

Sustainable Performance of China's Education Sector through the Adoption of Eco-Innovation

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The commitment of China toward sustainability has increased in recent times. The study aimed to evaluate the effect of eco-innovation on sustainable business performance within the educational sector of China. The study developed a framework that focused on management concerns, environmental commitment, eco-innovation, and management environment concerns regarding the sustainable business performance of educational institutes in China. The study adopted a quantitative methodology and used questionnaires for the collection of data from the educational sector. The survey collected 350 questionnaires from employees within the China educational sector which were analyzed using SPSS and AMOS. The study has used confirmatory factor analysis and structural equation modeling for data analysis. The results indicated that there was a positive impact on stakeholder and management concerns for the development of sustainability of educational institutions. The results also suggested that mediation of eco-innovation was significant for the management of environmental concerns and environmental commitment. The findings of this study present implications for the educational sector of China.

Keywords: Sustainability; Eco-Innovation; Business Performance; Management Commitment; Stakeholder Pressure.

Introduction

There have been several developments in the Asian educational industry over the last few decades. In addendum to the mass privatization of the higher educational institutes, there has been an increase in internationalization which has resulted in the creation of world-class universities by placing high on various global rankings (Brookes, 2020; Gelderman *et al.*, 2017). However, the usage of state and non-state resources has increased to become internationally and nationally competent which has put a strain on the financial and environmental wellbeing of these countries. Based on the sustainability directives of the UN and the SDGs, there is a need for educational institutions to address their sustainability and sustainable performance (Bari *et al.*, 2021; Nguyen & Adomako, 2022; Vukic *et al.*, 2021).

The concept of sustainability refers to the process of creating a balance between the organization's usage of resources and balancing its social, environmental, and economic performance. The concepts of sustainability have been applied widely in several industries, especially in the manufacturing sector. Those that carry significant risks to the community. Organizations have increasingly used the concepts of sustainability to develop frameworks and processes that guide their businesses to minimize the environmental and social impact (Jusuf *et al.*, 2020). Sustainability has become a key element in the 21st-century business landscape. Many organizations are focused on reduction of their negative impact on the environment, through the usage of renewable energy sources and the adoption of practices that limit the negative environmental repercussions. The concept of sustainability has been used by organizational managers to align their environmental concerns with the greater good of the organization.

According to Isil and Hernke (2017), the sustainability concept is ingrained within the idea of TPL (triple bottom line) which requires organizations to achieve a balance in their social, environmental, and financial performance. Maintaining a balance within these performances is indicative of the organization's effort in the maintenance of benefitting the environment and organization (Wu & Hawkins, 2018).

Researchers have recently acknowledged the role played by educational institutions, especially HEIs in the adoption of strategies oriented toward sustainable development (Abu, 2019; Bruntrup, 2021; Jusuf *et al.*, 2020; Sofyan *et al.*, 2019). Wu and Hawkins (2018) suggested that many universities have adopted various strategies to promote SD. The study found that several schools have started offering sustainability courses in different academic programs. As a response to the United Nations Agenda 21 to Education for Sustainable Development (ESD), universities from around the world signed the Talloires Declaration to advance sustainable development in higher education (HESD) (Ahmed *et al.*, 2021; Xiong & Mok, 2020; Zhu *et al.*, 2021). In response to the evolutionary nature of sustainable development within Asia, the SDGs have also progressed. In the educational sector, the sustainability focus has been on awareness, development of campus sustainability, incorporation of processes furthering sustainability, management commitment and processes geared towards sustainability, and academic courses (Albert & Gomez-Fernandez, 2020; Bakota, 2020).

In their study, Frame and Newton (2007) found that universities can play an important role in promoting sustainability principles in social communities. By providing information about the negative impacts of business activities on social and ecological communities, the

social community is more likely to become concerned about sustainability. Alshuwaikhat *et al.* (2016) noted that public universities have a critical function in educating the population on sustainability. Lozano *et al.* (2015) noted that university leaders and staff members play a key role in the implementation of sustainability principles in universities. This is an important concept that future generations must learn about and accept as part of their responsibility. The research conducted by Veiga Ávila *et al.* (2018) found that many universities around the world have difficulty implementing sustainable practices, due in large part to a lack of university leadership and commitment from policymakers.

This paper investigates the education sector of China for a variety of reasons. While China's education sector has not widely been researched by scholars in the past, there is an increased need to explore the environment-related concerns of the educational departments in China in recent years. The strategies and practices of sustainability have been underrated in China (Wu & Hawkins, 2018). However, every sector in the competing international market needs to be explored in terms of sustainability practices. Therefore, it has become essential to study the effects of stakeholder and management concerns as predictors of the sustainable performance of organizations within the educational sector in China.

