality education for the general masses coupled with a good education environment (climate) serves as the rationale for sustainable growth in the education sector with a direct linkage to human capital development (Martin, 2018; O'Shea, 2018; Ramli & Zain, 2018; Rangou, 2017). One of the most crucial modern management methods is improving quality management, which Msallam, Al Shobaki and Abu-Naser (2020) considered prerequisites for achieving the goals, objectives and aspirations that higher education institutions seek to reach perfection and distinction. Also, Saffar and Obeidat (2020) emphasize that quality in education is considered one of the most critical factors contributing to the country's development and achieving the required goals. Furthermore, Saiz-Alvarez (2020) demonstrated that quality in educational institutions in general and higher learning institutions, in particular, need a continuous improvement process for the success and development of educational outcomes and efficiency. Therefore, it is required to pay attention to the universities' organizational climate to create a suitable environment that enhances all employees and students at the university to continue quality improvement.

Based on previous studies, the data reveals that organizational climate can enhance quality improvement in the higher education sector. For example, Fu and Deshpande (2014) and Piro (2016) affirmed that organizational climate is an essential factor which reflects positive outcome in the institution. Additionally, Dinibutun, Kuzey and Dinc (2020) clarified that appropriate organizational climate is becoming a fundamental approach that stimulates the university's performance and improves the quality of education. Also, Alharbi, Yusoff and Al-Matari (2017) revealed that organizational climate is the basis for continuous improvements in quality by identifying areas of imbalance and inefficiency in a performance that is referred to by employees of all levels in the organization through effective communication between them and the administration. In this respect, Purvis, Zagenczyk and McCray (2015) accentuated the importance of organizational climate has emerged through its active role in the organization's success or failure.

Furthermore, Khan (2011) and Donate and de Pablo (2015) argue that every organization's primary focus needs top management as a tool for competitive and business practice, which provides a clear direction to employees' satisfaction. Therefore, Dyer and Dyer (2017) mentioned that leadership has a great significance in developing the learning outcomes of higher education institutions where these institutions face multiple challenges considering changes of the times imposed on them to bring about continuous change in line with the competitive environment, and this challenge requires strategic leadership capable of sustainability. Thus, the essential contribution of continuous quality improvement, such as the strategic leadership to organizational outcomes, has been acknowledged to the extent that it has become one of the critical research areas in education management (Kharub & Sharma, 2016). Research by Cho, Thiagarajan, Chong, Perkins and White (2017) and Alayoubi, Al Shobaki and Abu-Naser (2020) on quality management practice and organizational performance have detected improved organizational performance depend on their strategic leadership ability and effectiveness. Nevertheless, most of the previous studies have provided numerous positive and negative findings that have led researchers in the field of education management to conclude that more empirical studies are needed to determine and confirm these findings (Gleason, 2020; Ameen, Yousef Sandhu & Hussain Rana, 2019; Sfakianaki, Matsiori, Giannias & Sevdali, 2018; van Assen, 2018; Ololube, Agbor & Agabi, 2017). Recent studies under the crises in higher education in Egypt have emphasized the necessity for strategic leadership, which is characterized by the ability to think and plan an effective strategy (Khalil, 2017). There is a lot of research done on the subject of antecedents and the results of organizational climate, strategic leadership, and continuous quality improvement. For instance, Psomas and Antony (2017) stated that quality improvement factors could lead to success and improved higher education.



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Furthermore, Hughes, Lee, Tian, Newman, and Legood (2018) demonstrated that because of strategic leadership prominent roles within organizations, analyzing the effect of leadership on organizations, where leaders are uniquely able to understand environmental patterns and changes to launch creative initiatives to identify threats and respond to crises and achieve organizational efficiency. However, the implementation of QM in service organizations is not always as effective as manufacturing organizations. Thereby, studies on QM in service organizations related to the production context are limited (Psomas et al., 2017). Hence, successful QM implementation requires top management commitment, employee engagement and empowerment, customer focus and continuous improvement, organizational-wide training for QM, and increased communication (Tuomi et al., 2013). Also, Azoz (2018); Sunder (2016), and Haerizadeh (2019) and accentuated that In order for institutions to achieve quality in education, it is necessary to support higher management to achieve the desired goals and to involve all workers in areas of work such as planning, implementation, problem-solving and improvement processes, in addition to creating an appropriate work environment for the practice of quality management. Accordingly, the improvement of quality management requires the availability of characteristics and requirements. The most important of these requirements is providing the appropriate organizational climate for the practice, and leader should strive to provide adequate support and assistance for teamwork cooperation (Saffar & Obeidat, 2020; Msallam, Al Shobaki & Abu-Naser, 2020). Edwards, Raheem and Dampson (2018) showed that strategic leadership could promote a robust behavioural environment, strong motivation, and organizational communication that enhance positive changes.

