

# Influence of CSR and leadership style on sustainable performance: moderating impact of sustainable entrepreneurship and mediating role of organizational commitment

Yi Dai, Zulkiflee Abdul-Samad, Supat Chupradit, Abdelmohsen A. Nassani, Mohamed Haffar & Mivumbi Michel

To cite this article: Yi Dai, Zulkiflee Abdul-Samad, Supat Chupradit, Abdelmohsen A. Nassani, Mohamed Haffar & Mivumbi Michel (2022) Influence of CSR and leadership style on sustainable performance: moderating impact of sustainable entrepreneurship and mediating role of organizational commitment, Economic Research-Ekonomiska Istraživanja, 35:1, 3917-3939, DOI: [10.1080/1331677X.2021.2007151](https://doi.org/10.1080/1331677X.2021.2007151)

To link to this article: <https://doi.org/10.1080/1331677X.2021.2007151>



© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 01 Dec 2021.



[Submit your article to this journal](#)



Article views: 3548



[View related articles](#)




[View Crossmark data](#)



Citing articles: 3 [View citing articles](#)

# Influence of CSR and leadership style on sustainable performance: moderating impact of sustainable entrepreneurship and mediating role of organizational commitment

Yi Dai<sup>a,b</sup>, Zulkiflee Abdul-Samad<sup>c</sup>, Supat Chupradit<sup>d</sup> , Abdelmohsen A. Nassani<sup>e</sup>, Mohamed Haffar<sup>f</sup> and Mivumbi Michel<sup>g</sup>

<sup>a</sup>School of Management, Shanghai University, Shanghai, China; <sup>b</sup>Business School, Shanghai Dianji University, Shanghai, China; <sup>c</sup>Department of Quantity Surveying, Faculty of Built Environment, University of Malaya, Kuala Lumpur, Malaysia; <sup>d</sup>Department of Occupational Therapy, Faculty of Associated Medical Sciences, Chiang Mai University, Chiang Mai, Thailand; <sup>e</sup>Department of Management, College of Business Administration, King Saud University, Riyadh, Saudi Arabia; <sup>f</sup>Department of Management, Birmingham Business School, University of Birmingham, Birmingham, UK; <sup>g</sup>Department of economics, Open University of Tanzania, Kibungo, Rwanda

## ABSTRACT

Nowadays, sustainable performance (SP) has become an obligation of every organization globally, which captures the attention of recent researchers and policymakers. Following the green theory, this study aims to examine the impact of corporate social responsibilities (CSR), transactional and transformational leadership on the SP. Besides, examining the moderating role of sustainable entrepreneurship and mediating role of organizational commitment among the nexus of CSR, transactional and transformational leadership, and SP is another target of this research. This study adopted the questionnaires to collect the data from the respondents of the internet services industry in China, and structural equation modeling (SEM) was employed to analyze the data. This research revealed that CSR, transactional, and transformational leadership have a positive effect on SP. Secondly, this study also indicated that sustainable entrepreneurship significantly moderates among nexus of transactional and transformational leadership to SP. Besides, our results show that organizational commitment positively mediates the links between CSR, transactional leadership, transformational leadership, and the SP. The conclusion of this research signifies that organizational leadership strongly influences the adoption of green and sustainable operations, which further influences the SP. These results help the regulation-making authorities make new policies related to CSR, leadership, entrepreneurship, and SP.

## ARTICLE HISTORY


Received 17 September 2021  
Accepted 11 November 2021

## KEYWORDS

Corporate social responsibilities; transactional leadership; transformational leadership; sustainable performance; sustainable entrepreneurship; organizational commitment

## JEL CODES

G30; L14

**CONTACT** Supat Chupradit  [supat.c@cmu.ac.th](mailto:supat.c@cmu.ac.th)

© 2021 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

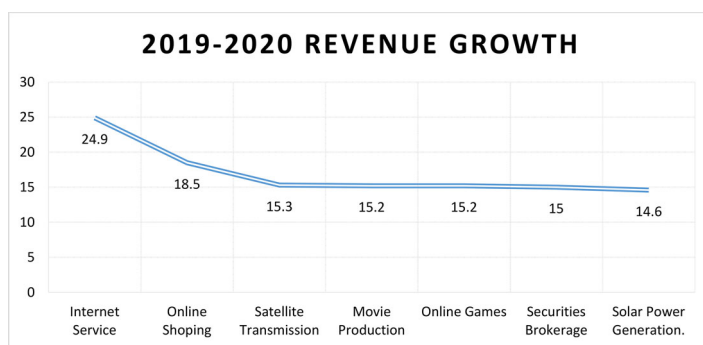
This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

## 1. Introduction

The revenue gathered by the enterprises can be used to measure their success. In 2019 and 2020, the highest-grossing firms are in the internet services market for Chinese enterprises. The internet services industry is expected to grow at a 25.4 percent annual rate to \$803.1 billion in the current year (Kwak et al., 2021). During the first quarter of 2020, China faced a severe pandemic, and sales for internet services grew steadily. In addition to this, the online retail market is forecast to expand at 22.5 percent annually over the five years to 2020, to a total of 1.8 trillion dollars. The fast growth is due to the success of e-commerce in China and the continuous production of services through various online firms (Zafar et al., 2021). Furthermore, the number of mobile internet users has grown considerably over the past five years as mobile internet networks continued to improve the efficiency of the industry (Razzaq et al., 2021c; Zafar et al., 2021). The revenue received from the Chinese firms in 2019–2020 is given in Figure 1.

Over the last decade, firms have taken a path to create a successful long-term connection with their stakeholders. Sustainable performance (SP) is an important component of this connection (Ozturk et al., 2020; Yu et al., 2021). Many researchers described SP as a green strategy aiming at conserving the social, cultural, and economic components of the environment in which a company operates (He et al., 2021; Khan et al., 2021; Shahzad et al., 2019). However, many researchers have identified and highlighted the factors that affect SP, such as green investment and innovation, technology adoption, and CSR (An et al., 2021; Ding et al., 2019; Razzaq et al., 2021b; Saunila et al., 2018; Zhou et al., 2021). Several studies have investigated CSR activities and have found it a valuable tool for environmental growth and sustainability (Perrini, 2006; Xia et al., 2018; Yoon & Chung, 2018).

The green theory (GT) is the philosophical foundation for this research; it is a new philosophy and transdisciplinary thinking that integrates human rights, citizenship, government, social responsibility, and the environment (Eckersley, 2010). Ecologists and environmentalists believe GT has advised manufacturers to include CSR activities and green thinking into their operations, benefiting both economic and environmental sustainability (Raimi, 2017; Razzaq et al., 2021a; Sun et al., 2021). Despite the applicability of CSR, researchers cannot define it properly, and no consensus has



**Figure 1.** Revenue Growth from Chinese Firms in 2019–2020.

Source: Authors estimations.

been achieved on conceptualizing CSR. CSR activity limits businesses' ongoing contribution to corporate accountability for contributing to societies and sustainable development (SD) that might boost workers and their family standard of living (Basheer et al., 2020). Measuring CSR shows how businesses and companies relate to consumers, vendors, merchants, and concerned stakeholders (Shahzad et al., 2020). Furthermore, researchers have found that CSR is viewed as an additional financial burden if top organizational management doesn't sufficiently commit CSR, and their leadership is not interested in taking the extra financial risk; besides, it also contributes to consumer satisfaction and improves organizational image (Anser et al., 2018; Saha et al., 2020). Moreover, the services-based industry requires strategic leadership for foreseeing the future of SD. Contrary to that, preceding studies have only focused on visionary leadership (Mittal & Dhar, 2016; Tuan, 2020). Many types of leadership are related to strategic leadership, especially those focused on leading actions and receiving more recent analysis.

Transactional leadership stresses followers' encouragement, challenges, purpose, professional growth, and success (Chen et al., 2019; Dalakoura, 2010). The transactional strategy provides a clear correlation between leadership and the potential to inspire goals and increase results by recompense systems. Whereas transformational leadership stresses the value of leadership, which moves past conventional transactional structures and expands leadership to include an emphasis on the growth of followers (Para-González et al., 2018; Singh et al., 2020). This method often stresses morality and principles. Furthermore, previous studies highlighted the relationship between CSR and organizational commitment (Brammer et al., 2007). Organizational commitment plays a significant role for SD, which ultimately enhances green and sustainable performance. However, none of the studies have evaluated the impact of CSR and transactional and transformational leadership in the internet services industry. Given the gap in the literature, this study attempts to understand how CSR, transactional, and transformational leadership influence sustainable performance? To understand this phenomenon in a better way, we evaluate the mediating role of organizational commitment and moderating role of sustainable entrepreneurship in an encompassing model.

