

Transformational Leadership, Organizational Sustainability, and the Moderating role of Organizational Culture in UAE Public Ministries

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Abstract. Sustainability is crucial element in creating competitive advantage in economic, social, and environmental for organizational survival. Building on this framework, the study aims to examines the moderating role of organizational culture (OC) in the association between transformational leadership (TL) and organizational sustainability (i.e., economic, social, and environmental sustainability). Six hypotheses were derived from a review of the literature and are being tested in UAE public ministries to better understand the nature of the relationships. We collected data by distributing questionnaires to 531 employees working in four public ministries in the UAE, and we analyzed the data using PLS-SEM. This research found that transformational leadership had a direct impact on economic sustainability, social sustainability, and environmental sustainability. The findings also revealed that the relationship between transformational leadership and economic sustainability, and social sustainability was significantly moderated by organizational culture. Faced with a dearth of pertinent literature in each context and partial novelty of the model, this study's findings make an important contribution to the existing body of knowledge. Moreover, this may also be useful in guiding practitioners involved in sustainability management.

Keywords: Transformational leadership, Organizational culture, Organizational sustainability, UAE ministries, PLS-SEM..

1 Introduction

Sustainability has emerged as an important topic in research, political platforms, the corporate world, and academics settings (Ahmad et al., 2021). It is gaining recognition and importance because it creates a source of competitive advantage, differentiation, and integrated value creation for organizations, stakeholders, and society (Kavalić, Nikolić, Radosav, Stanisavljev, & Pečujlija, 2021). The term “sustainability” refers to an organization’s integration of social, economic, and environmental aspects (Giovannoni & Fabietti, 2013). The sustainability of an organization is a continuous process rather than a state of perfection. Organizational sustainability is similar to a tree in that it prospers and grows when properly cared for and watered, but fades quickly when neglected (Coblentz, 2002). In view of this, significant progress has been made in the quest for sustainability in several parts of the world, particularly in developed countries. Developing countries, on the other hand, continue to struggle to implement some of the sustainability initiatives. Despite well-intended programs, massive capacity, and consistent milestones, institutions are still incapable of assisting society’s efforts to achieve global sustainability. Many world economies have been influenced by this trend, including the Gulf Cooperation Council (GCC) in general and particularly the United Arab Emirates (UAE). The UAE is now ranked fourth in the Arab region in the 2020 ranking of countries’ sustainability achievements, two ranks lower than the 2019 ranking (2nd), which has been surpassed by Tunisia and Morocco (Sachs, Kroll, Lafortune, Fuller, & Woelm, 2021). This indicated a decline in the UAE’s sustainability initiatives and achievements both globally and with Arab nations. This further indicated that, when the three major sustainability pillars are considered, the Emirates’ success in many different areas is not satisfactory. The balance of economic viability, societal needs, and environmental sustainability is referred to as organizational sustainability (Purvis, Mao, & Robinson, 2019). Thus, the implementation of sustainability-related programs is one of the most important issues on the sustainability agenda that needs action. This necessitates a mental shift, which usually requires leadership. However, leadership at all administrative levels of organizations is defined by their pursuit of quality, investment in opportunities, confronting challenges, and

addressing weaknesses in the current and future environments, as well as their commitment to organizational sustainability across all their diverse activities and functions. A leader requires a delicate balance between interdependence and stability with change and flexibility to maximize organizational sustainability and effectiveness (Sajjad & Muhaibes, 2021).

Nonetheless, transformational leadership is a leadership school of thought in which the leader encourages, motivates, inspires, and empowers followers to make significant change (Burns, 1978). They boost the morale, inspiration, motivation, and morals of their followers (Warrick, 2011). Transformational leaders value your ability to make a difference in the organization. These leaders have the potential to be role models, and their subordinates follow them with respect (Bass & Steidlmeier, 1999). In a nutshell, transformational leadership is the process in which leaders and followers prioritize the interests of the organization over their own, and followers are transformed into inspired, motivated, and devoted individuals who work with a strong sense of purpose. Robertson and Barling (2013) broadened the scope of target-specific transformational leadership theory by applying it to the context of sustainability. In doing so, they define transformational leadership in the context of sustainability as a leadership style that focuses on influencing organizational sustainability. Managers who practice transformational leadership for sustainability express their organizations' sustainability visions and serve as role models by discussing their sustainability values and taking appropriate action on sustainability issues (Robertson & Barling, 2013, 2017). Graves and Sarkis (2018) supported this argument by stating that organizations that want to achieve sustainability goals should focus on improving transformational leadership. However, in a country like the UAE, such a relationship between transformational leadership and organizational sustainability has received little attention (Abdulqader & Al Marri, 2018) and need further research to better understand the relationship.

Furthermore, there has been an increase in research over the last three decades examining the interrelations between organizations and the natural environment, a research agenda commonly referred to as business and the environment (King & Berchicci, 2007). According to predominant prescriptions in the business and environmental literature, achieving sustainability necessitates a change in organizational culture (Zandbergen & Jennings, 1995) as well as the deconstruction of dominant thought concepts (Margolis & Walsh, 2003). Scholars contend that organizations need to move beyond technical fixes and adopt new ecologically sustainable beliefs, values, and behaviors (Stead & Stead, 2008). Nonetheless, few scholars have investigated how this organizational culture might manifest itself in practice. We introduced organizational culture as an moderating variable in this study to buffer the relationship between transformational leadership and organizational sustainability. Although transformational leadership is an important factor for organizational sustainability, as demonstrated above, previous findings are contradictory. These inconsistencies indicate that other variables may be introduced to intervene. For example, inconsistent outcomes between transformational leadership and organizational sustainability have been well documented (Begum, Xia, Mehmood, Iftikhar, & Li, 2020; Bendell, Sutherland, & Little, 2017; Manzoor et al., 2019), which provides a cushion to further research.