Nonetheless, this study will expand the field of knowledge in the field of education by investigating the mediating influence of strategic leadership on the relationship between organizational climate and continuous quality improvement in Egypt's public university. Similarly, the unique methodology shall also include diverse leaders, climate, and quality issues absent in existing literature. Hence, it becomes imperative to address existing gaps in the literature by searching for quality management practices to ensure continuous improvement among public universities in Egypt to access high-quality education. Therefore, this study adopted strategic leadership as a mediator to re-conceptualize leadership methods and search for leadership skills that can improve and develop a suitable climate, consciously aware of the importance of quality and plan it (James, James & Potter, 2017; Sperber, & Linder, 2018). According to Baron and Kenny (1986), Kenny (2014) and Muller et al. (2005), in a typical mediational research model, it is assumed that there is no direct relationship between exogenous variable endogenous variable; instead, the exogenous variable, in the first place, influences the mediating variable, and consequently, the mediator influences the endogenous variable. This is referred to as the causal chain of effects, which characterizes the connection between the exogenous and endogenous constructs. To have a better understanding of conditions influencing continuous quality improvement in Egypt higher education, the following objectives were framed to guide this study:

- To investigate the relationship between organizational climate (OC) and continuous quality improvement.
- To investigate the influence of strategic leadership on the relationship between organizational climate and continuous quality improvement.

## LITERATURE REVIEW

Researchers have consistently proven the significant relationship between organizational climate and quality management improvement in higher education institutions. However, Several institutions that failed to adopt QMI or faced difficulties in their implementation resulted from the inability of management leaders to improve the prevailing organizational climate and achieve the transformation of total quality by prompting those in charge of these institutions and others interested in change.



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## ***Continuous Quality Improvement***

Several scholars have indicated that continuous quality management considers as a necessary factor in the education sector to improve the educational process, such as learning and teaching (Budiharso & Tarman, 2020, Khasanah & Abdullah, 2020, Putro & Suharto, 2021). Deming (1986) identified continuous improvement as one of the essential principles of total quality management that might help institutions improve their performance and get excellent education quality. In the same vine, Feigenbaum (1983) emphasized that quality management is an effective system for integrating the quality development and quality improvement attempts by numerous researchers to fulfil organizational goals. On the other hand, Crosby (1984) identified quality as conformance to the necessity to improve quality and reduce difficulty at the same time. However, many studies for QM in education services, especially in higher education institutions, were carried out in several countries. For example, Hasan, Islam, Shams, & Gupta (2018) applied TQM to improve the quality of the primary education system. In Yaakub and Samsudin (2019), the continuous quality improvement core aspects such as leadership, strategic planning, and climate improvement can use as an element to improve higher education institutions.

Moreover, Alauddin and Yamada (2019) highlighted that continuous quality improvement is one of the most in-demand in higher education institutions because of its competitive ability to meet educational stakeholders' expectations. Yaakub and Samsudin (2019) and Khasanah and Abdullah (2020) confirm that continuous quality improvement is vital for educational organizations to contribute to higher education improvement and stay effective. Hence, this study tends to clarify the factor that influences continuous quality improvement to improve higher education in Egypt.

## ***Organizational Climate***

The comprehensive review of school climate research recently determined that education's organizational climate becomes a critical predictor to improve performance quality. Various studies such as Adeogun and Olisaemeka (2011); Barksdale, Peters, and Corrales (2019); Cohen and Geier (2010); Yücesoy, Demir, Bağlama, Baştaş, and Öznacar (2020); Gottfredson, Gottfredson, Payne, & Gottfredson, 2005; Thapa, Cohen, Guffey, & Higgins-D'Alessandro, (2013); Purvis, Zagenczyk, and McCray (2015) it was confirmed that climate is a motivating variable to be detected by educational experts and researchers in the areas of education administration and management, specifically in the study of quality improvement, teacher productivity, and student achievements. The study by Purvis, Zagenczyk, and McCray (2015) pointed out that the importance of organizational climate has emerged through its active role in the organization's success or failure.