Data were collected from the Chinese internet services industry employees to assess the hypotheses, and structural equation modeling was employed to analyze the data. The present investigation investigated the relationship between CSR, leadership styles, and SP with moderation and mediation effect. This research is significant in multiple ways. First, the proposed conceptual model is based on the conceptualization of SD and analyzed by structural equation modeling (SEM), which is a novel phenomenon and provides support to the literature. Second, this study highlights a fundamental concept of CSR and leadership styles that enhance SP, which is still underexplored. In addition, this research integrates organizational commitment as a mediator and sustainable entrepreneurship as a moderator to assess organizational SP. This study also enables professionals to integrate CSR strategies into organizational strategies to improve sustainability and innovation. The next section consists of literature review and hypotheses development; [Section 3](#) is related to research methodology, [Section 4](#) explains the results, [Section 5](#) provides discussion, implications and limitations.

## 2. Literature review and hypotheses development

### 2.1. CSR and sustainable performance

CSR has a considerable role in the organizational structure and SP (Shahzad et al., 2019). Chinese companies are more admired for the initiation of CSR. This induction is referred to by the international adaptations and positive conclusions toward the growth and performance of organizations (Verma, 2012). In most Chinese hospitality and tourism industries, CSR helps attain SP (Font & Lynes, 2018). This is due to substantial interpretations in a worldwide environment where the firms have received favorable CSR support. This wide contribution is based on proper planning, evaluation, and implementation of strategic views. After placing a critical view on CSR, many organizations and NGOs have taken stakeholders' perspectives toward SP (Shahzad et al., 2020; Sharif et al., 2019; 2020). With the positive involvement of CSR among the SP of organizations, the dimensions may vary with various circumstances. These circumstances are best toward exploring the linkage between firm competitiveness and CSR (Lu et al., 2020). Due to the environmental impacts and financial inclusions (Ling et al., 2021; Lingyan et al., 2021), CSR has separate induction of its wide contribution and motivation. With the placement of a significant relationship between SP and CSR, management also asserts a dominant role. This is depicted with the view of some viable effects where management practices induce the eminent role of CSR. Various analyses have been performed on SP and total quality management practices (Akanmu et al., 2020). CSR also states the role of management from the perspectives of SP. The latest studies by Abbas (2020) highlighted that quality management also has a significant effect on SD. Further, quality management is the model of excellence which, through policies and regulations, helps to achieve SP. Thus, the following hypothesis is proposed

**H1:** Corporate social responsibilities significantly influence sustainable performance.

### 2.2. Leadership style and sustainable performance

In the description of the leadership role, the bifurcation is placed with a variety of leadership behaviors. Transactional leadership is supportive and encourages SP with plenty of opportunities (Shahzad et al., 2020). These opportunities are based on the dimensions of transactional leadership, which are eminently described in many Chinese companies. Previous studies found a significant relationship between employee entrepreneurial behaviors, transactional and transformational leadership (Afsar et al., 2017). Although, many contrasting elements are prevalent among the leadership and attainment of SP. But the psychological empowerment in companies by transactional leadership places a significant impact on SP. Transactional leadership is highly related to the variety of circumstances that prevail in most Chinese organizations (Chen et al., 2019; Dalakoura, 2010). In China, the structural reforms are mostly performed by transactional leadership, which could help to achieve SP. With a view to different styles of organization, transactional leadership enables sustainability in performance. Therefore, transactional and transformational leadership jointly impact the styles of communication (Crews et al., 2019). Communication and

networking further enable the prediction of SP with effective transactional leadership. During the last few decades, SP has remained dominant in many countries. Recently, SP has significantly grown due to effective transactional leadership, which concerns various gains (Udovita, 2020). Survival is also important; therefore, the alignment of operational programs and measures of SP are positively elaborated by leadership styles (Caiado et al., 2019). Furthermore, leaders' knowledge and leadership style strongly affect SD, which enhances green performance (Shahzad et al., 2021). The overviews are significantly predicted by the induction of CSR as well as sustainable initiatives in organizations. Thus, the following hypothesis is proposed

**H2:** Transactional leadership significantly influences sustainable performance.

Various organizational employed transformational leadership, which significantly came up with a variety of capabilities. These capabilities have induced a positive role in SP (Singh et al., 2020). Different dimensions have expressed the ways with many consequences over SP while inducing its favorable role. Certain multinational organizations have also achieved great results when measuring highlighted transformative leadership (Ha-Vikström & Takala, 2018). This is done with the probable adaptation of decision-making practices beneficial for the effectiveness of transformational leadership (Udovita, 2020). Upon the guidelines stated by the leaders have improved the SP in many developing countries. The huge opportunities which have been highlighted in the global markets are due to transformational leadership. It also enhanced the resource allocation toward SP in companies through proper procedures (Jiang et al., 2017). These procedures usually include the effectiveness of promotion, selection, and recruitment for different purposes. It is dependent on the factors that are interlinked among job satisfaction, diversity climate, and transformational leadership (McCallaghan et al., 2019). Researchers identified that the dependence has a wide contribution toward SP, closely associated with the global industries. The underpinning of supply chain management with transformational leadership also contributes toward SP. It is highly associated with the divergences of some SP elements (Mungkung et al., 2021). These elements have been classified upon the common elements which are defined under the observation of transformational leadership. This may also assert a dominant relationship with supply chain management and SP with certain underpinning foundations (Kim, 2017). A wide range of certain activities is also prominent in the firm's attitudes, which uplift the SP. Therefore, the below hypothesis is proposed.

**H3:** Transformational leadership significantly influences sustainable performance.

### ***2.3. The moderating role of sustainable entrepreneurship***

The participation of sustainable entrepreneurship has emerged with a significant impact upon SP and many other elements. This participation also induces a common influence on CSR and leadership qualities (Terán-Yépez et al., 2020). It is asserted in many industries with different approaches where the awareness of sustainable entrepreneurship is usually low (Porter et al., 2018). With the contribution of sustainable entrepreneurship, CSR also has some enclosure among the SP of numerous global

companies (Muhammad Auwal et al., 2020). Although, sustainable entrepreneurship states its moderating role over CSR and SP. At the same time, there is a significant relationship between organizational performance and CSR (Moneva et al., 2020). The behaviors of employees are also dependent on leadership, which helps in the sustainability of performance. Therefore, the overall impact of sustainable entrepreneurship clearly states its impact on the qualities of leadership and SP (Terán-Yépez et al., 2020). This also induces transactional and transformational leadership styles, managed by innovative behaviors (Hansen & Pihl-Thingvad, 2019). The effects are viewed as moderating among the relationship between transformational leadership and SP. Previous studies also highlighted the emerging role of sustainable entrepreneurship has also depicted the influence upon cohesion and transformational leadership (Kao et al., 2019). This inducement also asserts the trust effects, which are eliminated due to sustainable entrepreneurship on SP and transformational leadership. Wide interpretations in many Chinese organizations have proposed the guidelines on sustainable development and performance. This is a close association of sustainability in performance among certain organizations where the performance is measured with implications of sustainable entrepreneurship (Caiado et al., 2018). This is a common intention and transition of sustainable entrepreneurship over the relationship between SP and common factors of leadership and CSR. Therefore, the following hypotheses are proposed.

**H4:** Sustainable entrepreneurship significantly moderates the relationship between transactional leadership and sustainable performance.

**H5:** Sustainable entrepreneurship significantly moderates the relationship between transformational leadership and sustainable performance.

#### **2.4. The mediating role of organizational commitment**

With a slight increase in the organizational commitments in global marketplaces, the mediating impacts of CSR are also examined. Certain CSR implications are positively dominant across firms with various aspects that emphasize its influence on SP (Shahzad et al., 2020). This induces the combination of organizational commitments, burnout, and job satisfaction in social workers with the different pathways (Brown et al., 2019). Organizational commitment significantly mediates the relationship between SP and CSR (Lee et al., 2018). This states a clear picture of widely dominated organizational commitment, which has a positive role in the practical settings of SP. Social workers are eminent in organizations that are the main contributor to CSR and SP. With the values of corporate social responsibilities, significant relationships occur among firm performance, trust, and social capital during the financial crisis (Lins et al., 2017). This high association of social capital with organizational commitment raise levels of trust, which are prominent for the corporations and markets. The developments of concepts among sustainable corporate development and the corporate sector's interrelation have possible achievements of SD (Stites & Michael, 2011). This performance widely links the organizational commitment, which has technological as well as productive effects. While interpreting the corresponding elements of organizational commitment, the mediating aspects are clearly illustrated with



corporate sustainability performance in the firms of China (Wang et al., 2020). The existence of efficacious determinants has a heterogeneous approach with the best performance of organizational commitment. It is significant with certain identifications across the industries which are implementing the role of organizational commitments. By following this scenario, we proposed the following hypothesis.

**H6:** Organizational commitment significantly mediates between corporate social responsibilities and sustainable performance.