Hence, to fill this void, this study investigated the relationship between transformational leadership and organizational sustainability (economic, social, and environmental), as well as the interaction role of organizational culture in UAE public ministries. This study is unique in that it focuses on government ministries in the United Arab Emirates, which are regarded as knowledge-intensive organizations. After diagnosing the problem, the current study developed the research idea, which was a lack of interest in or obliviousness to organizational sustainability at UAE government ministries. This prompted us to pursue the idea for research, as organizational sustainability is an important term that has intrigued the interest of many researchers and academics due to its vital importance in the organizations' life cycle. Figure 1 illustrates the study's theoretical framework.

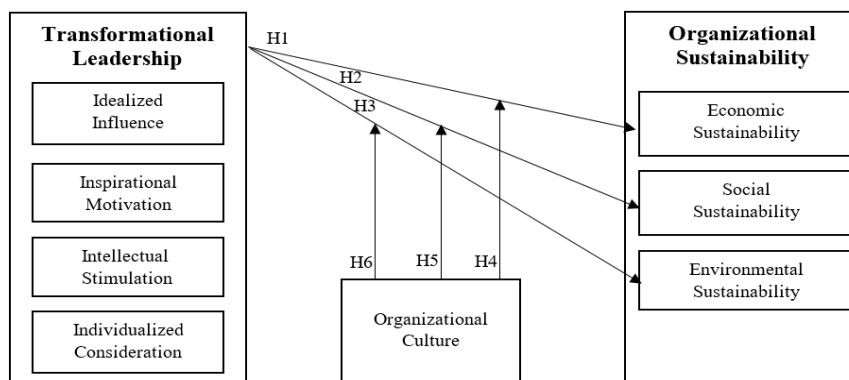


Fig. 1. Theoretical Framework

2 Resource Based View (RBV) Theory

The current study focuses on the impact of transformational leadership on organizational sustainability (economic, social, and environmental) with the moderation of organizational culture in UAE public ministries. We used RBV to justify the variables' relationships. According to the theory, organizations have a variety of resources that enable them to stay ahead of the competitors and lead them to performance and long-term sustainability (Barney, 1991). Indeed, the resource based-view theory is predicated on the premise that successful organizations can achieve competitiveness by developing new attributes, which can be implicit or explicit (Teece, Pisano, & Shuen, 1997). Therefore, the essence of the policy needs to be explained by unique capabilities and resources of an organization (Rumalt, 2005). Only when the organization's capabilities and resources are distinct can they play an important role in superior performance and long-term competitive advantage. These capabilities and resources should be valuable, uncommon, unpretentiously imitable, and unsubstitutable with increased efficiency and effectiveness (Barney, 1991). This may help the organization in maintaining its long-term competitiveness and ability to preserve, deploy, develop, and identify resources, as well as carve out a niche for itself to compete successfully (Peteraf, 1993). In this context, resources are generally defined as assets owned or controlled by organizations (Schoemaker & Amit, 1993). In addition, Wernerfelt (1984) defines resource as an intangible and tangible asset that is fundamentally linked to an organization. The term "tangible resources" refers to the organization's physical assets/items such as facilities, raw materials, and equipment's (Tishler & Carmeli, 2004). "Intangible resources" are assets that include culture, perceptions, reputation, skills, and knowledge (Peteraf, 1993). Thus, RBV theory is consistent with the objectives of the current study, as its primary goal is to investigate the impact of transformational leadership on organizational sustainability with a moderation of organizational culture in UAE ministries. According to Peteraf (1993), organizations have resources such as tangible and intangible (transformational leadership and organizational culture) that can be used to demonstrate the organization's distinct quality in the public sector in a variety of ways. For example, Organizations use leadership as human capital because it is rare, valuable, non-replaceable, and unique. Transformational leadership, which is regarded as the most appropriate form of leadership in the era of sustainable development, has been used as a resource in this study. Moreover, organizational culture is important because it is a critical organizational asset for developing and sustaining competitive advantages for organizations and employees. Based on the study's gap and the problem statement discussed, the research questions are as follows. Does transformational leadership influence economic, social, and environmental sustainability? Does organizational culture moderate the relationship between transformational leadership and economic, social, and environmental sustainability?

3 Literature Review

3.1 Transformational Leadership and Organizational Sustainability

The sustainability literature usually views sustainability as a micro-level organizational idea or a macro-level social notion. However, there is no universally accepted definition of sustainability, the majority of researchers recognize three interconnected components of sustainability: economic, social, and environmental (Opp & Saunders, 2013; Stazyk, Moldavanova, & Frederickson, 2016). The term "social sustainability" refers to an