In the same vine Yücesoy, Demir, Bağlama, Baştaş, and Öznacar (2020) and Barksdale, Peters, and Corrales (2019) demonstrated that organizational climate in the field of education has a positive impact on the learning environment and student achievement of the educational institutions. Yusuf, Amzat, and Bint Saidin (2019) revealed the climate is a subtle concept used to express the enduring situation of an organization with several approaches to improve student achievement. Also, their study in line with Werang (2014), which identity climate is instrumental in improving the commitment between teacher and student in achieving outcomes. Moreover, scholars like Caridade and Pimenta Dinis (2020); Hamzah, Ibrahim, and Ghavifekr (2018); Hoque and Kamaluddin (2017); Pa'wan and Omar (2018); Pourrajab, Ghani, and Panahi (2018); Sudjarwo (2019) and nd Zahid (2014) have considered organizational climate in education as a critical factor in school improvement, teacher performance, and student performance. Based on the review of prior studies, this study proposed the hypothesis to examine the influence of organizational climate on continuous quality improvement in Egypt higher education.



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## ***Strategic Leadership***

Studies in education management stated that strategic leadership is necessary for organizational change management and transforming the organization in order to improve the quality of education. Research by Boyd, Finkelstein and Gove (2005) found that over the past few decades, strategy as a field of study has evolved significantly from the perspective of scope and influence on organizational development. Comparatively, the strategy can be considered a relatively new discipline compared to other academic disciplines (Eacott, 2007). According to Davies and Davies (2004), a strategic leader has strategical thinking and planning skills. It is also the leader that has the ability to guidelines and gives direction to his subordinates. Furthermore, Davies and Davies (2009) stated that strategic leadership's primary goal is to formulate strategies and implement change management strategies and improve organizational effectiveness and excellence.

Several empirical types of research have investigated and discovered that strategic leadership impacts quality performance in the education sector. For instance, Coban, Ozdemir, and Pisapia (2019) and Özdemiş, Çoban and Bozkurt (2020) indicated that top educational managers should display strategic leadership characteristics for the future of their organizations. Moreover, Johnsen(2016) contended that strategy is a model that combines the importance of organizational goals, principles of action and tactics into an integrated entity that refers to the planning of action that outlines the corporate activities towards achieving objectives. Supporting this statement, Irtaimeh (2018) argues that today's organizations need skilled strategic leaders to optimize the use of strategic thinking, planning and strategic management to support any decision and action planning towards continuous improvement.

Additionally, recent studies in the context of strategic leadership like Aboudahr and bin Mohamad (2020); Coban, Ozdemir and Pisapia (2019); Dyer and Dyer (2017); Edwards et al. (2017); Irtaimeh (2018); Ismail, Kanesan and Muhammad (2018); Özdemiş et al. (2020) and Prasertcharoensuk and Tang (2017); see strategic leadership as interdisciplinary and teacher management and help educational institutions cope with the rapidly increasing change in a globalized teaching and learning environment.

Since scholars considered strategic leadership one of the critical factors of organizational management, strategic leadership can help organizations become progressively more competitive in their permanent struggle. In addition, they help to support employee, timing, and resources to achieve organizational goals. This study finds that educational institutions' management in Egypt higher education faces a fundamental problem building long-term, positive and profitable relationships in light of the data above. Thus, these higher education institutions need to provide strategic leadership to create high strategic decision-making to develop the climate for continuous quality improvement. Therefore, this study emphasizes the importance of continuous quality improvement and organizational climate through strategic leadership to solve the problem above.