Certain retaliations have been coming up with the implications of organizational commitment. These implications have induced a positive role in the challenging environment of global markets (Udovita, 2020). The performance evaluations significantly emerge with the dominance of organizational commitment. Although, the mediating role of organizational commitment is unanimously elaborated among the relationship between SP and transactional leadership (Jiang et al., 2017). This includes a wide association of organizational commitments and psychological empowerment among industrial employees (Ibrahim, 2020). Mostly, the commitments are based on leadership, which is beneficial for the company's performance in competitive markets. Some challenging attributes have been enumerated in the organizations, especially in China. This depicts the offshore eminence of organizational commitment, which dominates over transactional leadership (Stites & Michael, 2011). Organizational commitment inserts mediating role among SP through different mechanisms. These mechanisms include the significance of transactional leadership, which uplifts the SP of an organization. The roles of self-regulatory focus, transactional leadership, and transformational leadership are positively elaborated through organizational commitment (Delegach et al., 2017). It enables the methods of prevention that could disrupt SP and induces the mediating role of organizational commitment. Some industries have stated the style of leadership, which is beneficial for the attainment of SP (Mittal & Dhar, 2016; Tuan, 2020). Therefore, the role of organizational commitment asserts its significant impact in most of the manufacturing industries. While enumerating the practices of SP, lean manufacturing is also dominant in enhancing organizational performance (Kamble et al., 2020). It shows the empirical implications over the development of standard operating procedures with the eminence of organizational commitment. The dominant mediating role of organizational commitment states the numerous implications of transformational leadership and SP. Thus, we proposed the following hypothesis.

**H7:** Organizational commitment significantly mediates between transactional leadership and sustainable performance.

The emergence of organizational commitment transforms leadership style. It asserted various levels of behaviors that are feasible for organizational behaviors and SP. Organizational commitment is observed among the citizenship behaviors in organizations that affect SP (Jiang et al., 2017). Previous studies highlighted the gender effect is prominent among organizational citizenship behavior and organizational commitments (Aftab et al., 2020). This effect is also defined over the role of transformational leadership and SP. It bifurcates gender dominance in organizations which could positively enhance SP. The effects have understandings of transformational



leadership which contribute toward SP. Most Chinese organizations have collective approaches to transformational leadership that provide efficacious measures toward organizational performance (Bhutto et al., 2021). Different understandings have been depicted over the collective efficacy and transformational leadership in China (Liu et al., 2020). Different examinations have been placed on the transferability in organizations with the prevalence of transformational leadership. This develops the significant mediating role of organizational commitment among the relationship between the SP of organizations and transformational leadership. Some variances have directions toward the variety of task analysis and collective efficacy where the organizational commitments manage the competence structure for better performance. The procurement of SP is depicted in most large enterprises across the geographical regions and supply chain tiers (Ghadge et al., 2019). These practices have numerous steers that trend along with the SP with organizational commitment. The mediating effect is positively developed with the dynamics of capabilities that are allocated by the organizational commitments. Certainty in the enterprises is probable in the organizations of China, which observes plenty of regulative procedures to specify the role of organizational commitments over SP and transformational leadership. Thus, we proposed the following hypothesis.

**H8:** Organizational commitment significantly mediates between transformational leadership and sustainable performance.

### 3. Research methodology

The goal of the ongoing study is to examine the impact of CSR, transactional and transformational leadership on SP along with the examination of moderating role sustainable entrepreneurship among the nexus of transactional leadership, transformational leadership and SP and the investigation of mediating role of organizational commitment among the nexus of CSR, transactional and transformational leadership and SP of internet services industry in China. The current study, based on the deductive approach, focuses on evaluating hypotheses derived from the theory. A cross-sectional survey approach was used to collect data using an offline and online self-administered questionnaire to test the hypotheses. This study adopted the quantitative data collection methods and used the questionnaires to collect the data from the respondents. The employees of the internet services industry in China are the respondents that were selected based on purposive sampling. Seven hundred ninety surveys were forwarded to the study respondents during personal visits, but only 540 were received after one month of the distribution. The response rate of the study was 68.36 percent. Chinese colleagues and students were also requested to assist with data collection. We have chosen this industry because we have observed tremendous growth in recent years. During the first quarter of 2020, China faced a severe pandemic, and sales for internet services grew steadily.

Almost 73% of those questioned worked in managerial roles. Sixty percent of those polled were men. Table 1 displays the overall demographic findings. This study used the ten times rule for sample size, which is '10 times the largest number of structural paths directed at a particular latent construct in a structural model', as recommended

**Table 1.** Demographic Information.

Respondent Profile		(n = 540)	
Characteristics	Dispersal	Frequency	(%)
Gender	Female	217	0.40
	Male	323	0.60
Age (Years)	20 – 29	187	0.35
	30 – 39	168	0.31
	40 – 49	123	0.23
	More than 50	62	0.11
Education	Undergraduate	132	0.24
	Graduate	184	0.34
	Postgraduate	147	0.27
	Others	77	0.14
Job Experience (Years)	0–5	130	0.24
	6–10	183	0.34
	11–15	119	0.22
	More than 15	108	0.20
Managerial Level	Low Level	208	0.39
	Middle Level	185	0.34
	Top Level	147	0.27

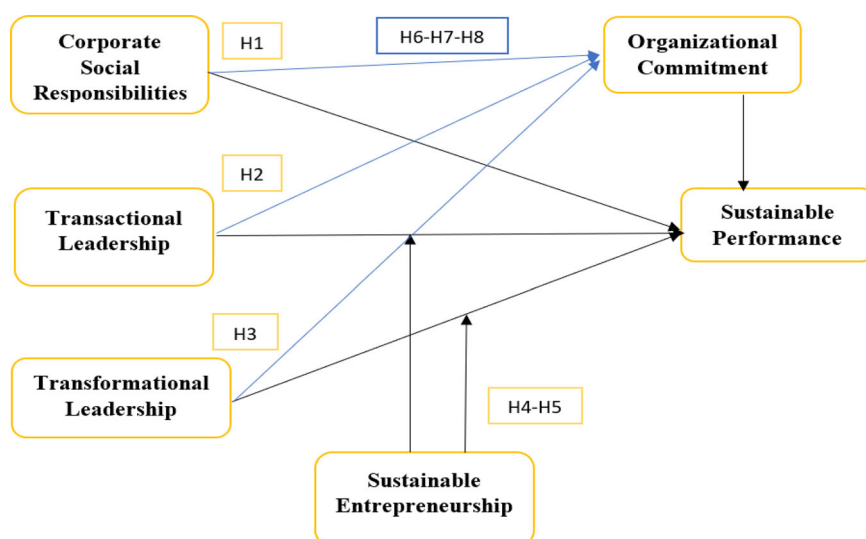
Source: Authors estimations.

by Hair et al. (2017). In addition, to evaluate the presence of the CMB, we used the Harman single factor test with principal component analysis and varimax rotation. The highest variation explained by a first component was 32.07 percent, lower than the 40 percent threshold, indicating that CMB was not a concern (Hair et al., 2017). Second, following Kock (2015), the variance inflation factors (VIF) values were evaluated. All of the values of VIF were less than 3.3, indicating that the model does not have a CMB problem (Kock, 2015).

We analyzed the data using SmartPLS version 3.2.8 and IBM SPSS version 24, using partial least squares structural equation modeling (PLS-SEM). This method is most endorsed when the study focuses on predicting and exploring the exogenous variables. It can cater to both the measurement and structural model concurrently. Further, our structural model is complex (many constructs and indicators), so we selected PLS-SEM over CB-SEM. Furthermore, PLS-SEM is the best prediction-oriented method and seems appropriate for this study (Hair et al., 2017). This study has taken three predictors named corporate social responsibilities (CSR) that has five items; transactional leadership (TRL) with four items; and transformational leadership (TSL) that also has four items. In addition, this study also used sustainable entrepreneurship (SE) as moderating variable that has five items while organizational commitment (OC) has taken as mediating variable with six items, and sustainable performance (SP) has been used as the dependent variable with five items. These constructs were adopted from previous studies (Brammer et al., 2007; Farooq et al., 2014; Jiang et al., 2017; Stites & Michael, 2011; Terán-Yépez et al., 2020; Turker, 2009). The conceptual model is shown in Figure 2.

#### 4. Results and findings

This study has examined the measurement and structural model assessment following Hair et al. (2017) guidelines. The measurement model assessment has been examined



**Figure 2.** Conceptual framework.  
Source: Authors estimations.

with convergent and discriminant validity. Firstly, convergent validity has been investigated that exposed the relationships between items. The results show that the composite reliability (CR) value is more than 0.70, along with Cronbach alpha having more than 0.70 values aligned with Cohen's (1988) suggestion. In addition, the findings also exposed that AVE values are higher than 0.50, and the loadings are also larger than 0.50 (Hair et al., 2017). These values highlighted the high relationships between the items and valid convergent validity. These values are highlighted in Table 2.

Further, discriminant validity has been investigated to examine the measurement model assessment that exposed the relationships between variables. Firstly, the present study has adopted the oldest method, such as Fornell Larcker and cross-loadings. The results show that the values that show the relationships with the variable itself are higher than the values that show the relationships with other variables (Fornell & Larcker, 1981). These values highlighted the low relationships between the variables and valid discriminant validity. These values are highlighted in Tables 3 and 4.

