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# The role of corporate governance and environmental and social responsibilities on the achievement of sustainable development goals in Malaysian logistic companies

Fengsheng Chien<sup>a,b</sup> 

<sup>a</sup>School of Finance and Accounting, Fuzhou University of International Studies and Trade, Fuzhou, China; <sup>b</sup>Faculty of Business, City university of Macau, Macau, China

## ABSTRACT

Globally, sustainable development goals (SDGs) have gained significant importance due to the uncertain environmental and economic condition that needs researchers' attention. Therefore, the present paper aims to scrutinize the effect of environmental and social responsibilities and corporate governance on the achievement of SDGs of logistic firms in Malaysia. The present research also examines the mediating impact of innovative culture among the linkage of environmental and social responsibilities, corporate governance, and achievement of SDGs of logistic firms in Malaysia. The current article has applied the questionnaire method to gather the primary data from selected respondents. The present research also applied the Smart-PLS to analyze the primary data using measurement and structural model assessment. The results indicated that environmental and social responsibilities have a positive linkage with the achievement of SDGs of logistic firms in Malaysia. The findings also exposed that innovative culture significantly mediates the relationship between environmental and social responsibilities and the achievement of SDGs of logistic firms in Malaysia. The present article has provided the guidelines to the policymakers while formulating the regulations and policies related to the achievement of SDGs in the organization.

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## 1. Introduction

As the world gets modern and increasingly populated, human needs are increasing as well, as there is more severe competition among the firms and countries. The struggle to meet these needs and win the competition results in a dramatic increase in the economic scope. This meets human needs and helps to survive in the competition but causes great havoc on the environment, its climate, and natural resources and may create hurdles for future development. Many philanthropic activities are done

**CONTACT** Fengsheng Chien  [jianfengsheng@fzu.edu.cn](mailto:jianfengsheng@fzu.edu.cn)

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along with the economic ones, but these activities are still unsatisfactory to reduce the environmental havoc and overcome the hurdles in future development. Some policymakers, reformers, and thinkers have been attentive to the social and environmental progress of a country (Di Vaio et al., 2020; Moslehpour et al., 2022a). As the need for social and environmental progressive attention even among the general public, it's been tried by the economic entities and government, through effective policies, campaigns, or programs, not only to gain financial goals which alone restrict the economic development to the present but develop sustainability by preserving the resources and social relations (Mio et al., 2020; Moslehpour et al., 2022b). The UN member states felt the need for sustainable development and held an assembly in this regard in 2015. The general assembly (GA) proposed a plan for sustainable development by the year 2030 and passed a resolution. The agenda contained 17 sustainable development goals (SDGs) along with 196 short term goals. Though, Millennium Development Goals (MDGs) have been implemented, the resolution for 17 SDGs are an extension of these MDGs as the SDGs are meant for addressing the global problems and the ways for sustainable development which are fit for each country across the world (Allen et al., 2018; Liu et al., 2021; Moslehpour et al., 2021). These SDGs are divided into three categories like Social, environmental, and economic development, and are meant for the planet, people, peace, and prosperity. The execution of these UN0-GA presented SDGs turns an economy into one that is characterized by efficient resources utilization, quality resources, people welfare, and a clean environment for work (Dantas et al., 2021; Liu et al., 2022a).

ESG score is a scale of performance measurement. It contains the standards or mechanism for monitoring, assessing, and regulating firms' performance, and the social, economic, and environmental performance. The main focus of the score is on the firm's consciousness of the responsibilities and accountability towards the environment of the region where they operate, society, or social members. ESG score not only means to monitor or analyze the firms' sense of responsibilities towards society, environment, and corporate but also consider what efforts are made by the firms for the fulfillment of these responsibilities and how effective are these efforts (Dadelo, 2020; Khaled et al., 2021; Liu et al., 2022b). The UN-GA presented SDGs are cojoined and basically rely on social, environmental, and corporate governance. The achievement of SDGs is not a single entity task. Rather it is based on the efforts of different firms, corporations, and organizations for the environment protection against the impacts of pollutants, the well-being of social members, and increasing the corporate performance (Escrig-Olmedo et al., 2019; Gondek, 2021; Lan et al., 2022; Li et al., 2021). When the firms have the consciousness of their responsibilities towards the environment and follow the regulations for mitigation of the negative environmental impacts of the resources they employ and practices which they perform many SDGs like clean sanitation system, a clean climate and water, healthy food, good health, social wellbeing, and security of natural resources, etc. (Kamarudin et al., 2021; Singh & Shaik, 2021; Yang et al., 2022). Likewise, when the firm's own social and environmental responsibilities and design the policies with an intention to build good relations, they attain the goals like partnerships, good health, justice, peace, decent work, and innovation. Though mostly the SDGs are related to social and environmental

governance without the corporate governance which assures financial development, even the social and environmental performance is impossible. So, the corporate governance execution provides ease to achieve SDGs (Consolandi et al., 2020; Huang et al., 2021a; Marín, 2020).