The educational institutes are badly failed to integrated the education system with sustainability, because sustainability is the key for better learning of the students for a long term. The earlier studies in research have neglected the idea of sustainable performance of the organizations in China. The research aimed to examine organizational sustainable performance which is influenced by different variables including environmental commitment, stakeholder pressure, and managerial environmental concerns. This research is based on the theory of sustainability because this theory is widely used in the earlier research that discussed the sustainability of the organizational performance. These variables have been studied before, however, they haven't been explored in the context of educational sectors before (Alshuwaikhat *et al.*, 2016; Demir, 2020; Jusuf *et al.*, 2020; Salvioni *et al.*, 2017; Wijethilake & Lama, 2019; Xiong & Mok, 2020). The study is significant from several standpoints. The findings of this study will help in expanding the understanding of organizational sustainable performance by exploring the education sector of China. Thus, the evaluation of the sustainable business performance of educational institutions will extend the applications of the concept of sustainability and allow researchers and practitioners to understand the applications of sustainability within the educational sector and aid in the development of smart institutes. The perspectives of the management and their sustainability concerns will highlight the role played by stakeholders in developing sustainability within non-traditional organizations. The study also explores the role of eco-innovation as a mediator which will aid educational institutions in developing technological solutions for educational institutes. The findings of the study will also provide a ground for the policymakers to design such policies which promote sustainability. The study will highlight the management and stakeholder concerns

affecting the development of sustainable performance within the educational sector.

The remaining of the paper is arranged in four sections: literature review, methodology, results, and discussion. The second section discusses the variable's associations concerning the theory of sustainability. The third section outlines the methods for data collection and explains the research context. The fourth section presents the methodology and the fourth discusses the findings. The fifth section presents the discussion based on the findings and discusses the implications of the study.

Literature Review

Theory of Sustainability

According to the theory of sustainability, the term sustainability has been described as a form of economy or a society that can last forever and can be implemented all around the globe (Holdsworth *et al.*, 2020; NEL & Masilela, 2020; Zutshi & Creed, 2018). This theory signifies the concept of sustainability as a method through which justice can prevail among the different generations worldwide (Starik & Kanashiro, 2020; Westhuizen & Ntshingila, 2020). Moreover, it also explains that sustainability is not just a claim; instead, it should be implemented to ensure an appropriate balance between the economy, society, and the overall environment (Del-Castillo-Feito *et al.*, 2020; Sassen *et al.*, 2018; Sharma *et al.*, 2022). Based on the concept elaborated in this theory, it is crucial to undertake a detailed analysis regarding the practices through which different practices in society can be made sustainable (Abubakari, 2021; Armitage *et al.*, 2019). Such factors are crucial to be considered, which can assist in transforming the world with the adoption of sustainable practices as a whole (Abulela & Davenport Jr, 2020; Aslam *et al.*, 2021; Wolfe *et al.*, 2021). Previous researchers have not studied the implementation of this theory by considering the educational sector in this regard. Therefore, it is the novelty of this research that this theory will help understand how to make the organizational performance of the educational sector sustainable. For this purpose, environmental commitment is necessary for organizations working in the educational sector so that the overall sector's sustainable performance can then get ensured. In addition, the stakeholders' pressure and managerial environmental concerns can be vital factors for ensuring sustainability in the educational sector. Adopting eco-innovation can be one of the primary steps toward enhancing the sustainable performance of organizational activity in the educational sector.

Environmental Commitment and Organizational Sustainable Performance

Environmental commitment is the willingness of organizations to ensure the environmental sustainability for which the organizations are intended to sacrifice such activities, which are a source of generating waste materials into the environment (Haaskjold *et al.*, 2022; Obydenkova & Salahodjaev, 2016; Rahman & Reynolds, 2016). In this way, organizations' commitment can help reduce waste by making environment-friendly products by following sustainable practices (Alcaraz-Ibanez *et al.*, 2020; Cop *et*

al., 2020). According to previous research studies, it has been suggested that environmental commitment helps trigger the firms' sustainable performance (Salvioni *et al.*, 2017). It is because corporate firms committed to environmental practices tend to adopt sustainability practices through which their business processes can improve. Such firms tend to implement environmental strategies effectively to incorporate innovative practices with the organizations' ongoing tasks and projects (Anwar *et al.*, 2020; Nguyen & Adomako, 2022; Zhao *et al.*, 2022). Therefore, the researchers have already mentioned that when corporations and firms realize the importance of natural resources and the significance of conserving the available resources, then their commitment to introduce environment-friendly practices in their business gets enhanced, which leads them towards making successful interventions through which the overall performance of an organization can be ultimately be made sustainable (Boiral & Henri, 2017; Cherrafi *et al.*, 2017). Many studies have discussed the relationship between environmental commitment and the sustainability of working in the organization (Anwar *et al.*, 2020). This research concluded that the environmental commitment can become a greater source for adopting sustainability in the organization. Therefore, this relationship between environmental commitment and sustainable organizational performance can be hypothesized as:

H1: There is a significant relationship between Environmental Commitment and Organizational Sustainable Performance.