## **Continuous Quality Improvement, Strategic Leadership and Organizational Climate**

While the literature abounds with studies examining organizational climate influence, strategic leadership on continuous quality improvement, most research is distributed. Some studies examine leadership and continuous quality management. In contrast, others focus on organizational climate and continuous quality management. In an attempt to narrow this gap, Prestiadi, Zulkarnain and Sumarsono (2019), in their study, indicated that leadership is basically in quality management to influence quality improvement. Their study also mentioned that Leadership in QM is not to look for mistakes and failures made by employees but to identify and eliminate the causes of loss and help all employees do the perfect job. According to the concept of quality management, strategic leadership is sensitive to change and does its work in a focused manner. Another study conducted by Walumbwa, Wu and Ojode (2004) investigated the mediating role of leadership style, and the study found leadership style has a complete mediation to learning outcome and effectiveness.



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Moreover, the study by Zhang, Cao and Wang (2018) aimed to investigate whether leadership style mediates the connection between the emotional intelligence of authorized leader and collaboration satisfaction outcomes. The study results indicated that leadership style has partial mediation in the relationship between the variables of the study. Another study carried out by Keskes, Sallan, Simo and Fernandez (2018) examined the mediating role of leader-member-exchange dimensions to impact organizational commitment. Reinforced this finding and stated that a leader's role mediates the link between transformational leadership and organizational commitment. Likewise, the finding of the study of Jyoti and Bhau (2015) and Wang, Law, Hackett, Wang, and Chen (2005) reported similar results with Keskes et al. (2018) when researching.

Further, many extant studies, such as Al-Dubai and Gopalan (2019); Deinert et al. (2015); Hassan, Bashir and Abbas (2017) and Ho and Le (2020), have yielded evidence that supports the success of strategic leadership style as a mediating influence to a link between different variables and indirect effect to numerous variables. Therefore, the study supposed that strategic leadership would have the capacity to account for the relations between the organizational climate and quality improvement. Therefore, the study hypothesized that strategic leadership mediates the relations between organizational climate and continuous quality improvement.

## **METHODS**

### ***Research Design***

A quantitative survey was employed in the current study to collecting the data from the target population. According to Creswell (2018), the quantitative method may be utilized to investigate objective theories by analyzing the correlation between the variables. Consequently, The quantitative analysis method used to analyze the relationship between organizational climate, strategic leadership, and continuous quality improvement. Additionally, the study instrument was a questionnaire that involves four sections.

### ***Population and Sampling***

The study's respondent was the academic staff at Tanta University. Since the researchers do not have a list number of all employees, the study utilized the advantage of G \* Power 3.1 to define the minimum sample size (Faul et al., 2009; Faul et al., 2007). According to recent developments like Hair et al. (2018); Hair et al. 2017); Hair et al. (2019); Kline (2016); Ringle et al. (2018), and Uttley (2019) recommended that researcher should define minimum sample size by power analysis with the largest number of predictors. The conventional settings are as follow:  $f^2 = .15\alpha = 0.05$ , power = 0.8 (Perugini, Gallucci, & Costantini, 2014), as predictors = 3 represents three antecedents (organizational climate, strategic leadership) which leads to the dependent variable in the model (Continuous quality improvement). The minimum sample size required is 77 to obtain 80% statistical power. The simple random technique used to choose 165 respondents to run the analysis. Chin (2010) alluded that 100 - 200 respondents as a sample size is suitable for partial squares structural equation modelling (PLS-SEM) analysis.

### ***Instrumentation***

The questionnaire separated into four sections, the first section for demographic, which consist of gender, age, rank and tenure. The second section on continuous quality improvement adapted from Douglas & Fredendall (2004), While the third section on Strategic leadership was adapted from Ali (2012). Finally, the organizational climate was Johnson adapted from Steven and Zvoch (2007). A five-point Likert-type scale was used for dependent variables and mediating, ranging from 1 "Strongly disagree" to 5 "Strongly agree".





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## **Data Collection**

The self-administrated survey carried out to collect the data from 165 lecturers the faculty of medicine at Tanta University. the demographic information showed that female respondents were more than male (55,8%) while the male was (44.2%). On the other hand, most respondents between 31-40 years (51.5) % in terms of age. Furthermore, the respondents who are working as lecturers presented (36.4) %. Finally, (46.1%) of the respondents had experienced between 6 to 10 years of experiences (see Table1).