organization's incorporation and considerably long-term association with its employees (Dillard, Dujon, & King, 2008). Therefore, "social organizational sustainability" refers to the amicability of an organization's interaction with its employees over a reasonably long period. Organizational environmental sustainability refers to the strategies used by organizations to mitigate its negative effects of their operations on the natural environment (Dai, Chan, & Yee, 2018). Economic sustainability refers to activities that aim to increase social cohesion, such as reducing income disparities, providing equal opportunities, and combating marginalization, as well as providing access to employment, education, and healthcare (Guth, Smędzik-Ambroży, Czyżewski, & Stępień, 2020). Moreover, organizational sustainability, according to Purvis et al. (2019) is a balance between what society requires, what is economically viable, and what is environmentally sustainable. Savitz and Weber (2007) highlight that a sustainable organization generates profit, improves social welfare for shareholders, and protects the environment. Hence, sustainable development encourages businesses to integrate social, economic, and environmental goals into their operations while keeping future generations in mind (Ahmad, Iqbal, Khan, & Nasim, 2020). Nonetheless, sustainability necessitates leaders capable of promoting sustainability initiatives throughout their community and organizations, as well as igniting economic development (Metcalf & Benn, 2013). From this viewpoint, transformational leadership has evolved as the most successful type of leadership. Transformational leaders with sustainable traits promote ideals of sustainability on an individual, organizational, and societal levels (Ahmad et al., 2020). In addition, sustainable leaders prioritize long-term goals, sustainable change, and capacity building (Suriyankietkaew & Hallinger, 2018), emphasizing the importance of pursuing sustainable development agendas.

Nonetheless, transformational leadership is best understood by looking at the interrelationship between leaders and their followers and how they affect their followers and inspire them to exceed the daily responsibilities to fulfil both organizational and personal objectives. Although Burns (1978) introduced the concept of transformational leadership, it was advanced by Bass, Waldman, Avolio, and Bebb (1987), who understood that in times of environmental change, transformational leaders are more effective at broadening and elevating employees well-being and interests, creating understanding and awareness of an organization's goals and vision, and encouraging employees to think more than their own self-interests for the welfare of the overall organization (Seltzer & Bass, 1990).

Past literature indicates that transformational leadership has the direct effect in increasing organizational sustainability (Mangundjaya, 2019). Muralidharan and Pathak (2018) emphasized the critical role of leadership in formulating and executing sustainability agendas, which maximizes society's long-term development goals. They contended that transformative leaders incorporate sustainable strategies into the social fabric. The strength of a society's transformational leaders who promote human, economic, and environmental wellbeing greatly influences its sustainability environment (Muralidharan & Pathak, 2018). Based on the above discussion, this study used resource-based view theory to link transformational leadership and organizational sustainability. As per resource based-view theory, resources are limited, sustainable, and inimitable (Collis & Montgomery, 1995). Technology, human capital, and financial resource are all examples of organizational resources. Organizations invest in leadership as human capital because it is inimitable, non-sustainable, and rare (Harris & McMahan, 2015). Therefore, transformational leadership that is sustainable, spreads, and endures, and cares for all stakeholders without depleting human or financial resources is important (Hargreaves & Fink, 2012). Henceforth, transformational leadership was used as a resource in this study because it is thought to be the most appropriate type of leadership in times of sustainable development. From the preceding discussion, we purposed that:

H1: Transformational leadership has a significant relationship with economic sustainability.

H2: Transformational leadership has a significant relationship with environmental sustainability.

H3: Transformational leadership has a significant relationship with social sustainability.

3.2 Moderation of Organizational Culture between Transformational Leadership and Organizational Sustainability

In academic and management research, culture has frequently been viewed through a variety of lenses. The amount of research and culture models has resulted in the emergence of the culture concept into one of the most

diverse topics on a par with or even higher than theories of leadership. Furthermore, national value culture is frequently inextricably linked to and inseparable from individual and corporate cultures. For this, numerous efforts have been made to define organisational culture. Some scholars define organisational culture as a meaning encoded in corporate discourse and transactions. Previous and more widely accepted organisational culture definition stated that it is a collection of behavioural patterns that are commonly understood by its members. Years later, organisational cultures are often regarded as organisation's norms. An organization's culture is important because it shapes the organisational climate, indicating that it is an essential component of any successful organisation (Al-Shibami et al., 2019). Based on the resource-based view theory, organizational culture can be one of the strategic resources that fosters innovation, risk-taking, and learning (Zahra, Hayton, & Salvato, 2004), resulting in a sustained competitive advantage (Barney, 1986). An organization's culture is a complex web of underlying assumptions espoused values, and artifacts. This organizational culture can be a valuable resource that helps them achieve their organizational sustainability.

Organizations are culture-driven, regardless of how they manage knowledge, organizational culture forces have a much greater impact (McDermott & O'dell, 2001). The factors identified related organizational culture are nature of knowledge, motivation to share, and opportunities to share are deeply ingrained in organizational culture. The organizations with high scores for involvement culture usually encourage employees to be more involved in their work and with their colleagues (Lasrado & Kassem, 2020). They give them more responsibility and encourage a sense of ownership. Employees in these organizations act informally and do more work on a voluntary basis, and there is very little bureaucracy. Employee commitment to the organization is high, coming from a strong feeling of ownership. Organizations with an involvement culture believe that decision-making is a collective process and should be carried out in participation with employees to increase the wisdom and accuracy of decisions and ease of implementation (Denison, Nieminen, & Kotrba, 2014). Additionally, organizational culture has been cited as a moderator in several studies (Al-Shibami et al., 2019; Saha & Kumar, 2018). In addition, because organisational culture is critical to an organization's functionality, it is of interest not only to scholars and researchers, but also to businesses and their leaders. In addition to individual attitudes toward organizational sustainability, research has shown that organizational culture is vital to organizational sustainability. As one of the characteristics of a sustainable organization is the ability to adapt to sustainability pressures, the organizational capability to implement the changes is a prerequisite for sustainability (Eccles, Perkins, & Serafeim, 2012). Hence, the purpose of this study is to increase understanding around the relations among transformational leadership, organizational culture, and organizational sustainability. Employees' readiness for and commitment to change are important in the process of building organizational sustainability when representing the human side of the organization (Jabbour & Renwick, 2018). Transformational leadership capabilities that persuade individuals to engage in organizational sustainability can help to develop an organization's culture (Aryee, Walumbwa, Zhou, & Hartnell, 2012). From the above discussion, we can infer that organizational culture can buffer the link between transformational leadership and organizational sustainability. Hence, we posit that:

H4: The relationship between transformational leadership and economic sustainability is moderated by organizational culture.