Stakeholders' Pressure and Organizational Sustainable Performance

Stakeholders' pressure refers to the capabilities and capacities of the stakeholders through which the organizations can get affected due to the influencing power of the stakeholders over the decision-making process of the organizations (Abdel-Maksoud *et al.*, 2016; Gaspar *et al.*, 2021). Stakeholders have enough ability to exert pressure on the organization to implement the decisions strategically. When the competition in the market increases, the association of stakeholders improves with the organization, and their influence over the organization also increases (Baah *et al.*, 2020; Guerci *et al.*, 2016). The increasing awareness about different environmental issues, including climate change and all the resulting negative impacts on the environment, has led the stakeholders to recognize the importance of implementing sustainable practices within the organization (Mousa & Othman, 2020). As the stakeholders have recognized the significance of sustainable processes, they exert pressure on the organizations to introduce innovative practices in the production processes and adopt technological advancements to enhance the organizations' overall performance (Gelderman *et al.*, 2017; Wijethilake & Lama, 2019). The researchers have argued that stakeholders put pressure on the firms to adopt sustainable techniques so that the approach of firms towards the environment can get changed because they are also concerned about the changing demands of the consumers regarding the introduction of the factor of sustainability in different business practices (Callagher & Cullis, 2021). Indeed, the role of stakeholder

is critical in the performance of organization as they are demanding the better work and profit from the management of the organization (Wu & Hawkins, 2018). The findings of this research demonstrated that with appropriate measurement, the stakeholders are influencing the administration of business to adopt sustainability in working.

H2: There is a significant relationship between Stakeholders' Pressure and Organizational Sustainable Performance.

Managerial Environmental Concerns and Organizational Sustainable Performance

From the perspective of the environment, the managerial environmental concerns involve the implementation of such management practices by them, which are specifically associated with describing and monitoring the changes occurring in the environment by considering the future alterations and making such attempts by which the environmental management can also get better (Buccella & Wojna, 2019; Xue *et al.*, 2019). The development of environmental concerns among the management of organizations can get ensured after the actual realization of environmental problems and the recognition of the nature and severity of those issues (Semenenko, 2022). Therefore, the managerial environmental concerns involve all those concerns and considerations through which the management of firms can get altered with the help of undertaking the strategies associated with introducing environmental innovation in all the practices and processes within the organization (Cankaya & Sezen, 2018; Zaid *et al.*, 2018). That's why a considerable role is played by the environmental concerns being recognized at the managerial level through which the organization's sustainable performance can get ensured (Blahusiakova, 2022). It is because when the organizational management realizes the concerns associated with the environmental issues, they will ultimately move towards adopting such techniques and strategies through which the business practices can get improved according to the needs of today's world (Nguyen & Adomako, 2022; Pham *et al.*, 2019; Wijethilake, 2017). No doubt, the management of any organization that is highly concerned and committed to improve the performance of organization, this management is working appropriately for better development of sustainable organizational work (Jusuf *et al.*, 2020). The research highlighted the that the management role can influence the workers for better working in sustainable way in the organization. Therefore, this relationship between managerial environmental concerns and sustainable organizational performance can be hypothesized as:

H3: There is a significant relationship between Managerial Environmental Concerns and Organizational Sustainable Performance.

Mediating Role of Adoption of Eco-Innovation in the relationship between Environmental Commitment and Organizational Sustainable Performance

Eco-innovation is exploiting the products, production processes, services or management practices and methods associated with performing different business activities,

which are different for different organizations or firms (Anwar *et al.*, 2020). The introduction of eco-innovative practices reduces the risks, pollution, and other kinds of adverse effects which are caused due to the utilization of unsustainable practices. When the negative impacts get reduced, positive development is observed by the organizations with the introduction of sustainable interventions in their business practices (Cherrafi *et al.*, 2017; Nguyen & Adomako, 2022). The organizations become committed to the surrounding environment. This evidence makes us believe that adopting eco-innovation mediates the relationship between environmental commitment and sustainable organizational performance. It is because when firms become strongly committed to the preservation of their environment, then they lead towards adopting eco-innovative practices (Boiral & Henri, 2017). According to the research scholars, it has been indicated that environmental commitment is one of the major factors which leads to the development and adoption of such innovative practices by which the overall performance of organizations can get enhanced (Boiral & Henri, 2017; Gilal *et al.*, 2019; Han & Chen, 2021).

H4: Adoption of Eco-Innovation significantly mediates the relationship between Environmental Commitment and Organizational Sustainable Performance.