## **Data Analysis**

To investigate the model developed, this study applied the partial least squares (PLS) approach. Hair, Hult, Ringle and Sarstedt (2017); Hooper, Coughlan, and Mullen (2008). PLS is the second-generation multivariate method that can simultaneously examine the measurement model (the relationships between constructs and their corresponding indicators) and the structural model to minimize the error variance Hair, Hult, Ringle and Sarstedt (2017). Moreover, (Hair et al. (2017); Hooper et al. (2008) recommended that research from social since must use PLS. Avkiran (2017); Nitzl, Roldan and Carrion (2016); Richter, Sinkovics, Ringle and Schlägel (2016) ( PLS-SEM) highly recommended for mediating structure model. Therefore, this study applied SmartPLS version 3.2.7 to investigate the hypotheses (Ringle et al., 2015), that comprised the measurement and structural models' analysis. Furthermore, following the recommendation of (Hair et al. (2017) that said to identify the significant of loading, weights and path coefficients bootstrapping method (500) is the best method. Also, SPSS version 26 was used for data screening and descriptive statistics.

Table 1  
*Demographic Profile of the Respondents*

Information	Frequency	Percentage
i) Gender		
Male	73	44.2
Female	92	55.8
ii) Age		
20-30	37	22.4
31-40	85	51.5
41-50	35	21.5
51 above	8	4.8
iii) Rank		
Professor	12	7.3
Associate Professor	18	10.9
Lecturer	60	36.4
Assistant Lecturer	45	27.3
Teaching Assistant	30	18.2
V) Tenure		
Less than 1 year	39	5.5
1-5 years	67	33.3
6-10 years	46	46.1
11-15 years	13	15.2



## RESULTS

### Measurement model

The measurement model of PLS analysis consisted of internal consistency (reliability), convergent and discriminant validity of the instrument (Hair et al., 2010,2013). The convergent validity reflects whether a particular item measures a latent variable that it is supposed to measure (Urbach and Ahlemann, 2010). The criteria for the measurement test constructs are: all items loadings should  $> 0.7$ , as suggested by (Byrne 2016). According to Henseler, Ringle and Sarstedt (2015), Item reliability requires the correlations of the items with their respective construct implied by the item's loading. Additionally, the composite reliability should be  $> 0.7$ ; Composite reliability represents the variance shared among a set of observed variables that measure a fundamental construct (Fornell and Larcker, 1981 & Hair, Hult, Ringle, & Sarstedt, 2014). at the same time, Average Variance Extracted (AVE) should be  $> 0.5$  (Hair et al., 2017), which indicates that on average, a latent variable can explain more than half of the variance of its indicators. The AVE assesses the amount of variance that a construct captures from its indicators compared with the amount due to measurement error (Fornell and Larcker, 1981&Hair, Hult, Ringle, & Sarstedt, 2014). Therefore, five 5 items from Strategic leadership removed as their loadings were lower than 0.5 and suitable for release. The removal increased the composite reliability and AVE values. Figure 1 shows the measurement model. Additionally, this study used a composite reliability score for construct reliability, as (Hair et al. 2017) suggested. Table 2&3 displayed the higher composite reliability of all latent variables more than 0.7 and AVE more than 0.5.