H5: The relationship between transformational leadership and environmental sustainability is moderated by organizational culture.

H6: The relationship between transformational leadership and social sustainability is moderated by organizational culture.

4 Methodology

4.1 Sampling and Procedure

The current study is quantitative, explanatory, and cross-sectional in nature. The quantitative technique is important for proving theories, discovering factors for future investigations and relate variables presented by questions or hypotheses. Besides, using quantitative methods is suitable when the theoretical developed model requires to be tested across a broader population sample (Deshpande, 1983). Therefore, this study employed a quantitative technique with a cross-sectional survey questionnaire research design.

Data were collected from the UAE's four Ministries, namely the Ministry of Human Resources, the Ministry of Economy, the Ministry of Education, and the Ministry of Health and Prevention. Employees from these ministries were chosen for this study because, as the largest public organization in the UAE, they are leaders in sustainable initiatives in the country. There are a total of 28,448 employees in these four ministries. This study used a stratified sampling technique to select a sample from the study's population (Employees of four ministries in UAE, 2021). Because of the large population, geographical areas, age groups, and gender, this study used a disproportionate sampling technique. This sampling technique can ensure disproportionate representation in the sample by ensuring that each stratum (subpopulation) that exists in the total population is well represented, where each ministry is referred to as a stratum. 377 public servant employees were chosen to serve as the sample using Krijcic and Morgan's sample determination. Furthermore, to reduce sampling error and address the nonresponse rate, the researcher followed the recommendations of Baruch and Holtom (2008) by increasing the sample size from 371 to 531 by at least 40 percent. Because the study's respondents were native Arabic speakers, the questionnaire items were translated from English to Arabic based on back translation method (Brislin, 1970). After obtaining approval from the UAE's four ministries, we initially obtained consent from participants using an informed consent form and assuring them of the confidentiality and anonymity of their responses. We distributed 531 questionnaires to respondents from the UAE's four ministries and received 284 in return. We discarded 8 questionnaires with incomplete information, resulting in a final sample size of 276 for data analysis and a response rate of 51 percent. Moreover, gender, age of respondents, educational qualification, type of ministry, and years of experience are some of the characteristics of participants in UAE public ministries. The demographic profile of the respondents is shown in Table 1.

Table 1. Respondents Demographic Profile

Description	Frequency	Percentage	Description	Frequency	Percentage
Gender					
Male	181	65.58	Female	95	34.42
Age					
Less than 30 years	64	23.02	31-40 years	144	52.02
41-50 years	52	18.08	Above 50 years	16	5.08
Education					
Bachelor	210	76.08	Master	41	14.86
PhD	19	6.88	Others	06	2.17
Ministry					
Ministry of human resource	22	8.0	Ministry of education	104	37.7
Ministry of economy	06	2.2	Ministry of health	144	52.1
Work Experience					
From 1-3 years	16	5.8	From 4-6 years	72	26.1
From 7-9 years	76	27.5	Above 10 years	112	40.6

4.2 Measurements

Previous research has emphasized the importance of developing a research instrument to understand the underlying assumptions that aid in the formulation of questions to be answered by participants. Thus, we developed the instrument keeping in view the research objectives and respondents. The designed questionnaire underwent validity and reliability tests to ensure that the designed items met the needs of the target employees in the UAE. Furthermore, the questionnaires were validated prior to data collection by experts in the field using face validity and content validity. The questionnaire items were approved by the experts and modified based on their suggestions to ensure their validity. Transformational leadership was measured using twelve (12) items with three items measuring each of the four dimensions (idealized influence, inspirational motivation, intellectual stimulation and individualized consideration) adapted from Robertson and Barling (2017). The items were modified to suit the study's context. Furthermore, the organizational culture measures, which included ten (10) items, were adapted

from Jain, Sandhu and Sidhu (2011). Furthermore, ten (10) items for organizational sustainability with three dimensions (economic, social, and environmental sustainability) were adapted from Famiyeh, Opoku, Kwarteng, and Asante-Darko (2021). Economic sustainability has four (4) items. Social and environmental sustainability has three (3) items each. All these items were measured on a seven-point Likert type scale, indicating the level of agreement (i.e., 1 to 7 “strongly disagree” to “strongly agree”).

4.3 Data Analysis

The researcher began data analysis by performing descriptive analysis with SPSS version 25.0 and inferential analysis with Smart PLS version 3.2.9. In the current study, the descriptive statistics of the respondents' data is expressed by taking standard deviation and means. For inferential analysis, Smart PLS was used to evaluate the reliability and validity of the constructs and to test the proposed hypotheses (Ringle, Wende, & Becker, 2015). Moreover, common method variance (CMV) occurs when survey data is collected from a single source at a time (Podsakoff, MacKenzie, & Podsakoff, 2012) and causes measurement error. Measurement errors endanger the validity of research findings concerning the relationships of study variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). To investigate the CMV issue, the Harman's single-factor test was used by SPSS. The first factor explained 28.85 percent of the variance, which was less than 50 percent of the variance (Podsakoff et al., 2003; Podsakoff et al., 2012), indicating the absence of CMV in the current study.