Mediating Role of Adoption of Eco-Innovation in the relationship between Stakeholders' Pressure and Organizational Sustainable Performance

The terms eco-innovation and green innovation are used interchangeably with each other. Eco-innovation refers to one of the methods used for dealing with different environmental issues by introducing such modifications in the products, services, and other strategies undertaken by specific organizations (Molloy *et al.*, 2021). There are some antecedents and consequences associated with the concept of eco-innovation (Baah *et al.*, 2020). With the growing environmental problems, consumers are becoming more concerned regarding the sustainability of the environment (Molloy *et al.*, 2021). Due to the recognition of this factor by the consumers, the stakeholders have become more conscious of the introduction of eco-innovation in business practices. The researchers have also suggested that organizations tend toward the adoption of eco-innovation practices when the pressure from stakeholders gets increased (Gelderman *et al.*, 2017; Nguyen & Adomako, 2022). In this way, the protection and preservation of the environment can be made possible by organizations. It also leads to developing ethical considerations among the organizational stakeholders through which an organization's overall performance can be successful. The stakeholders are intended to respond appropriately to deal with various kinds of environmental problems. For this purpose, they put pressure on the organizations to adopt eco-innovation strategies so that the factor of sustainability can get ensured

among all the business activities being performed by a particular organization (Mousa & Othman, 2020). Therefore, the mediating role played by the adoption of eco-innovation can be hypothesized as follow:

H5: Adoption of eco-innovation significantly mediates the relationship between stakeholders' pressure and organizational sustainable performance.

Mediating Role of Adoption of Eco-Innovation in the relationship between Managerial Environmental Concerns and Organizational Sustainable Performance

The scope and nature of business being performed by an organization are related to managerial environmental concerns. Based on this factor, organizations' pace in adopting eco-innovation is ultimately determined. Several research studies have considered the role of managerial environmental concerns regarding adopting eco-innovation by corporate firms for achieving the organization's ultimate success as a whole (Zaid *et al.*, 2018). When the level of environmental concerns increases at the managerial level, the adoption of green practices by the firms gets triggered, through which the sustainable performance of an organization can ultimately get ensured (Callagher & Cullis, 2021). According to scholars, a higher level of managerial environmental concerns leads to more support from the management for adopting eco-innovation practices so that the condition of the environment can get sustained and its security can also get ensured (Gilal *et al.*, 2019; Pham *et al.*, 2019).

Moreover, it has also been found by the researchers that managerial environmental concerns are one of the preliminary aspects based on which the adoption and implementation of eco-innovation are determined so that waste disposal can thus be prevented from entering the surrounding environment (Wijethilake, 2017). In this way, the organizational performance can get sustained positively by enabling the organizations to adopt eco-innovation through which they can also get a competitive advantage in the market by taking such sustainable initiatives and incorporating the technological practices in different business processes organizations (Han & Chen, 2021). The adoption of eco-innovation can also lead to increasing the margin of profit for the organizations (Malik, 2020). Based on this discussion, the mediating role of the adoption of eco-innovation in this relationship can be hypothesized as:

H6: Adoption of Eco-innovation significantly mediates the relationship between managerial environmental concerns and organizational sustainable performance.

The study framework is explained in the Figure 1 that is representing the relationship between different variables in connection with organizational sustainable performance.

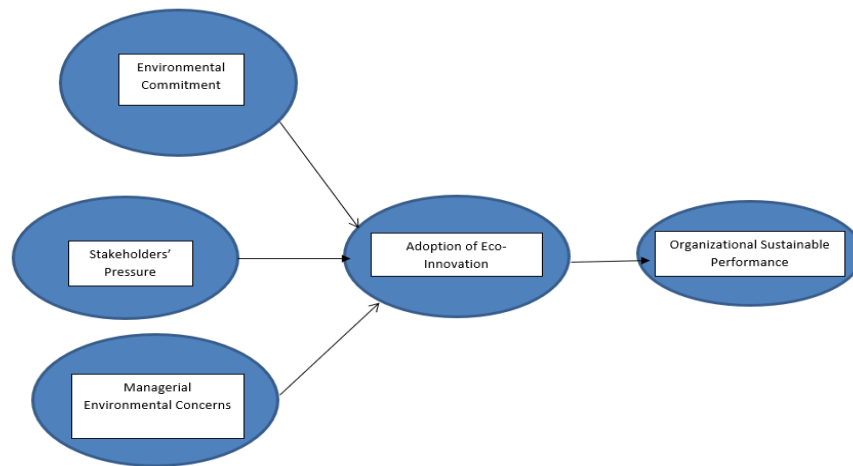


Figure 1. Theoretical Framework

Method

Research Context

The study sought to find the factors that influence organizational sustainable performance in China. The paper investigates the education sector of China for a variety of reasons. China's education sector has not widely been researched by scholars. There is limited knowledge that explores the environment-related concerns of the educational departments in China. The strategies and practices of sustainability have been underrated in China (Wang *et al.*, 2021). Every sector in the competing international market needs to be explored in terms of sustainability practices. The competitive market has initiated the process of environment-friendly practices in China to attain sustainable organizational performance. Moreover, the policies and initiatives by the Chinese government have also presented an effective decision-making process which influences the process of sustainable performance. The concern of the Chinese government is also on the promotion of sustainable practices. However, the projects and policies related to sustainability are explored in the paper. Thus, the variables i.e. independent, dependent and mediator are explored. The effect of independent variables e.g. environmental commitment, stakeholder pressure and managerial environment concerns are examined over organizational sustainable performance. The relationship is also influenced by the adoption of eco-innovation which plays the role of a mediator in the stated relationship. The methodology of the research will be divided into three major parts; sample and data collection of research, measures of the research, and data analysis which are discussed in the subsequent sections.