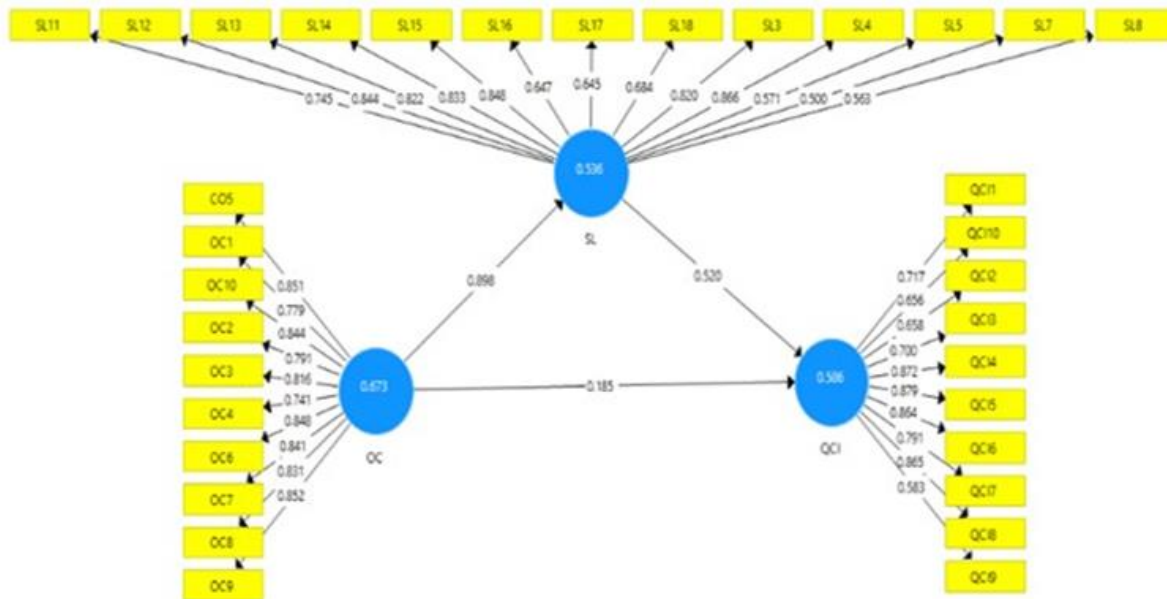


Figure1. Measurement model

Note. Values inside constructs = AVE. Values on arrows = factor loadings.





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The result of the measurement model in table 2 indicates that the measurement model results exceeded the recommended values, thus indicating sufficient convergence validity (Figure 1).

Construct	Items	Our loading	Cronbach's Alpha	Composite Reliability	AVE
Organizational Climate	OC1	.779	.946	.953	.673
	OC2	.791			
	OC3	.816			
	OC4	.741			
	OC5	.851			
	OC6	.848			
	OC7	.841			
	OC8	.831			
	OC9	.852			
	OC10	.844			
Strategic Leadership	LS3	.820	.924	.936	.536
	LS4	.866			
	LS5	.571			
	LS7	.500			
	LS8	.563			
	LS11	.745			
	LS12	.844			
	LS13	.822			
	LS14	.833			
	LS15	.848			
Continuous Quality Improvement	LS16	.647	.919	.933	.586
	LS17	.645			
	LS18	.684			
	CQ11	.717			
	CQ12	.658			
	CQ13	.700			
	CQ14	.872			
	CQ15	.879			
	CQ16	.864			
	CQ17	.791			
CQ18	.865				
CQ19	.583				
CQ10	.656				

Note: SL1, SL2, SL6, SL9 and SL10 removed due to low loading

Table 3  
*Construct Validity and Reliability*

Latent Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Organizational Climate	.946	.953	.673
Strategic Leadership	.924	.936	.536
Continuous Quality Improvement	.919	.933	.586

After confirming the Average Variance Extracted, the study indicated the cross-loading. According to Hair et al. (2013), the item loading of measured variables must be greater than the cross-loading with a minimum of 0.1 to



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imply adequate discriminant validity. As A Result, the study assumes that discriminant validity was accomplished. (see table 4) the loading of the construct fit this stander.

Table 4  
*Cross-Loading*

Items	Organizational Climate	Strategic Leadership	Continuous Quality Improvement
OC1	.779	.685	.546
OC2	.791	.695	.502
OC3	.816	.773	.528
OC4	.741	.656	.501
OC5	.851	.774	.628
OC6	.848	.767	.499
OC7	.841	.750	.501
OC8	.831	.740	.554
OC9	.852	.769	.545
OC10	.844	.536	.747
LS3	.757	.820	.477
LS4	.809	.866	.511
LS5	.471	.571	.210
LS7	.346	.607	.500
LS8	.418	.639	.599
LS11	.698	.764	.664
LS12	.812	.844	.534
LS13	.622	.836	.499
LS14	.709	.833	.503
LS15	.785	.848	.509
LS16	.531	.647	.416
LS17	.490	.645	.386
LS18	.525	.684	.439
CQ11	.388	.528	.717
CQ12	.356	.494	.658
CQ13	.388	.547	.700
CQ14	.618	.577	.872
CQ15	.608	.570	.879
CQ16	.657	.662	.864
CQ17	.524	.509	.791
CQ18	.578	.530	.865
CQ19	.369	.381	.683
CQ110	.402	.388	.656

The study follows Fornell-Larcker (1981) to check discriminant validity. Table 5 shows that the values in the diagonals are more significant than the values in their respective row and column, thus implying that the methods used in this study are distinct, demonstrating adequate discriminant validity. Thus, the mesurment model showed that the convergent and discriminant validity in this study were valid.