Secondly, the present study has adopted the latest method, such as Heterotrait Monotrait (HTMT) ratio, to examine the discriminant validity. The results show that the values of the HTMT ratio are lower than the cut-off value of 0.85. These values highlighted the low relationships between the variables and valid discriminant validity. These values are highlighted in Table 5.

This study also examines the structural model assessment with path analysis that exposed the nexus among the variables. A bootstrapping method was used to assess the significance of hypotheses (5000 resample). The results revealed that CSR, transactional and transformational leadership are positively associated with SP and accept H1, H2, and H3. Moreover, the outcomes indicated that sustainable entrepreneurship significantly moderates between transactional and transformational leadership and SP and accepts H4 and H5. In addition, the findings also show that organizational

**Table 2.** Convergent validity.

Constructs	Items	Loadings	Cronbach Alpha	CR	AVE
Corporate Social Responsibilities	CSR1	0.828	0.928	0.946	0.778
	CSR2	0.920			
	CSR3	0.919			
	CSR4	0.876			
	CSR5	0.865			
Organizational Commitment	OC1	0.982	0.965	0.974	0.884
	OC2	0.752			
	OC3	0.981			
	OC5	0.982			
	OC6	0.982			
	SE2	0.669			
SE3	0.676				
SE4	0.675				
SE5	0.886				
SP1	0.810	0.889	0.918	0.692	
SP2	0.815				
SP3	0.855				
SP4	0.815				
SP5	0.864				
Transactional Leadership	TRL1	0.957	0.966	0.975	0.908
	TRL2	0.944			
	TRL3	0.952			
	TRL4	0.958			
Transformational Leadership	TSL1	0.874	0.909	0.936	0.785
	TSL2	0.881			
	TSL3	0.887			
	TSL4	0.902			

Source: Authors estimations.

**Table 3:** Fornell Larcker.

	CSR	OC	SE	SP	TRL	TSL
CSR	0.882					
OC	0.832	0.940				
SE	0.399	0.392	0.732			
SP	0.508	0.483	0.325	0.832		
TRL	0.477	0.476	0.247	0.407	0.953	
TSL	0.387	0.347	0.335	0.370	0.385	0.886

Source: Authors estimations.

commitment positively mediates the links among the CSR, transactional and transformational leadership, and SP internet services industry in China and accept H6, H7, and H8. The results of hypotheses testing are mentioned in Table 6. The results of the measurement and structural model are also given in Figures 3 and 4.

#### 4.1. The mediation analysis

The mediating effect of the organizational commitment was examined by a series of steps among these targeted variables (Nitzl et al., 2016). At first, this study evaluated the indirect effect of CSR, TRL, TSL. This study found the significant indirect effect of these variables towards SP. In the second step, the direct impact of the CSR, TRL, TSL was assessed without eliminating the mediator. A significant positive effect was found of these variables towards SP, which leads to partial mediation. The results are stated in Table 6. Further, this study observed the sign of direct and indirect effects

**Table 4.** Cross-loadings.

	CSR	OC	SE	SP	TRL	TSL
CSR1	0.828	0.739	0.362	0.465	0.434	0.329
CSR2	0.920	0.709	0.356	0.446	0.445	0.346
CSR3	0.919	0.720	0.352	0.452	0.440	0.340
CSR4	0.876	0.711	0.327	0.434	0.381	0.338
CSR5	0.865	0.783	0.361	0.438	0.400	0.353
OC1	0.779	0.982	0.368	0.450	0.450	0.316
OC2	0.774	0.752	0.353	0.463	0.429	0.359
OC3	0.776	0.981	0.368	0.456	0.452	0.319
OC5	0.784	0.982	0.375	0.444	0.449	0.317
OC6	0.781	0.982	0.368	0.449	0.446	0.313
SE2	0.137	0.106	0.669	0.090	0.267	0.121
SE3	0.082	0.098	0.676	0.099	0.264	0.109
SE4	0.115	0.097	0.675	0.071	0.243	0.119
SE5	0.463	0.459	0.886	0.378	0.828	0.372
SP1	0.474	0.489	0.334	0.810	0.378	0.295
SP2	0.452	0.388	0.288	0.815	0.349	0.305
SP3	0.371	0.381	0.242	0.855	0.296	0.284
SP4	0.395	0.344	0.214	0.815	0.330	0.335
SP5	0.403	0.391	0.261	0.864	0.329	0.321
TRL1	0.453	0.460	0.713	0.399	0.957	0.339
TRL2	0.452	0.438	0.705	0.360	0.944	0.401
TRL3	0.455	0.450	0.718	0.391	0.952	0.387
TRL4	0.457	0.464	0.709	0.401	0.958	0.343
TSL1	0.305	0.275	0.314	0.340	0.322	0.874
TSL2	0.357	0.326	0.276	0.339	0.350	0.881
TSL3	0.343	0.290	0.290	0.327	0.331	0.887
TSL4	0.366	0.337	0.308	0.305	0.359	0.902

Source: Authors estimations.

**Table 5.** HeterotraitMonotrait ratio.

	CSR	OC	SE	SP	TRL	TSL
CSR						
OC	0.678					
SE	0.272	0.255				
SP	0.554	0.518	0.220			
TRL	0.503	0.492	0.537	0.436		
TSL	0.421	0.370	0.249	0.411	0.411	

Shadings denote unit value.

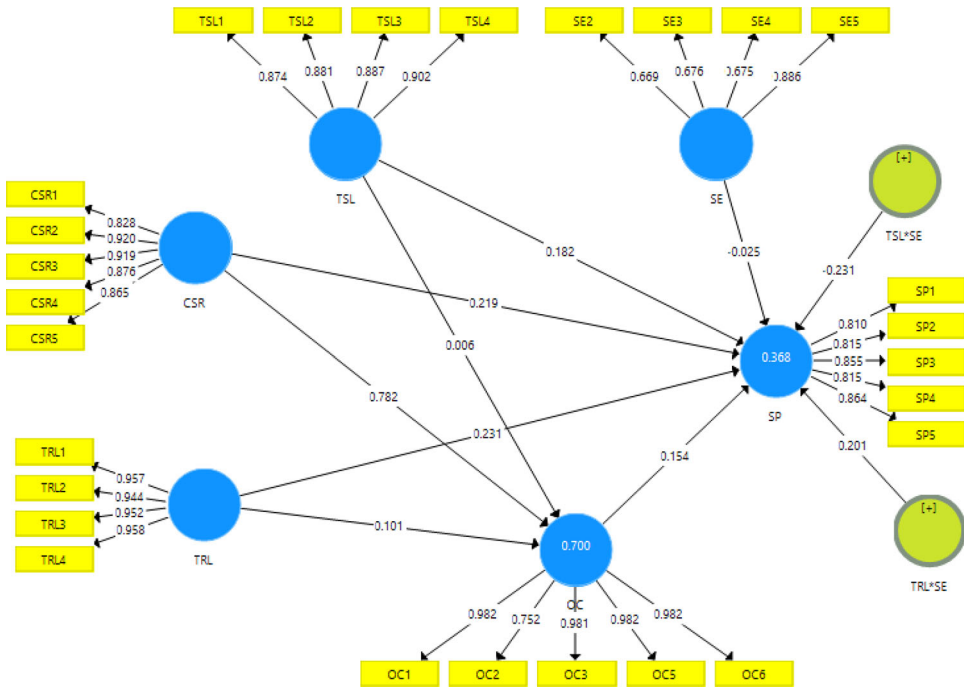
Source: Authors estimations.