Sample and Data Collection

The target population of the research is the staff of the education sector practising sustainable performance. However, the research has focused on the education sector of China with a varying sample size of 350–365 staff members. The research has used quantitative techniques to collect data. The method used for the data collection is based

on the distribution of questionnaires among the staff members in the education sector. The questionnaire consists of two parts, the first part is based on the demographic information of the target population which includes age, gender, education etc. and the second part discusses each variable with the defined number of items. For this study, random sampling technique is adopted for this study. The staff of the education sector which is based on sustainable performance is asked to fill out the questionnaires. The targeted population i.e., staff of the education sector has been asked to rate the influence of Environmental commitment, Stakeholder pressure, Managerial environment concerns over sustainable organizational performance along with the mediating role of adoption of eco-innovation within the education sector of China. A total of 365 questionnaires have been distributed. 350 out of 365 have been obtained and helped in the analysis of data and interpretation of the results. The obtained questionnaires e.g. 350 are sufficient to conduct the research and draw the results.

Measures

The variables are defined with the help of measurement scales as described in the research and each variable is based on a definite number of items. The study examines the role of independent, dependent and mediating variables. It explains the influence of Environmental commitment, Stakeholder pressure, and Managerial environment concerns over sustainable organizational performance along with the mediating role of the adoption of eco-innovation within the education sector of China. Each variable is measured on the five points Likert scale which goes from 'strongly disagree to strongly agree'. There are a defined number of items for each variable along with a measurement scale which has been adopted from different researches of various scholars. The measures are taken after checking the reliability and validity with Cronbach's alpha value. A table is provided below which defines the variables of the research along with the reference of the adopted measurement scale with several items for each variable. Table 1 of the study explains the sources of measurement scale used in this research.

Table 1

Measures		
Variables	No. of items	References
Environmental Commitment	3 items	(Banerjee <i>et al.</i> , 2003)
Stakeholder pressure	4 items	(Shubham <i>et al.</i> , 2018)
Managerial environment concerns	4 items	(Song <i>et al.</i> , 2020)
Adoption of eco-innovation	4 items	(Bossle <i>et al.</i> , 2016)
Organizational sustainable performance	3 items	(Armando <i>et al.</i> , 2019)

Data Analysis

The data obtained from the questionnaires has been run through AMOS. AMOS provides the statistical analysis of each variable as the research method is quantitative which is based on the facts and figures for the research methodology. The data of the obtained questionnaires is run through AMOS which helps in the interpretation of the results of the study by analyzing the impact of each independent variable on the dependent variable along with the mediating role of the variable. The research is based on drawing a structural equation model of each variable for instance to explain the influence of Environmental commitment, Stakeholder pressure, and Managerial environment concerns over sustainable organizational performance along with the mediating role of adoption of eco-innovation within the education sector of China. Moreover, the relationship of each hypothesis of the research is also analyzed with the help of AMOS which is either accepted or rejected with the help of reviewing the past

studies on the respective relationship among the variables of the study. All the biases in the research are removed with the help of data analysis

Results

Respondent Profile

Table 2 presents the background of the respondents, reporting their age, education, and gender. As indicated in table 2 there are about 179 male respondents and 171 female respondents in the sample (52.2 % and 47.8 %). The education of most of the respondents was master's (125, 43.3 %), whereas the remaining respondents reported educational background of graduation (12.1 %), post-graduation (33.4 %), and 11.1 % reported their educational status as others. Table 2 also indicates the ages of the respondents were between 20 and 50, as 24.2 % were aged between 21–30, 29.3 % were between the ages of 31–40, 30.9 % were between 41–50, and 15.6 % were aged above 50.

Table 2

Profile			
		Frequency	Percent
Gender	Male	179	52.2
	Female	171	47.8
	Total	350	100.0
Education	Graduation	38	12.1
	Post-Graduation	116	33.4
	Masters	125	43.3
	Others	71	11.1
	Total	350	100.0
Age	21-30	76	24.2
	31-40	102	29.3
	41-50	87	30.9
	50+	85	15.6
	Total	350	100.0

Descriptive Summary

Table 3 presents the summary statistics for the model variables. The maximum and minimum values of the constructs indicate that the data was free from outliers, as the range of values assumes the threshold imitated by the measuring scale.

The mean of the constructs ranges between 3.2–3.4, indicating a pattern of agreeableness among the respondents. Moreover, the normality values as indicated by the skewness test were between -1+1, thus indicating that all constructs were normally distributed (Schmidt & Finan, 2018).