The data were first checked for missing values, outliers, and normality (Hair, Hult, Ringle, & Sarstedt, 2021). We found 83 missing values out of 16,461 data points, which represented less than 5 percent of the total and were replaced using the mean substitution method (Hair et al., 2021). After the treatment of missing data, the next step was to detect and treat outliers. Mahalanobis distance was calculated as recommended by Tabachnick, Fidell, and Ullman (2007) using linear regression analysis in SPSS software based on 31 items stands for the degree of freedom and $p < 0.001$ for level of probability; based on this, the Chi-square (X^2) threshold is 64.442. By implication, any D2 value that exceeds the threshold is a multivariate outlier that should be treated by removing it from the data set. According to this criterion, no case was identified as a multivariate outlier in the current study. Furthermore, multicollinearity was assessed using two methods (Chatterjee & Yilmaz, 1992). These methods were known as ‘tolerance value and variance inflated factor (VIF)’. First, the ‘tolerance value and VIF were assessed. According to Hair, Ringle, and Sarstedt (2011), multicollinearity is a problem when the ‘VIF’ value exceeds 5 and the ‘tolerance’ value is less than 0.20. The study's findings revealed that VIF values were less than 5, ranging from 1.990 to 4.082, and tolerance values were greater than 0.20, ranging from 0.324 to 0.612. Thus, multicollinearity was not identified among the latent construct in the study. Furthermore, the researcher evaluates correlation matrix of variables as the second technique to check the data's multicollinearity. The correlation matrix shows that there are positive associations between latent constructs. According to Hair, Black, Babin, and Anderson (2009), a value of correlation greater than 0.90 is considered a high correlation. We can rule out the likelihood of auto-correlation because no value in the correlation matrix exceeds 0.90. Henceforth, the VIF, tolerance value, and correlation matrix test results show that there is no multicollinearity in the data of this study as shown in Table 2. Nonetheless, we checked the data for normality using skewness and kurtosis. Skewness measures how symmetrical or asymmetrical a distribution is, whereas kurtosis measures how peaked or flat a distribution is. Thus, a distribution is considered normal if its skewness and kurtosis are not far from zero. The findings of the normality test indicated that the values of skewness and kurtosis were between ± 2 (George & Mallery, 2019) as shown in Table 2.

Table 2. The values of mean, standard deviation, correlation, and skewness and kurtosis

Variable	Mean (SD)	TL	OC	ES	SS	ES	VIF	Tolerance	Skewness	Kurtosis
TL	5.52(.943)	1					2.642	0.372	1.330	1.214
OC	5.73 (.910)	.251	1				3.014	0.612	.837	1.751
ES	5.11 (.941)	.602	.462	1			4.082	0.448	1.307	0.927
SS	5.19 (.962)	.469	.537	.557	1		2.318	0.324	-1.041	1.143

ES	5.26(.974)	.572	.495	.592	.537	1	1.990	0.527	-1.429	0.938
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Note(s): ** Correlation significant at 0.01 level (two-tailed)

Assessment of PLS-SEM Model

. The two-step process recommended by Hair et al. (2021) was used to report the results after evaluating them using PLS-SEM path modeling. The researchers advocated for the first step to be measurement model assessment and the second step to be structural model assessment. There are five latent constructs in the current study, including one exogenous construct (transformational leadership), one moderating variable (organizational culture), and three endogenous constructs (economic, social, and environmental sustainability).

Assessment of Measurement Model

. The current study evaluated the quality of the measurement model to ensure the reliability and validity of the analysis, which was attained by using the PLS technique via the PLS Algorithm. The measurement model was used to evaluate indicator reliability, composite reliability, convergent validity (average variance extracted), and discriminant validity (Heterotrait-Monotrait ratio) (Hair et al., 2021; Henseler, Ringle, & Sinkovics, 2009). The first criterion for evaluating the measurement model is the assessment of individual item reliability, which is examined using construct outer loadings (Hair et al., 2021). The item loadings of the constructs ranged between 0.733 and 0.943, which exceeded the threshold value of 0.708 (Hair et al., 2021). The internal consistency reliability is the second criterion for evaluating the measurement model. Hair et al. (2021) proposed using Cronbach Alpha or composite reliability (CR) to assess internal consistency reliability. To assess internal consistency in the current study, the researcher chose to calculate the CR. The main reason to prefer CR over Cronbach alpha is that it has less estimation bias. The CR value should be evaluated using a value of at least 0.70 or greater (Hair et al., 2021). Table 3 shows that the CR of the latent constructs were all higher than 0.70, ranging between 0.906 and 0.952, indicating that internal consistency exists. According to Hair et al. (2009), “convergent validity (i.e., AVE) is the extent to which indicators of a specific construct converge or share a high proportion of variance in common”. Chin (1998) proposed that the AVE for each variable be at least 0.50 or greater to achieve adequate convergent validity. In accordance with this criterion, all variables in this study demonstrated an adequate level of convergent validity, as evidenced by AVE values ranging from 0.661 to 0.868 (see Table 3).