**Table 6.** Path analysis.

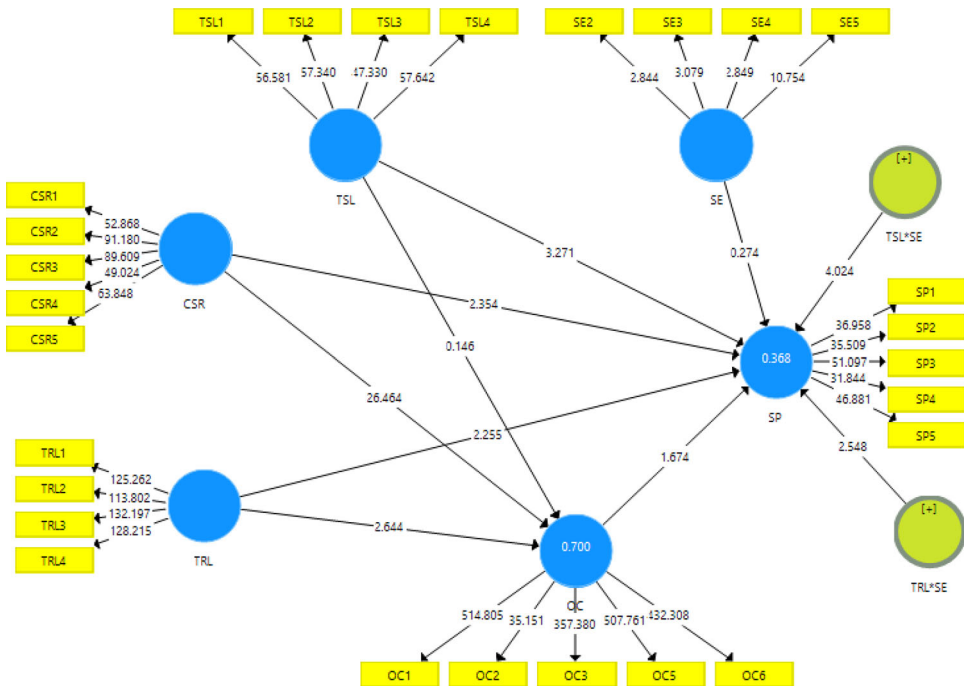
Relationships	Beta	S.D.	T Statistics	P Values	L.L.	U.L.
CSR -> SP	0.219	0.093	2.354	0.010	0.078	0.381
OC -> SP	0.154	0.092	1.674	0.049	0.005	0.295
TRL -> SP	0.231	0.103	2.255	0.013	0.040	0.365
TRL*SE -> SP	0.201	0.079	2.548	0.006	0.071	0.334
TSL -> SP	0.182	0.056	3.271	0.001	0.089	0.261
TSL*SE -> SP	-0.231	0.057	4.024	0.000	-0.318	-0.123
CSR -> OC -> SP	0.120	0.072	1.677	0.048	0.004	0.230
TRL -> OC -> SP	0.035	0.011	3.182	0.021	0.001	0.328
TSL -> OC -> SP	0.034	0.007	4.857	0.011	0.008	1.014

Source: Authors estimations.

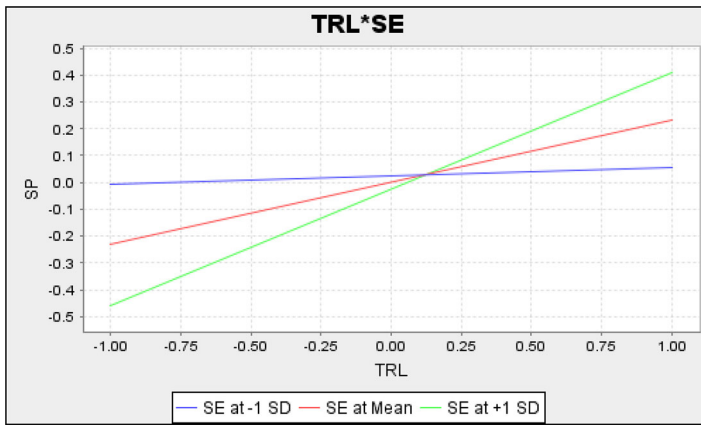
and found the same positive sign for both paths; therefore, it might be concluded that organizational commitment has complementary partial mediation. Hence, H6, H7, and H8 are fully supported.



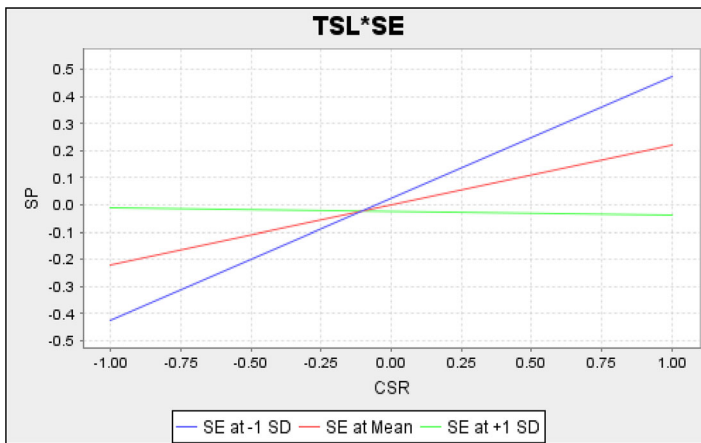
**Figure 3.** Measurement model assessment.  
Source: Authors estimations.



**Figure 4.** Structural model assessment.  
Source: Authors estimations.



**Figure 5.** TRL\*SE.  
Source: Authors estimations.



**Figure 6.** TSL\*SE.  
Source: Authors estimations.

**Table 7.** R Square.

	Beta	S.D.	T Statistics	P Values
OC	0.700	0.029	24.465	0.000
SP	0.368	0.048	7.715	0.000

Source: Authors estimations.

**4.2. The moderation analysis**

This research tends to analyze the moderating effect of sustainable entrepreneurship. At first, yielded results stated that sustainable entrepreneurship has a significant positive impact as an independent variable without any interaction effect. Further, the moderation effect of sustainable entrepreneurship was assessed. The structural model results in Figure 4 reveal that sustainable entrepreneurship significantly interacts with the relationship of TRL\*SE and TSL\*SE towards SP. Figures 5 and 6 demonstrate their slopes. Moreover, the outcomes indicated that sustainable entrepreneurship



significantly negatively moderates the relationship between transformational leadership and SP, and sustainable entrepreneurship significantly positively moderates the relationship between transactional leadership and SP supported H4 and H5.

Finally, the results show the R square values that indicate the 36.8 percent variations in the sustainable performance are due to the variables used by the study. In addition, the findings also show that the 70.0 percent changes in organizational commitment are due to the understudy predictors. These figures are highlighted in [Table 7](#).

## 5. Discussions and research implications

### 5.1. Discussion

Leaders face one of the most unswerving challenges at their workplace: dealing with business performance as part of organizational success. Leadership styles and practices are a fundamental need of businesses to enhance SP. The major target of transactional leadership is to procure a benefit and reveal ways to augment income and improve CSR through the step-by-step provision of guidelines. The study finding has revealed the positive connections between CSR and improvised leadership practices on the endurance of SP. CSR and leadership styles have a significant effect on SP. Patiar and Wang (2020) identified that Chinese business companies invest a lot in CSR activities as a compulsion by law. They indicated that firm endurance various consolidations through increased focus on R&D and seek transformational leadership techniques to instill these innovations in their personnel, resulting in increased investor trust. We found that if the leadership is competent and effectively guides its subordinates, then the ultimate objective of SP can easily be achieved, which supported the result of the previous study by Top et al. (2020).

The current research has explained that corporate businesses in China have a more pressing factor for CSR from the client-side to make due on the lookout. According to Azizaha et al. (2020), CSR is 'Dealing with the business associations, its social exercises, and execution, so it emphatically affects society'. They were of the view that transactional leadership is the key to organizational ambidexterity and sustainable performance outcomes. Transformational leadership improvises the social obligation and organizational commitment of a business positively. Our findings are correlated with the research of Du et al. (2013). Chinese businesses have initiated transformational leadership implementation on larger firms, and the results are marvelous. The enthusiasm and professionalism of the staff have improvised a lot by the adoption of transformational leadership practices in China. Elgelal and Noermijati (2015) research has supported the transformational leadership advantages on the SP offirms.

Further, transactional leadership and strategies have changed business venture's performance and improved their globalization and marketization capabilities (Brown & Arendt, 2010). Our results were also supported by Shafique and Mollaoglu (2020). They have explained that the revolutionized leadership practices have inculcated better collaboration and improved the monetary turn of events.

According to Kalsoom et al. (2018), the Chinese business community strives to achieve SP outcomes through sustainable entrepreneurship and sound CSR. Sustainable entrepreneurship inculcates innovative and green practices to accomplish

SP, which supported our moderation results. These findings were associated with the research and evidence of Pantouvakis and Vlachos (2020). Previous studies are akin to this study by explaining that organizational commitment and sustainable entrepreneurial strategies are very helpful to achieve business objectives. The current study has focused on the exact impact of improvised sustainable entrepreneurship practices in the current business. Further, various social scientist supports these findings by considering the organizational commitment as a key mediator between CSR and leadership styles for achieving SP.

## **5.2. Research implications**

This research is novel and provides various implications along with empirical impact to support previous literature and green theory. First, the study provided and examined the impact of CSR and leadership practices on SP by taking organizational commitment as a mediator and sustainable entrepreneurship as a moderator in an encompassing model. This mediated moderated model is novel and provides a handful of outcomes to existing literature. Second, it has been evident from the private sector of China that transformational leadership is an effective and facilitative style. It succors the satisfaction and motivations of subordinates and possesses a positive frame of mind towards SP.

Transformational leadership predicts leadership effectiveness and performance objectives. Previous studies identified that green leadership through relational and situational elements might foster green creativity, but our study is novel, opening new doors for SP. Besides leadership through openness, accessibility, and availability, employees feel enthusiastic and empowered by welcoming green ideas without hierarchical differences. Further, this study has elaborated that CSR in developed economies like China and its trickle-down effects on environmentally friendly projects like sustainable entrepreneurship. The Chinese government is purposefully investing in the projects to instill innovation and technological advancement in workers of all the businesses. Under transactional and transformational leadership, green and sustainable innovation can be easily transformed in the organizational workers. Similarly, the current study suggests that leadership practices can easily transform the mindset of the staff and increase the value of organizational commitment in them. These all variables in the long run support and improvise the SP of business ventures.