Table 3

Descriptive Summary							
	N	Minimum	Maximum	Mean	Std. Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
EC	350	1.00	5.00	3.2610	1.06961	-.852	.260
MEC	350	1.00	5.00	3.2986	.92934	-.676	.260
SP	350	1.00	5.00	3.4200	1.04759	-.834	.260
AEI	350	1.00	5.00	3.4693	1.17655	-.850	.260
OSP	350	1.00	5.00	3.2848	1.05765	-.810	.260
Valid N (listwise)	350						

Reliability and Validity Tests

The reliability and validity testing involves a series of testing including the KMO and Bartlett test, factor loading, and validity testing via construct validity. Table 3 represents the results of the KMO and Bartlett tests. The first step in the reliability and validity testing was the KMO and Bartlett test which was performed to ascertain whether the sample was adequate. The test was used to study whether the sample for the study was adequate corresponding to the number of variables selected for the study. the KMO test informs of the

adequateness of the sample and indicates whether the factor analysis will yield successful results. Bartlett’s test is an additional test applied to measure the strength of the association between the variables (Mathur & Dhulla, 2014). In table 4 the KMO test holds a value of 0.935 which is above 0.5 and therefore shows that the sample is adequate according to the number of variables chosen. Also, the Bartlett test is significant showing that the variables’ associations between variables will be significant. These results indicate that the factor analysis will yield significant results.

Table 4

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.935
Bartlett's Test of Sphericity	Approx. Chi-Square	5843.405
	df	153
	Sig.	.000

The next test in the reliability and validity testing process is factor analysis. Table 5 indicates the results of factor loadings for the measurement model. The loading values of all observed variables have loadings which is greater than the threshold limit of 0.5 (Hulland, 1999). These

results indicate that the variables were loaded successfully and have strong interrelations. Moreover, there was no cross-loading between the individual items, thus, showing that factor analysis was significant.

Table 5

Rotated Component Matrix

	Component				
	1	2	3	4	5
EC1			.838		
EC2			.870		
EC3			.829		
MEC1		.799			
MEC2		.861			
MEC3		.842			
MEC4		.826			
SP1	.843				
SP2	.904				
SP3	.822				
SP4	.829				
AEI1				.872	
AEI2				.846	
AEI3				.834	
AEI4				.783	
OSP1					.855
OSP2					.847
OSP3					.878

The next test is the series of validity testing was the evaluation of the construct validity of the measurement model. The CR and AVE were used to study the internal consistency of the variables through convergent validity. The range of the CR values was between 0.8 and 0.988,

which are all greater than the threshold value of 0.7. The AVE values for the variables range between 0.645 and 0.817, which were all above the 0.5 cut-off value. These values suggest that the variables were internally consistent and therefore reliable (Kline, 2015).

Table 6

Convergent and Discriminant Validity

	CR	AVE	MSV	EC	SP	MEC	AEI	OSP
EC	0.812	0.776	0.342	0.854				
SP	0.909	0.645	0.454	0.598	0.784			
MEC	0.965	0.709	0.498	0.314	0.627	0.852		
AEI	0.910	0.817	0.309	0.455	0.566	0.626	0.818	
OSP	0.988	0.755	0.412	0.492	0.501	0.687	0.409	0.875

Discriminant validity was studied based on the method suggested by Fornell and Larcker (1981). Table 6 depicts that the square root of AVE values is less than AVE. Also,

the inter-construct correlations were less than the intra-variable correlations. Thus, showing that the variables were significantly associated with one another, and no other

association explained the associations more significantly than the intra-variable associations. Therefore, discriminant validity is present in the measurement model. Since the KMO and Bartlett test, factor loading, and construct validity all provided significant results, it is clear that the sample size was adequate, variable inter-relations are significant, and the constructs are reliable and valid.

The Goodness of Fit

The goodness of fit of the measurement model was studied through the evaluation of several fitness indices. The study computed CMIN/df, IFI, RMSEA, IFI, and GFI to study the fitness of the measurement model. Table 7 depicts the threshold and computed values for each index. It can be seen that the measurement model was fit as all five of the indices' computed values correspond to the threshold limits that is also presented in the table. Thus, the measurement model was fit and it is assumed that the structural model will provide effective results as well. Furthermore, figure 2 highlights the values of confirmatory factor analysis.

Table 7

Model Fit Indices

CFA Indicators	CMIN/DF	GFI	IFI	CFI	RMSEA
Threshold Value	≤ 3	≥ 0.80	≥ 0.90	≥ 0.90	≤ 0.08
Observed Value	2.771	0.821	0.912	0.926	0.075