Table 3. Constructs Validity and Reliability

Constructs	Items	Loading s	Composite Reliability	Average Variance Extracted
Organizational Sustainability				
Economic Sustainability	Eco1	0.859	0.933	0.778
	Eco2	0.942		
	Eco3	0.869		
	Eco4	0.857		
Environmental Sustainability	Env1	0.899	0.926	0.807
	Env2	0.901		
	Env3	0.895		
Social Sustainability	Soc1	0.903	0.906	0.762
	Soc2	0.893		
	Soc3	0.821		
Organizational Culture	Org1	0.769	0.951	0.661
	Org2	0.816		
	Org3	0.779		

	Org4	0.733		
	Org5	0.816		
	Org6	0.871		
	Org7	0.815		
	Org8	0.845		
	Org9	0.846		
	Org1	0.816		
	0			
Transformational Leadership				
Idealized Influence	Ide1			
	Ide2	0.958	0.952	0.868
	Ide3			
Individual Consideration	Ind1			
	Ind2	0.943	0.932	0.821
	Ind3			
Inspirational Motivation	Ins1			
	Ins2	0.884	0.920	0.794
	Ins3			
Intellectual Stimulation	Int1			
	Int2	0.910	0.945	0.851
	Int3			

Furthermore, discriminant validity refers to “the extent to which a construct is truly distinct from other constructs” (Hair, Risher, Sarstedt, & Ringle, 2019). Henseler, Ringle, and Sarstedt (2015) proposed the Heterotrait-Monotrait Ratio (HTMT) approach to find discriminant validity, which is based on the multitrait-multimethod matrix. The threshold value proposed by Gold, Malhotra, and Segars (2001) should be less than 0.90. Kline (2015), on the other hand, proposed a maximum acceptable value of HTMT of 0.85. Following the recommendations of Gold et al. (2001), the findings revealed that constructs obtained values were less than 0.90, indicating that HTMT values were within an acceptable range (see Table 4).

Table 4. Discriminant Validity (HTMT Ratio)

Constructs	1	2	3	4	5
Eco. Sus					
Env. Sus	0.661				
TL	0.443	0.573			
OC	0.475	0.420	0.492		
Soc. Sus	0.574	0.519	0.515	0.463	

Note: Eco. Sus = Economic Sustainability; Env. Sus = Environmental Sustainability; TL = Transformational Leadership; OC = Organizational Culture, and Soc. Sus = Social Sustainability.

Assessment of Structural Model

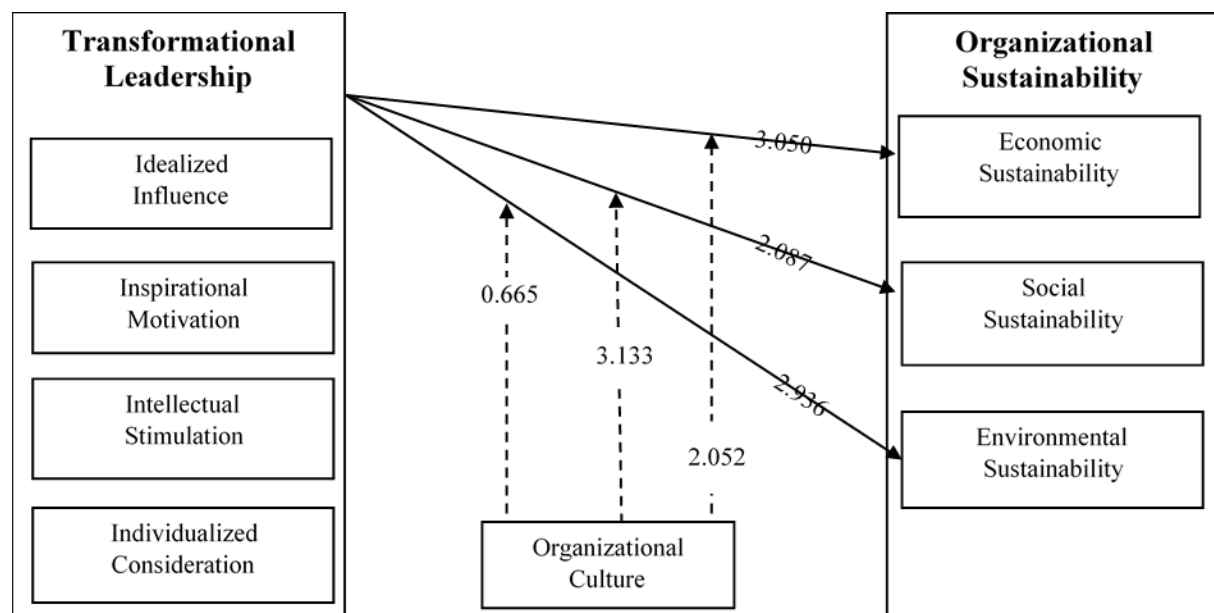
. The inner model is evaluated by determining the coefficient of determination (R²) value, significance of the path coefficients of the hypothesized relationships, and assessing predictive relevance (Q²) (Hair et al., 2021; Henseler et al., 2009). The current study used the standard bootstrapping procedure with 5000 sub-samples to assess the significance of the path coefficients (Hair et al., 2021; Henseler et al., 2009). The results of the path model indicated a positive and significant relationship between transformational leadership and economic sustainability

($\beta = 0.265$, $t = 3.050$, $p < 0.05$). Thus, H1 is supported. Similarly, the relationships between transformational leadership and social sustainability ($\beta = 0.172$, $t = 2.087$, $p < 0.05$) and transformational leadership and environmental sustainability ($\beta = 0.230$, $t = 2.936$, $p < 0.05$) were both positive and significant, indicating support for H2 and H3. In terms of organizational culture's moderating effect, the relationship between transformational leadership and economic sustainability ($\beta = 0.063$, $t = 2.052$, $p < 0.05$) and transformational leadership and social sustainability ($\beta = 0.086$, $t = 3.133$, $p < 0.05$) was significantly moderated by organizational culture. Therefore, H4 and H5 were supported. Whereas organizational culture did not significantly moderate the relationship between transformational leadership and environmental sustainability ($\beta = 0.023$, $t = 0.665$, $p > 0.05$). Thus, H6 was not supported as proposed. Figure 2 and Table 5 depict the results of the entire inner model, which includes the moderating variable (organizational culture).