The findings of the study unfold that leaders should adopt an open-door policy, remove hierarchical barriers, and encourage green and creative thinking. The provision of training on green leadership, which addresses availability, accessibility, and openness, maybe worthwhile and enable employees to voice their green ideas to conserve the environment. Thus, through mentoring, training, and communication, leaders can develop a green environment and reinforce employees to engage in sustainable and CSR activities.

The importance of this study relies on psychological counseling and endurance of innovation. Many studies have focused on the green and sustainable manufacturing practices and training of staff of the organizations to improve

organizational commitment and sustainable entrepreneurship. But the current study is an innovative initiation as it explores some areas with a new vision. Socially, ethically, legally, and psychologically strong leadership ensures the betterment of business ventures. The current study has also provided a strong and reliable foundation for effective and efficient working in the future. This study has elaborated the impacts of the correct guideline on the performance and sustainability of an organization concerning CSR. This study has provided extensive information to encourage environmental-friendly projects with innovative leadership practices.

### **5.3. Limitations and recommendations**

The authors confronted several limitations while conducting this empirical investigation. This examination has focused just only on Chinese firms and a single industry. The assembling of data is limited to a certain class of business ventures and was a cross-sectional investigation. However, an experimental and longitudinal analysis may establish causality and robustness. Further, a comparison study is highly recommended with different moderating and mediating variables and other regions. Future studies should explore more options of entrepreneurship-based variables to investigate the exact impact on the SP of business firms.

Distinguishing hindrances that impede the Chinese and other organizations from executing CSR procedures may be another significant issue for future examination to improve CSR writing. A huge affiliation was found between CSR and SP. This positive connection is in any way confirmed by utilizing advancement and novel moderated variables. Thus, it is reasoned that various relapse examination doesn't show any balance impact of development on the connection between CSR and advancement. In light of the consequences of this examination, future researchers should find more correlative variables to support the findings more firmly.

## **6. Conclusion**

This study contributes to the growing area of research on CSR and SD by examining the link between CSR, transformational leadership, transactional leadership, and SP using a novel SEM approach. Our finding suggested that CSR, transformational and transactional leadership have a significant effect on SP. Further, the considerable mediating role of organizational commitment and the moderating role of sustainable entrepreneurship among transformational, transactional leadership, and SP. Conclusively this study is a complete package to ensure the sustainability and improvement of the business performance of the internet services industry in China. The results of this study have provided the ecologists and business leaders an opportunity to support and enhance their capabilities for SP. Leadership styles not only create differences but also enhance business performance. This study provided complete details on how transactional and transformational leadership can increase the trust level between the workers and their leaders. The green and sustainable practices have provided the business community in China with a great

boom and prosperity in SP. Further, CSR is a key element for achieving huge success in sustainable performance.

### Disclosure statement

No potential conflict of interest was reported by the authors.

### Funding

Researchers Supporting Project number (RSP-2021/87), King Saud University, Riyadh, Saudi Arabia.

### ORCID

Supat Chupradit  <http://orcid.org/0000-0002-8596-2991>

### References

- Abbas, J. (2020). Impact of total quality management on corporate green performance through the mediating role of corporate social responsibility. *Journal of Cleaner Production*, 242, 118458. <https://doi.org/10.1016/j.jclepro.2019.118458>
- Afsar, B., Badir, Y. F., Saeed, B. B., & Hafeez, S. (2017). Transformational and transactional leadership and employee's entrepreneurial behavior in knowledge-intensive industries. *The International Journal of Human Resource Management*, 28(2), 307–332. <https://doi.org/10.1080/09585192.2016.1244893>
- Aftab, N., Ali Shah, S. A., & Khan, Z. (2020). The moderating effect of gender on the relationship between organizational commitment and organizational citizenship behavior in Pakistani university teachers. *Cogent Psychology*, 7(1), 186–190. <https://doi.org/10.1080/23311908.2020.1860480>
- Akanmu, M. D., Hassan, M. G., & Bahaudin, A. Y. B. (2020). A preliminary analysis modeling of the relationship between quality management practices and sustainable performance. *Quality Management Journal*, 27(1), 37–61. <https://doi.org/10.1080/10686967.2019.1689800>
- An, H., Razzaq, A., Haseeb, M., & Mihardjo, L. W. W. (2021). The role of technology innovation and people's connectivity in testing environmental Kuznets curve and pollution heaven hypotheses across the Belt and Road host countries: New evidence from Method of Moments Quantile Regression. *Environmental Science and Pollution Research*, 28(5), 5254–5270. <https://doi.org/10.1007/s11356-020-10775-3>
- An, H., Razzaq, A., Nawaz, A., Noman, S. M., & Khan, S. A. R. (2021). Nexus between green logistic operations and triple bottom line: Evidence from infrastructure-led Chinese outward foreign direct investment in Belt and Road host countries. *Environmental Science and Pollution Research*, 1–24.
- Anser, M. K., Zhang, Z., & Kanwal, L. (2018). Moderating effect of innovation on corporate social responsibility and firm performance in realm of sustainable development. *Corporate Social Responsibility and Environmental Management*, 25(5), 799–806. <https://doi.org/10.1002/csr.1495>
- Azizaha, Y. N., Rijalb, M. K., Rumainurc, U. N. R., Pranajayae, S. A., Ngiuf, Z., Mufidg, A., ... Maui, D. H. (2020). Transformational or transactional leadership style: Which affects work satisfaction and performance of Islamic University lecturers during COVID-19 pandemic. *Systematic Reviews in Pharmacy*, 11(7), 577–588. <http://www.sysrevpharm.org/full-text/196-1602175252.pdf>

- Basheer, M. F., Muneer, S., Nawaz, M. A., & Ahmad, Z. (2020). The antecedents of corporate social and environmental responsibility discourse in Pakistan: Multiple theoretical perspectives. *Abasyn University Journal of Social Sciences*, 13(1), 1–11. <https://doi.org/10.34091/AJSS.13.1.01>
- Bhutto, T. A., Farooq, R., Talwar, S., Awan, U., & Dhir, A. (2021). Green inclusive leadership and green creativity in the tourism and hospitality sector: Serial mediation of green psychological climate and work engagement. *Journal of Sustainable Tourism*, 29(10), 1716–1737. <https://doi.org/10.1080/09669582.2020.1867864>
- Brammer, S., Millington, A., & Rayton, B. (2007). The contribution of corporate social responsibility to organizational commitment. *The International Journal of Human Resource Management*, 18(10), 1701–1719. <https://doi.org/10.1080/09585190701570866>
- Brown, E. A., & Arendt, S. W. (2010). Perceptions of transformational leadership behaviors and subordinates' performance in hotels. *Journal of Human Resources in Hospitality & Tourism*, 10(1), 45–59. <https://doi.org/10.1080/15332845.2010.500205>
- Brown, A. R., Walters, J. E., & Jones, A. E. (2019). Pathways to retention: Job satisfaction, burnout, & organizational commitment among social workers. *Journal of Evidence-Based Social Work* (2019), 16(6), 577–594. <https://doi.org/10.1080/26408066.2019.1658006>
- Caiado, R. G. G., Quelhas, O. L. G., Nascimento, D. L. M., Anholon, R., & Leal Filho, W. (2019). Towards sustainability by aligning operational programmes and sustainable performance measures. *Production Planning & Control*, 30(5–6), 413–425. <https://doi.org/10.1080/09537287.2018.1501817>
- Caiado, R. G. G., Quelhas, O. L. G., Nascimento, D. L. M., Anholon, R., & Leal Filho, W. (2018). Measurement of sustainability performance in Brazilian organizations. *International Journal of Sustainable Development & World Ecology*, 25(4), 312–326. <https://doi.org/10.1080/13504509.2017.1406875>
- Chen, J.-X., Sharma, P., Zhan, W., & Liu, L. (2019). Demystifying the impact of CEO transformational leadership on firm performance: Interactive roles of exploratory innovation and environmental uncertainty. *Journal of Business Research*, 96, 85–96. <https://doi.org/10.1016/j.jbusres.2018.10.061>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. (2nd ed.) Lawrence Erlbaum Associates. <https://doi.org/10.1234/12345678>
- Crews, E.-R., Brouwers, M., & Visagie, J. C. (2019). Transformational and transactional leadership effects on communication styles. *Journal of Psychology in Africa*, 29(5), 421–428. <https://doi.org/10.1080/14330237.2019.1675996>
- Dalakoura, A. (2010). Examining the effects of leadership development on firm performance. *Journal of Leadership Studies*, 4(1), 59–70. <https://doi.org/10.1002/jls.20160>
- Delegach, M., Kark, R., Katz-Navon, T., & Van Dijk, D. (2017). A focus on commitment: The roles of transformational and transactional leadership and self-regulatory focus in fostering organizational and safety commitment. *European Journal of Work and Organizational Psychology*, 26(5), 724–740. <https://doi.org/10.1080/1359432X.2017.1345884>
- Ding, X., Qu, Y., & Shahzad, M. (2019). The impact of environmental administrative penalties on the disclosure of environmental information. *Sustainability ( Sustainability)*, 11(20), 5820. <https://doi.org/10.3390/su11205820>
- Du, S., Swaen, V., Lindgreen, A., & Sen, S. (2013). The roles of leadership styles in corporate social responsibility. *Journal of Business Ethics*, 114(1), 155–169. <https://doi.org/10.1007/s10551-012-1333-3>
- Eckersley, R. (2010). *Green theory in international relations theories: Discipline and diversity* (2nd ed.) Oxford University Press. [https://doi.org/10.1016/S0304-0208\(08\)70202-0](https://doi.org/10.1016/S0304-0208(08)70202-0)
- Elgelal, K. S. K., & Noermijati, N. (2015). The influences of transformational leaderships on employees performance (A study of the economics and business faculty employee at University of Muhammadiyah Malang). *APMBA (Asia Pacific Management and Business Application)*, 3(1), 48–66. <https://doi.org/10.21776/ub.apmba.2014.003.01.4>