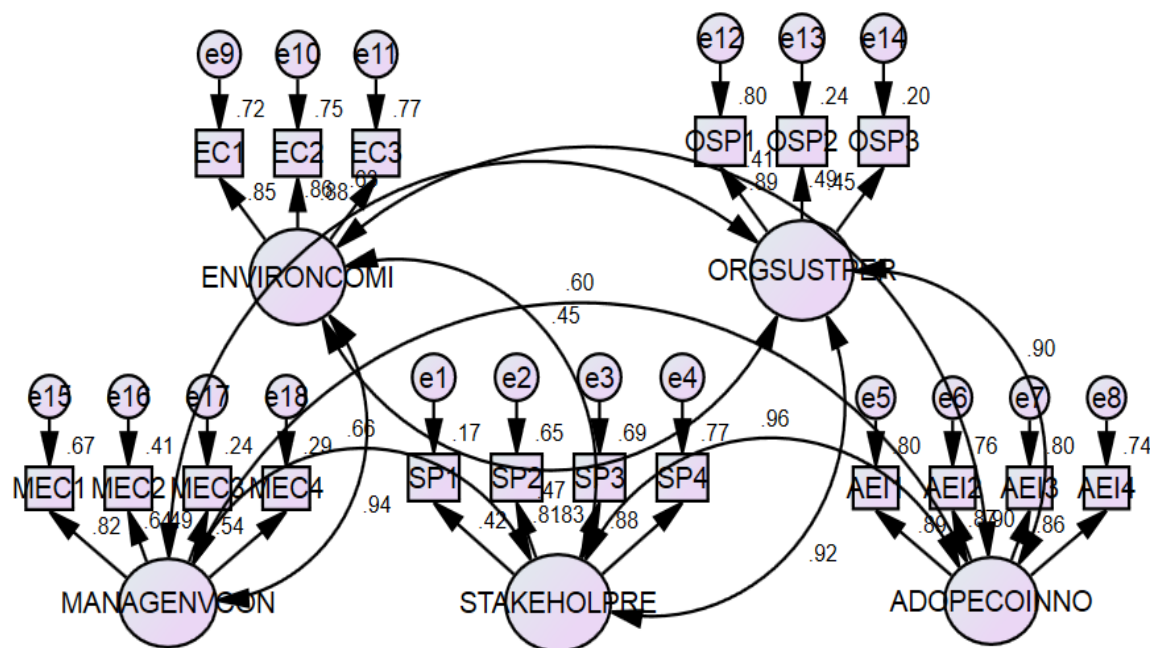


Figure 2. CFA

Hypotheses Testing

The study hypothesized that there is a significant and positive association between environmental commitment, stakeholder pressure, managerial environmental concerns, and organizational sustainable performance of educational institutions in China. Table 8 shows that all three direct associations were significant and positive. A unit change in

the environmental commitment of the management will increase the organizational sustainable performance of Chinese educational institutions by 24.2% ($p < 0.01$). Similarly, a unit increase in stakeholder pressure and management environmental concerns will increase the OSP by 26.5% ($p < 0.01$) and 30.1% ($p < 0.01$). Thus, hypotheses 1, 2, and 3 are accepted.

Table 8

Structural Equation Modeling

Path	Estimate	S.E.	C.R.	P
EC <--- OSP	.242	.046	5.002	***
SP <--- OSP	.265	.043	6.262	***
MEC <--- OSP	.301	.041	7.801	***

The adoption of eco-innovation was also considered a mediator in the present study. The mediation of eco-innovation had a significant and positive indirect effect on environmental commitment and organizational sustainable

performance and managerial environmental concerns and organizational sustainable performance. Table 9 presents the results of standardized indirect effects. Moreover, structural equation model is described in Figure 3.

Table 9

Standardized Indirect Effects			
	EC	SP	MEC
AEI	.000	.000	.000
OSP	.001	.176	.002

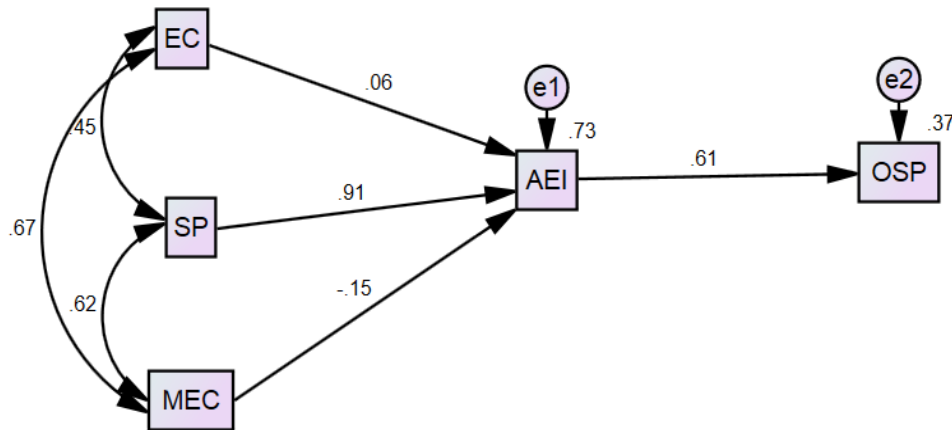


Figure 3. SEM

Discussion

To expand the theory of sustainability the paper attempts to define the impact of various factors on organizational sustainable performance in the education sector of China. Organizational sustainable performance has been a major concern in the international arena these days. Different scholars have attempted to widen the domain of organizational sustainable performance by exploring different dimensions. The studies expand the domain by focusing on different sectors. Several variables affect the organizational sustainable performance. The current study has developed six hypotheses to examine organizational sustainable performance. The first hypothesis of the research states there is a significant impact of environmental commitment on organizational performance which has been approved by the researchers as environmental commitments enhance the sustainable performance of various firms (Cop *et al.*, 2020).