Table 5. Results of Direct and Indirect Path Model

Relationships	Std. Beta	Std. Error	t-values	p-values	Decision
TL -> EcoSus	0.265	0.087	3.050	0.001	Supported
TL -> EnvSus	0.230	0.078	2.936	0.002	Supported
TL -> SocSus	0.172	0.082	2.087	0.020	Supported
TL*OC -> EcoSus	0.063	0.031	2.052	0.021	Supported
TL*OC -> SocSus	0.086	0.027	3.133	0.001	Supported
TL*OC -> EnvSus	0.023	0.034	0.665	0.254	Not Supported

Note: TL = Transformational Leadership; OC = Organizational Culture; EcoSus = Economic Sustainability; SocSus = Social Sustainability and EnvSus = Environmental Sustainability.



Notes: Solid line (→) indicates direct relationships and dotted line (---) indicates indirect relationships; EcoSus = Economic Sustainability, SocSus = Social Sustainability, and EnvSus = Environmental Sustainability.

Fig. 2. Assessment of Structural Model

The findings indicate that organizational culture has a buffering effect on transformational leadership and economic and social sustainability relationships, as shown in Figures 3 and Figure 4.

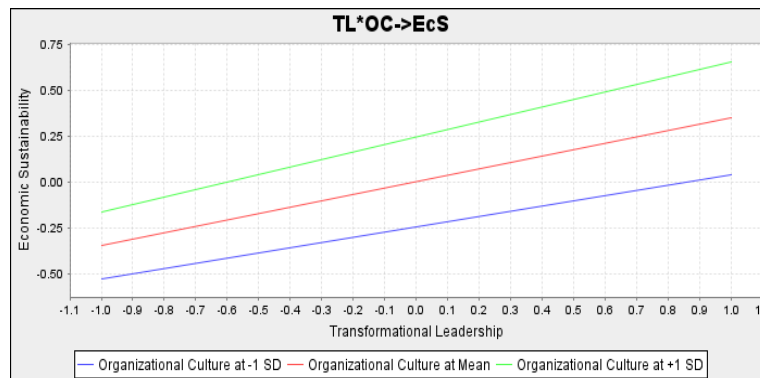


Fig. 3: Interaction Plot

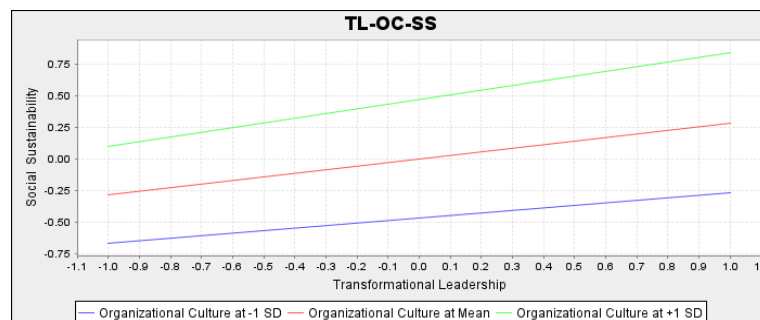


Fig. 4: Interaction Plot

5 Discussion

The purpose of this study is to fill a gap in empirical research on the relationship between transformational leadership and organizational sustainability in UAE public ministries. More specifically, we investigated whether transformational leadership was related to organizational sustainability (economic, social, and environmental sustainability), both directly and indirectly via moderator (organizational culture). According to the first three hypotheses (H1, H2, and H3), the relationship between transformational leadership and organizational sustainability (economic, social, and environmental sustainability) were positive and statistically significant. In terms of economic sustainability, Burawat (2019) argued that transformational leadership is an integral part of an organization that promotes economic sustainable development. Furthermore, Perrott (2015) argued that without a viable financial result, an organization may be unable to fulfil its commitments or contributions to sustainability. Organizational leaders (transformational leaders) can thus operate efficiently, handle profit-generating activities, and be resource and product competitive. Thus, organizational sustainability entails ensuring sound organizational performance and efficiency, continuous quality improvement, and high-performance teams, with a focus on transformational leadership and strategic implementation capabilities.

Following the second hypothesis, the study's findings revealed a positive and statistically significant relationship between transformational leadership and social sustainability. This indicates that social sustainability of an organization is linked to the cordiality of the relationship between the organization and its stakeholders. A knowledgeable, skilled, and motivated employee is a resource that is difficult to find in the market. Therefore, modern organizations strive for long-term competitive advantages through human resource sustainability. Therefore, “social sustainability” is achieved through human development, which includes a strong corporate culture, fair compensation, a pleasant working environment, training, and education. It is believed that loyal, motivated, and committed employees develop an organization’s social sustainability. We believe that transformational leadership has the potential to promote social sustainability development (Ullah et al., 2021). Considering the third hypothesis, which indicated a positive and significant relationship between transformational leadership and environmental sustainability. This indicates that transformational leaders articulate the organization's green vision in a seamless pattern, clarifying the subject questions such as “how do we achieve our green related goals?” and “what are our deliverables?” They further express self-assurance and positivity, constantly discussing about the organization’s green norms, with their followers, and they provide their followers

with the requisite resources to achieve their goals (Mittal & Dhar, 2016). Transformational leaders provide sufficient models that equip the follower's psychological state and foster the belief that they can subdue obstacles and stimulate task-engaging behaviors, which brings in success (Bass & Stogdill, 1990).