Table 5  
*Discriminant Validity*

	OC	Q	SL
Organizational Climate	.820		
Continuous Quality Improvement	.652	.766	
Strategic Leadership	.712	.687	.832

**Structural Model**

Table 6 shows the result of the direct and indirect relationship in the structural model. It shows that there is no significant relationship between organizational climate and continuous quality improvement in H1 at  $\beta = 0.185$ ,  $p = 0.454$ ,  $t = 5.009$ ,  $LL = -0.771$ ,  $UL = 0.346$ ). thus, H1 was not supported. Furthermore, to assess the mediation hypothesis. The study utilized Bootstrapping, the indirect effect technique developed as recommended by Preacher and Hayes (2004, 2008) to achieve the research objective. The recommendation of Preacher and Hayes (2004, 2008) implied that if the confidence interval does not straddle a 0 thus can determine that there is a significant mediation. As displayed in Table 6 the indirect relationship was supported as there were significant mediating effects demonstrated by SL on the OC and CQI relationship at  $\beta = 0.467$ ,  $t = 5.009$ ,  $p < 0.026$ ,  $LL = 0.088$ ,  $UL = 0.900$ . Hence, it was evident that the Strategic Leadership did mediate the relationship between Organizational Climate and Continuous Quality Improvement.

Table 6  
*Hypothesis Testing*

Relationship	Std Beta	Std Error	t-value	p-value	R <sup>2</sup>	F <sup>2</sup>	Q <sup>2</sup>	Confidence Interval (BC)	
								BCI LL	BCI UL
OC->CQI	0.185	0.247	0.756	0.450	0.478	.013	.422	-0.210	0.656
OC->SL->CQI	0.467	0.211	2.21	0.027				0.134	0.872

Not: we use a 79.5% confidence interval with bootstrapping of 5.000

In addition, The coefficient of determination (R<sup>2</sup>) revealed the capability of the exogenous variables in predicting the endogenous variable. According to Hair et al (2014), R<sup>2</sup> is a measure of the goodness of fit against the empirically manifest items obtained with values ranging from 0 to 1. The closer to 1 is the R<sup>2</sup> value, the bigger the percentage of variance explained by all the exogenous latent variable. R<sup>2</sup> value of 0.66, 0.31 and 0.17 are adjudged to be substantial, moderate and weak respectively. As revealed in Table 6, the R<sup>2</sup> value is 0.478 which can be adjudged to be moderately substantial. Hair et al. (2014) recommended that to investigate the change in the R<sup>2</sup> value look at the  $f^2$ . The technique proposed is to exclude a specific exogenous construct from the model and see the R<sup>2</sup> adjust. It can be utilized to assess whether the excluded construct has a considerable effect on the endogenous constructs. Table 6 shows the results of  $f^2$ . Following the Cohen (1988) recommendation, the effect size less than 0.02 are considering with no effect size in this study. Additionally, Hair et al. (2014) hinted that If the Q<sup>2</sup> estimate is larger than 0, the model has analytical significance for a certain endogenous construct. Based on the findings, the Q<sup>2</sup> value for Continuous Quality improvement (Q<sup>2</sup> = 0.422) is greater than 0 indicating that the model has adequate predictive relevance.

**DISCUSSION**

This study proposes to detect strategic leadership's effect as a mediating variable on the relationship between organizational climate and continuous quality improvement. The study's finding demonstrated that there was no significant relationship between organizational climate and continuous quality improvement. Thus, hypothesis H<sub>1</sub> was not supported. The non insignificant relationship between organizational climate and continuous quality



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improvement shows that public university in Egypt does not have sufficient fund and collaboration among employees who help to increase the positive organizational climate to enhance the continuous quality improvement. Therefore, the senior management in Egyptian public universities must pay attention in the area of providing an appropriate organizational climate that contributes to the development of the university and its goals to improve the quality of education continuously.