Although the role of stakeholders has been highlighted to be vital in the decision-making process of organizations but has failed to influence the overall sustainable performance of the firms (Wolf, 2014). Thus, the second hypothesis which states a significant relationship between stakeholder pressure and organizational sustainable performance has been rejected. Managerial environmental concerns implement the managerial practices which shape the performance of the organizations. Therefore, managerial environmental concerns influence organizational sustainable performance which has been predicted in previous research also (Buccella & Wojna, 2019).

The fourth hypothesis of the research shows a significant mediating role of the adoption of eco-innovation in the relationship between environmental commitment and organizational sustainable performance. Environmental commitment leads to the adoption of such practices of innovation which can attain sustainable performance within organizations (Boiral & Henri, 2017). Similarly, the

hypothesis developed which describes the mediating role of adoption of eco-innovation between stakeholder’s pressure and organizational sustainable performance has been proved to be valid because the pressure on the organizations to adopt eco-innovative practices helps them attain sustainability within the organizations (Mousa & Othman, 2020). The last hypothesis of the research defines the managerial environmental concerns as the preliminary aspects for the adoption of eco-innovative practices which can lead an organization towards sustainable performance as the hypothesis has been accepted by past studies also (Wijethilake & Lama, 2019). Thus, the hypotheses of the research have been aimed to be explored in the context of sustainable organizational performance of the education sector in China. The literature from the past has explored the relationships in a different context. With the help of past studies, the research has predicted the relationship among the variables. The existing studies in literature used the same methodology while collecting data on the questionnaire, and the findings of these studies are also significant, valid and reliable.

Conclusion

With the rapid increase of sustainability in the very sector, countries are more likely to adopt the practices that help them attain sustainable growth. Various factors might directly or indirectly affect the sustainable performance of different organizations. The current study is based on a quantitative analysis of organizational sustainable performance with the direct impact of various independent variables. The research has developed a hypothesis on environmental commitment, stakeholder pressure and managerial environmental concerns that directly impact the sustainable performance of organizations. It has been found that all the independent variables have significant impacts except for the stakeholder’s pressure which does not affect the organizational sustainable performance. The mediation

of adoption of eco-innovation in hypothetical relationships has also been examined. Thus, the present research indicates the importance of sustainable organizational performance with the adoption of eco-innovation practices in today's highly globalized and changing world pattern.

The research aimed to examine organizational sustainable performance which is influenced by different variables including environmental commitment, stakeholder pressure, and managerial environmental concerns. The study has helped in expanding the body of knowledge on the respective subject of organizational sustainable performance by exploring the education sector of China. The expansion will help the students as well as the sectors which have adopted or the sectors that are planning to adopt sustainable practices. Moreover, the study has also explored the sustainability theory in the context of environmental commitment, stakeholder pressure, and managerial environmental concerns as well as the mediation effect of the adoption of eco-innovation. Furthermore, the gaps in the past research are also highlighted and attempted to be fulfilled by the researcher. Eco-innovation has also been explored in the research which helps in the adoption of technological advancement. The discussion related to stakeholder pressure has also been highlighted to have no impact on organizational sustainable performance. The study may also assist the policymakers to draw policies that may improve the sustainable practices in different sectors specifically, the education sector.

Along with theoretical implications, the study also has some practical implications. The study provides a deep understanding of sustainable performance to the researchers and organizations which are in the practice of sustainability. In addition, the practice of sustainability in the education sector was not commonly found in past. Through this research, the educational organizations will be able to apply sustainable performance by adopting such practices which help the education sector. On the other hand, the research will provide a ground for the policy-makers to design such

policies which promote sustainability. The research will help the policymakers to understand the variables which directly or indirectly affect the sustainable performance in the education sector. Countries having the same form as China can easily adopt the practices suggested by the researcher. The current study helps the sectors to grow. The importance of sustainability has increased with the advancement of technology and changing regional and global apparatus. However, the study will assist the education sector of different countries to increase their contribution to the GDP of the state. The increased share of the education sector in GDP helps the countries like China in the process of development. Therefore, the implications are not only beneficial at the social level, but also economic levels of countries.

There have been several limitations observed while conducting the research. Firstly, the sector of the research was confined to the education sector which makes the research applies only to the implementation method of educational organizations. Moreover, the concerned country of the research was China i.e., the research will be applied to countries which share the same structure as China. However, there are other limitations which were observed during the data collection process. The study is based on the quantitative technique of data collection. There were a limited number of respondents from whom the data was collected. The information and knowledge gathered from the research were also limited based on the measurement scales used for the analysis of variables. Furthermore, the study is also time-bound using cross-sectional time horizons. The research can be further expanded with the adoption of qualitative methods for future research. Moreover, the study can explore other variables that influence sustainable performance within organizations. The research has applied sustainability theory which has been explored previously by the researchers so future researchers can use other sustainability theories which are rarely been explored in the past.

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