Furthermore, the study's findings revealed that organizational culture acts as a buffer between transformational leadership and organizational sustainability (economic and social sustainability). This shows that a leader who is perceived to embody the organization's characteristics is more likely to influence employees' attitudes toward the organization (Eisenberger et al., 2014). Employees who perceived a high supportive organizational culture saw their supervisor as having values, motives, and objectives that drive them to go above and beyond in their roles and contribute to organizational sustainability. Therefore, organizational culture can connect the relationship between leaders, employees, and organizations, as well as provide a more accurate interpretation of how the relationship between leaders and employees is transmitted to affect organizational sustainability. Following these theoretical propositions and empirical evidence, we can conclude that organizational culture is an important boundary condition on the influence of transformational leadership on organizational sustainability (economic and social sustainability). However, the study's findings revealed that organizational culture does not act as a buffer between transformational leadership and organizational sustainability (environmental sustainability). In practice, not all employees regard the leader as an agent of the organization, and the degree to which this recognition varies by employee. When an employee perceives the organizational culture to be poor, the employee will interpret the leaders' statement of the green target as the organization's unwillingness, which can effectively reduce employees' environmental concern.

5.1 Theoretical and Practical Implications

The study's findings have theoretical as well as managerial implications. The theoretical implications may raise awareness about the significance of economic, social, and environmental sustainability in organizations. The current study, one of the pioneering studies from the perspective of developing countries, focuses on the impact of transformational leadership, organizational culture, and organizational sustainability in the context of the UAE public ministries. Importantly, this study increases the boundaries of existing literature by looking into the moderation of organizational culture on the association between transformational leadership and organizational sustainability in UAE ministries. It contributes to organizational sustainability by increasing understanding and appreciation of the role of transformational leadership. Notably, the study's findings were anchored on resource-based view theory, which is critical in defining the relationships between the three constructs, namely transformational leadership, organizational culture, and organizational sustainability.

Based on the findings, this study provides some managerial implications for some stakeholders, managers, leaders, academics, government, and researchers alike in terms of organizational sustainability in the public sector to appreciate transformational leadership and organizational culture considering their influence on organizational economic, social, and environmental sustainability. More precisely, the findings of the current study are likely to benefit the UAE and its people by guiding to public sector agencies in addressing economic, social, and environmental challenges that affect people's lives. Therefore, the study's findings in this regard indicate that the UAE public sector ministries are trying to contribute to the economic and social development of the UAE by providing other social responsibilities, contributing to GDP, and creating several jobs that would ensure the country's long-term sustainability. Furthermore, policies and programs that improve organizational culture should be implemented in the public sector to encourage the transfer of organizational culture among employees. Finally, the public sector should establish a synergy between transformational leadership and organizational culture to ensure the robust performance of organizational sustainability and the ministries at large. Thus, the importance of evaluating the influence of transformational leadership and organizational culture factors that center on followers to assess whether they feel motivated and encouraged to share what they know with others and how this translates into improved organizational sustainability is emphasized in this research work.

5.2 Research Limitations and Recommendations

Even though this study has provided a better understanding, vital contributions, and empirical evidence of both the direct and indirect paths, it is constrained by some limitations that provide opportunities to extend knowledge in the field of organizational sustainability. First, the current study is a cross-sectional study, which means that it

was conducted over a relatively short period, making it difficult to draw cause and effect conclusions from the population. Therefore, future studies must be conducted in a longitudinal fashion to evaluate the constructs at different times to confirm the findings of this study. Second, the current study was conducted solely through quantitative means. The application of quantitative or qualitative methods may not provide a complete understanding to support the findings. Future research could use mixed methods or triangulation to investigate organizational sustainability using both qualitative and quantitative data. Third, this research is one of the first to show that organizational culture can help to moderate the relationship between transformational leadership and organizational sustainability. Furthermore, the research model accounted for 40.7 percent of the total variance in economic sustainability, 36.2 percent in environmental sustainability, and 37.8 percent in social sustainability, implying that there are other constructs that would account for the variance in organizational sustainability. Therefore, transformational leadership is not the only predictor of organizational sustainability (economic, social, and environmental sustainability), nor is organizational culture the only moderating variable. Hence, in the future, researchers are encouraged to consider other aspects of leadership styles or other factors (i.e., technology adoption and organizational capabilities) as exogenous constructs, as well as other relevant factors as mediators or moderators on the said relationship. This would go a long way toward reducing the amount of unexplained variance in the model. Fourth, the study's context, which is the UAE context, is a limitation. Therefore, more researchers are being invited to investigate the same model in GCC countries context such as Kuwait, Oman, Bahrain, and Qatar to assist policymakers in improving the determinants of transformational leadership and organizational culture in the hopes of enhancing organizational sustainability. Finally, because the current study is limited to an RBV theory as the underlying theory, future research can incorporate other theories (i.e., social exchange theory, conservation of resource theory, job demand resource theory) to provide a more in-depth understanding of organizational sustainability.

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