- Farooq, M., Farooq, O., & Jasimuddin, S. M. (2014). Employees response to corporate social responsibility: Exploring the role of employees' collectivist orientation. *European Management Journal*, 32(6), 916–927. <https://doi.org/10.1016/j.emj.2014.03.002>
- Font, X., & Lynes, J. (2018). Corporate social responsibility in tourism and hospitality. *Journal of Sustainable Tourism*, 26(7), 1027–1042. <https://doi.org/10.1080/09669582.2018.1488856>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurements error. *Journal of Marketing Research*, 18(1), 39–50. <https://doi.org/10.1177/002224378101800104>
- Ghadge, A., Kidd, E., Bhattacharjee, A., & Tiwari, M. K. (2019). Sustainable procurement performance of large enterprises across supply chain tiers and geographic regions. *International Journal of Production Research*, 57(3), 764–778. <https://doi.org/10.1080/00207543.2018.1482431>
- Hair, Jr, J. F., Babin, B. J., & Krey, N. (2017). Covariance-based structural equation modeling in the Journal of Advertising: Review and recommendations. *Journal of Advertising*, 46(1), 163–177. <https://doi.org/10.1080/00913367.2017.1281777>
- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). SAGE Publications. <https://doi.org/10.1016/j.lrp.2013.01.002>
- Hansen, J. A., & Pihl-Thingvad, S. (2019). Managing employee innovative behaviour through transformational and transactional leadership styles. *Public Management Review*, 21(6), 918–944. <https://doi.org/10.1080/14719037.2018.1544272>
- Ha-Vikström, T., & Takala, J. (2018). Measuring transformational leadership profiles – An empirical study across 21 nations in a multinational company. *Theoretical Issues in Ergonomics Science*, 19(1), 1–20. <https://doi.org/10.1080/1463922X.2016.1239780>
- He, X., Mishra, S., Aman, A., Shahbaz, M., Razzaq, A., & Sharif, A. (2021). The linkage between clean energy stocks and the fluctuations in oil price and financial stress in the US and Europe? Evidence from QARDL approach. *Resources Policy*, 72, 102021. <https://doi.org/10.1016/j.resourpol.2021.102021>
- Ibrahim, A. M. (2020). Psychological empowerment and organizational commitment among employees in the lodging industry. *Journal of Human Resources in Hospitality & Tourism*, 19(3), 277–295. <https://doi.org/10.1080/15332845.2020.1737766>
- Jiang, W., Zhao, X., & Ni, J. (2017). The impact of transformational leadership on employee sustainable performance: The mediating role of organizational citizenship behavior. *Sustainability ( Sustainability)*, 9(9), 1567. <https://doi.org/10.3390/su9091567>
- Kalsoom, Z., Khan, M. A., & Zubair, D. S. S. (2018). Impact of transactional leadership and transformational leadership on employee performance: A case of FMCG industry of Pakistan. *Industrial Engineering Letters*, 8(3), 23–30. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3206826](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3206826)
- Kamble, S., Gunasekaran, A., & Dhone, N. C. (2020). Industry 4.0 and lean manufacturing practices for sustainable organisational performance in Indian manufacturing companies. *International Journal of Production Research*, 58(5), 1319–1337. <https://doi.org/10.1080/00207543.2019.1630772>
- Kao, S.-F., Tsai, C.-Y., Schinke, R., & Watson, J. C. (2019). A cross-level moderating effect of team trust on the relationship between transformational leadership and cohesion. *Journal of Sports Sciences*, 37(24), 2844–2852. <https://doi.org/10.1080/02640414.2019.1668186>
- Khan, S. A. R., Razzaq, A., Yu, Z., & Miller, S. (2021). Industry 4.0 and circular economy practices: A new era business strategies for environmental sustainability. *Business Strategy and the Environment*. <https://doi.org/10.1002/bse.2853>
- Kim, J. J. (2017). Theoretical foundations underpinning supply chain management and supply chain level sustainable performance. *International Journal of Tourism Sciences*, 17(3), 213–229. <https://doi.org/10.1080/15980634.2017.1351155>
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration*, 11(4), 1–10. <https://doi.org/10.4018/ijec.2015100101>



- Kwak, K. T., Lee, S. Y., Ham, M., & Lee, S. W. (2021). The effects of internet proliferation on search engine and over-the-top service markets. *Telecommunications Policy*, 45(8), 102146. <https://doi.org/10.1016/j.telpol.2021.102146>
- Lee, J. W., Kim, Y. M., & Kim, Y. E. (2018). Antecedents of adopting corporate environmental responsibility and green practices. *Journal of Business Ethics*, 148(2), 397–409. <https://doi.org/10.1007/s10551-016-3024-y>
- Ling, G., Razzaq, A., Guo, Y., Fatima, T., & Shahzad, F. (2021). Asymmetric and time-varying linkages between carbon emissions, globalization, natural resources and financial development in China. *Environment, Development and Sustainability*, 1–29.
- Lingyan, M., Zhao, Z., Malik, H. A., Razzaq, A., An, H., & Hassan, M. (2021). Asymmetric impact of fiscal decentralization and environmental innovation on carbon emissions: Evidence from highly decentralized countries. *Energy & Environment*, 0958305X2110184. <https://doi.org/10.1177/0958305X211018453>
- Lins, K. V., Servaes, H., & Tamayo, A. N. E. (2017). Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *The Journal of Finance*, 72(4), 1785–1824. <https://doi.org/10.1111/jofi.12505>
- Liu, P., Li, L., & Wang, J. (2020). Understanding the relationship between transformational leadership and collective teacher efficacy in Chinese primary schools. *International Journal of Leadership in Education*, 23(5), 604–617. <https://doi.org/10.1080/13603124.2019.1623922>
- Lu, J., Ren, L., Yao, S., Qiao, J., Mikalauskiene, A., & Streimikis, J. (2020). Exploring the relationship between corporate social responsibility and firm competitiveness. *Economic Research-Ekonomska Istraživanja*, 33(1), 1621–1646. <https://doi.org/10.1080/1331677X.2020.1761419>
- McCallaghan, S., Jackson, L. T. B., & Heyns, M. M. (2019). Transformational leadership, diversity climate, and job satisfaction in selected South African companies. *Journal of Psychology in Africa*, 29(3), 195–202. <https://doi.org/10.1080/14330237.2019.1619994>
- Mittal, S., & Dhar, R. L. (2016). Effect of green transformational leadership on green creativity: A study of tourist hotels. *Tourism Management*, 57, 118–127. <https://doi.org/10.1016/j.tourman.2016.05.007>
- Moneva, J. M., Bonilla-Priego, M. J., & Ortas, E. (2020). Corporate social responsibility and organisational performance in the tourism sector. *Journal of Sustainable Tourism*, 28(6), 853–872. <https://doi.org/10.1080/09669582.2019.1707838>
- Muhammad Auwal, A., Mohamed, Z., Nasir Shamsudin, M., Sharifuddin, J., & Ali, F. (2020). External pressure influence on entrepreneurship performance of SMEs: A case study of Malaysian herbal industry. *Journal of Small Business & Entrepreneurship*, 32(2), 149–171. <https://doi.org/10.1080/08276331.2018.1509504>
- Mungkung, R., Sorakon, K., Sitthikitpanya, S., & Gheewala, S. H. (2021). Analysis of green product procurement and ecolabels towards sustainable consumption and production in Thailand. *Sustainable Production and Consumption*, 28, 11–20. <https://doi.org/10.1016/j.spc.2021.03.024>
- Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). Mediation analysis in partial least squares path modelling, Helping researchers discuss more sophisticated models. *Industrial Management & Data Systems*, 116(9), 1849–1864. <https://doi.org/10.1108/IMDS-07-2015-0302>
- Ozturk, I., Sharif, A., Tuzemenc, O. B., Uzuner, G., & Sinha, A. (2020). Revisiting the role of renewable and non-renewable energy consumption on Turkey's ecological footprint: Evidence from Quantile ARDL approach.
- Pantouvakis, A., & Vlachos, I. (2020). Talent and leadership effects on sustainable performance in the maritime industry. *Transportation Research Part D: Transport and Environment*, 86, 102–105. <https://doi.org/10.1016/j.trd.2020.102440>
- Para-González, L., Jiménez-Jiménez, D., & Martínez-Lorente, A., R. (2018). Exploring the mediating effects between transformational leadership and organizational performance. *Employee Relations*, 40(2), 412–432. <https://doi.org/10.1108/ER-10-2016-0190>