The study is consistent with the study of Badawey (2018), which indicated that the lack of financing that affects the proper planning of establishing an appropriate organizational climate that helps students to think appropriately in finding suitable solutions to their academic problems and helps lecturers to perfect the teaching, supervisory and administrative performance. Furthermore, the result of the current study was consistent with the study of Alsaied (2007), which found that there are difficulties facing the continuing quality improvement related to the organizational climate in the field of higher education and the most important of these difficulties is a financial resource as the organizational climate needs an adequate budget to develop the organizational climate that helps the continuity of quality. Hence, this is not available in Egyptian public universities. Moreover, the study of Mustafa (2012) indicated that the absence of collaboration between the work team is one of the most vital causes of the weak organizational climate that affects quality improvement because continuous improvement can only be achieved through a collaboration team. The previous study, for example, Al Shobaki et al. (2018), Dinibutun, Kuzey and Dinc (2020) and Na Ayutthaya, Tuntivivat and Prasertsin (2016) contended that climate has a significant influential role in higher education institutions due to its prominent role in achieving employee satisfaction and development. Therefore, organizations care to study their internal climate and improve them to continuous quality improvement. In the light of the above result, this study recommended that the university administration must give great attention to the organizational climate as an essential variable that contributes to the effectiveness and quality improvement of the university. Furthermore, the top management must also be concerned with creating an appropriate organizational climate that helps to develop quality by supervising university leaderships to implement quality and solve the difficulties that hinder the development.

Meanwhile, the result of the second objective indicates that strategic leadership mediate the relationship between organizational climate and continuous quality improvement, and hypothesis H<sub>2</sub> was supported. This study indicated that the indirect impact of organizational climate on continuous quality improvement is fully mediated by strategic leadership and emphasizes the significance of organizational climate in continuous quality improvement through strategic leadership. The finding of the study consistent with Al-Dubai and Gopalan (2019); Deinert et al. (2015); Hassan, Bashir and Abbas (2017); Ho and Le (2020) and Keskes et al. (2018). For instance, Al-Ta'i and Kubaisi (2016) describe leaders as those who inspire a shared vision, build consensus, provide direction and promote changes in beliefs and actions needed to achieve the goals of the organization. Also, FarajAllah et al. (2018) revealed that leadership and quality are two distinct, interrelated concepts that cannot be separated from each other in the organization structure. This analysis shows that highly strategic university tends to be a highly continuous quality improvement. On the other hand, this study's results show that organizational capability as a dimension of strategic leadership in Egypt public university has significantly affected continuous quality improvement.

### IMPLICATIONS

As previously stated, this study aims to close this gap that presently exists in organisational climate study by determining the factors that increase or impede the connection between organisational climate and continuous quality improvement with the mediating effect of strategic leadership among academics in Egypt higher education. By offering empirical evidence on these relationships, this study is expected to improve the understanding of organisational climate and its relationship with strategic leadership, which will benefit the institution of higher learning higher education on enhancing the university's continuous quality improvement. Furthermore, using this knowledge would improve the level of positive climate among academics and encourage them to achieve the university goals. This research will also contribute to the knowledge base in the aspect of organisational climate



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perceptions among academics. Furthermore, the current study sheds new light on the strategic leadership's mediating effect on the relationship between organisational climate and continuous quality improvement in Egypt higher education.

## LIMITATION OF THE STUDY

The results of this study should be interpreted in light of its limitations. First, only the perceptions of the lecturers and one university were surveyed in this study. The perspective of the instructors, students, and other parties of interest was not taken into consideration. Thus, this could result in a potential bias in the research despite sufficient care to ensure that lecturers from all faculties in Tanta University were analyzed. Consequently, it would be helpful if future researchers can examine the lecturers' perspectives and student instructors to compare any organizational climate differences. Consequently, the findings of this study cannot be generalized to all the universities in Egypt. Second, cross-sectional design was employed in the data collection procedure, which might prevent the claim of causality between the variables. In this sense, future studies could apply longitudinal design. Lastly, the data were restricted to the self-report survey that might result in biased findings. Hence, future research must employ different methods of data collection such as observations and interviews.

## CONCLUSION

The study indicates that strategic leadership offers a holistic and systematic model for supporting continuous quality improvement to build a good climate of assisting strategic leadership and continuous quality management in improving the university's outcome. As a result, strategic leadership is needed within a university to meet the market needs by involving all university employees in all areas of work, such as strategic orientation, strategic translation, strategic alignment, strategic interaction, and strategic competence. In addition, the university needs to create a work environment that helps to continuous quality improvement in Egypt public university.

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