- Patiar, A., & Wang, Y. (2020). Managers' leadership, compensation and benefits, and departments' performance: Evidence from upscale hotels in Australia. *Journal of Hospitality and Tourism Management*, 42, 29–39. <https://doi.org/10.1016/j.jhtm.2019.11.005>
- Perrini, F. (2006). SMEs and CSR theory: Evidence and implications from an Italian perspective. *Journal of Business Ethics*, 67(3), 305–316. <https://doi.org/10.1007/s10551-006-9186-2>
- Porter, B. A., Orams, M. B., & Lück, M. (2018). Sustainable Entrepreneurship Tourism: An alternative development approach for remote coastal communities where awareness of tourism is low. *Tourism Planning & Development*, 15(2), 149–165. <https://doi.org/10.1080/21568316.2017.1312507>
- Raimi, L. (2017). Understanding theories of corporate social responsibility in the IberoAmerican Hospitality Industry. *Developments in Corporate Governance and Responsibility*, 11, 65–88. <https://doi.org/10.1108/S2043-052320170000011004>
- Razzaq, A., Ajaz, T., Li, J. C., Irfan, M., & Suksatan, W. (2021a). Investigating the asymmetric linkages between infrastructure development, green innovation, and consumption-based material footprint: Novel empirical estimations from highly resource-consuming economies. *Resources Policy*, 74, 102302. <https://doi.org/10.1016/j.resourpol.2021.102302>
- Razzaq, A., An, H., & Delpachitra, S. (2021c). Does technology gap increase FDI spillovers on productivity growth? Evidence from Chinese outward FDI in Belt and Road host countries. *Technological Forecasting and Social Change*, 172, 121050. <https://doi.org/10.1016/j.techfore.2021.121050>
- Razzaq, A., Wang, Y., Chupradit, S., Suksatan, W., & Shahzad, F. (2021b). Asymmetric inter-linkages between green technology innovation and consumption-based carbon emissions in BRICS countries using quantile-on-quantile framework. *Technology in Society*, 66, 101656. <https://doi.org/10.1016/j.techsoc.2021.101656>
- Saha, R. S., Cerchione, R., Singh, R., & Dahiya, R. (2020). Effect of ethical leadership and corporate social responsibility on firm performance: A systematic review. *Corporate Social Responsibility and Environmental Management*, 27(2), 409–429. <https://doi.org/10.1002/csr.1824>
- Saunila, M., Ukko, J., & Rantala, T. (2018). Sustainability as a driver of green innovation investment and exploitation. *Journal of Cleaner Production*, 179, 631–641. <https://doi.org/10.1016/j.jclepro.2017.11.211>
- Shafique, F., & Mollaoglu, S. (2020). Transformational Leadership and Team Performance in Green Construction Project Teams: Development of study model and measurement tool. Paper presented at the Construction Research Congress. Project Management and Controls, Materials, and Contracts, 2020.
- Shahzad, M., Qu, Y., Javed, S., Zafar, A., & Rehman, S. (2020). Relation of environment sustainability to CSR and green innovation: A case of Pakistani manufacturing industry. *Journal of Cleaner Production*, 253, 119938. <https://doi.org/10.1016/j.jclepro.2019.119938>
- Shahzad, M., Qu, Y., Rehman, S., Zafar, A., Ding, X., & Abbas, J. (2019). Impact of knowledge absorptive capacity on corporate sustainability with mediating role of CSR: Analysis from the Asian context. *Journal of Environmental Planning and Management*, 63(2), 148–174. <https://doi.org/10.1080/09640568.2019.1575799>
- Shahzad, M., Qu, Y., Zafar, A. U., & Appolloni, A. (2021). Does the interaction between the knowledge management process and sustainable development practices boost corporate green innovation? *Business Strategy and the Environment*. <https://doi.org/10.1002/bse.2865>
- Sharif, A., Baris-Tuzemen, O., Uzuner, G., Ozturk, I., & Sinha, A. (2020). Revisiting the role of renewable and non-renewable energy consumption on Turkey's ecological footprint: Evidence from Quantile ARDL approach. *Sustainable Cities and Society*, 57, 102138. <https://doi.org/10.1016/j.scs.2020.102138>
- Sharif, A., Raza, S. A., Ozturk, I., & Afshan, S. (2019). The dynamic relationship of renewable and nonrenewable energy consumption with carbon emission: A global study with the application of heterogeneous panel estimations. *Renewable Energy*, 133, 685–691. <https://doi.org/10.1016/j.renene.2018.10.052>

- Singh, S. K., Giudice, M. D., Chierici, R., & Graziano, D. (2020). Green innovation and environmental performance: The role of green transformational leadership and green human resource management. *Technological Forecasting and Social Change*, 150, 11–23. <https://doi.org/10.1016/j.techfore.2019.119762>
- Stites, J. P., & Michael, J. H. (2011). Organizational commitment in manufacturing employees: Relationships with corporate social performance. *Business & Society*, 50(1), 50–70. <https://doi.org/10.1177/0007650310394311>
- Sun, Y., Duru, O. A., Razzaq, A., & Dinca, M. S. (2021). The asymmetric effect eco-innovation and tourism towards carbon neutrality target in Turkey. *Journal of Environmental Management*, 299, 113653.
- Terán-Yépez, E., Marín-Carrillo, G. M., Casado-Belmonte, M. d P., & Capobianco-Uriarte, M. d l M. (2020). Sustainable entrepreneurship: Review of its evolution and new trends. *Journal of Cleaner Production*, 252, 119742. <https://doi.org/10.1016/j.jclepro.2019.119742>
- Top, C., Abdullah, B. M. S., & Faraj, A. H. M. (2020). Transformational leadership impact on employees' performance. *Eurasian Journal of Management & Social Sciences*, 1(1), 49–59. <https://doi.org/10.23918/ejmss.v1i1p49>
- Tuan, L. T. (2020). Environmentally-specific servant leadership and green creativity among tourism employees: Dual mediation paths. *Journal of Sustainable Tourism*, 28(1), 86–1222. <https://doi.org/10.1080/09669582.2019.1675674>
- Turker, D. (2009). How corporate social responsibility influences organizational commitment. *Journal of Business Ethics*, 89(2), 189–204. <https://doi.org/10.1007/s10551-008-9993-8>
- Udovita, V. (2020). Conceptual review on impact of leadership style on employee performance Viduni Udovita. *International Journal of Business and Management Invention*. <https://doi.org/10.35629/8028-0909011623>
- Verma, K. (2012). Relationship between corporate social responsibility and corporate governance. *Journal of Business and Management*, 2(3), 24–26. <https://doi.org/10.1089/aid.2005.21.116>
- Wang, X., Lin, H., & Tian, M. (2020). Corporate sustainability performance of chinese firms: An empirical analysis from a social responsibility perspective. *Emerging Markets Finance and Trade*, 56(9), 2027–2038. <https://doi.org/10.1080/1540496X.2019.1608522>
- Xia, B., Olanipekun, A., Chen, Q., Xie, L., & Liu, Y. (2018). Conceptualising the state of the art of corporate social responsibility (CSR) in the construction industry and its nexus to sustainable development. *Journal of Cleaner Production*, 195, 340–353. <https://doi.org/10.1016/j.jclepro.2018.05.157>
- Yoon, B., & Chung, Y. (2018). The effects of corporate social responsibility on firm performance: A stakeholder approach. *Journal of Hospitality and Tourism Management*, 37, 89–96. <https://doi.org/10.1016/j.jhttm.2018.10.005>
- Yu, Z., Yang, S., Razzaq, A., & Khan, Z. (2021). Environmental impact of infrastructure-led Chinese outward FDI, tourism development and technology innovation: A regional country analysis. *Journal of Environmental Planning and Management*, 115, 1–33. <https://doi.org/10.1080/09640568.2021.1989672>
- Zafar, A. U., Qiu, J., Li, Y., Wang, J., & Shahzad, M. (2021). The impact of social media celebrities' posts and contextual interactions on impulse buying in social commerce. *Computers in Human Behavior*, 115, 106178. <https://doi.org/10.1016/j.chb.2019.106178>
- Zhou, X., Razzaq, A., Gokmenoglu, K. K., & Rehman, F. U. (2021). Time varying interdependency between COVID-19, tourism market, oil prices, and sustainable climate in United States: Evidence from advance wavelet coherence approach. *Economic Research-Ekonomiska Istraživanja*, 1–23. <https://doi.org/10.1080/1331677X.2021.1992642>