The present study analyzes the role of ESG practices like corporate governance, environmental responsibilities, and social responsibilities in developing innovative culture and getting SDGs in the Malaysian economy for logistics companies. Malaysia is a developing country with an upper-middle-income economy. It is the fourth-largest economy of the Asian region and the 38<sup>th</sup> largest economy across the world according to the nominal gross domestic product (GDP). The Country's estimated GDP for 2022 is \$415.375 billion (Chien et al., 2021a; 2021b; Yusliza et al., 2020). The main sectors of the economy are agriculture: 7.1%, industry: 36.8%, services: 56.2%. Logistics covers the major portion of the industrial and service sectors. The logistics industry includes the sourcing of goods, inventory, manufacturing, handling, transportation, storage, etc. (Ainou et al., 2022; Centobelli et al., 2020). The best logistics companies in Malaysia are Lalamove, Ninjavan, Skynet, Pos Laju, GDEX, ABX Express, Lel Express, CJ Century, J&T Express, The Lorry, Collectco, DHL, TA-Q-BIN, Blackarrow Express, and LBC Express. The logistics sector has a contribution of 3.8% to the country's GDP as per the statistics of 2019. Over the years, there has been a significant increase in the trade activities in the country, with a CAGR of 6.5% from 2013-to 2018 (Guo et al., 2021; Huang et al., 2021b; Rose et al., 2018).

The government of Malaysia has taken many leading initiatives for embracing and implementing the 17 SDGs presented by UN-GA in logistics, the most prominent economic industry and other economic industries as well. A multi-stakeholder, participatory governance structure that is managed by the National SDG Council and whose chairman is by the PM has been established. Different conferences, group sessions, and discussions for SDGs achievement planning are held to develop awareness and stakeholders participation (Herrera-Echeverry et al., 2020; Huang et al., 2021c; Sadhukhan et al., 2018). Malaysia has conducted data readiness studies, carried out mapping practices with non-governmental and civil society institutions, as well as the private sector, to indulge the efforts for SDGs in 11MP undertakings; designed a National SDG Roadmap for guiding how to implement the 2030 Agenda for the sustainable development; and executed SDG practices within the 11MP. Malaysia will move forward with the 2030 Agenda under the 11MP framework, with the ways of execution including: with replication of the national multi-stakeholder governance system at the state level to localize SDGs at the sub-national level; in addition to public sector support through 11MP, mobilizing resources and finance via collaborations with stakeholders, including sourcing of crowd, social administration, and CSR programs; the need to improve data readiness and fill data gaps, to generate a comprehensive dataset for SDG implementation (Chien et al., 2022; Vaziri et al., 2019).

The Malaysian government and many other economic and state members have been making struggles for sustainable country development with the effective execution of SDGs. The achievement of SDGs is much limited because of the weak social progress, environmental protection, and financial development, which three are the basis of SDGs. These three sections equally require attention so that the SDGs can be

achieved. The present study addresses this issue found in Malaysia with the objective to explore the role of ESG practices like corporate governance, environmental responsibilities, and social responsibilities in getting SDGs. The aim of the study is also to analyze the role of innovative culture between ESG practices like corporate governance, environmental responsibilities, and social responsibilities in developing innovative culture and SDGs achievement. Many studies have addressed sustainable development or SDGs since 2015 when the UN-GA passed the resolution for 2030 sustainable development agenda, but the current study still adds novelty to literature. (1) The ESG score is usually discussed in relation to investment planning as it helps measure the ability of the firms to meet their obligations or pay back their liabilities. But the paper explores the correlation of ESG practices like corporate governance, environmental responsibilities, and social responsibilities with the SDGs in a direct way. (2) ESG is the measurement for a firm's performance which is usually taken as a complete term while analyzing the SDGs attainment. In contrast to this, the current study throws light on ESG practices like corporate governance, environmental responsibilities, and social responsibilities individually for getting SDGs. (3) the present study adds to the literature with its selection of the logistics industry in Malaysia for the analysis of ESG and SDGs relations.

The paper contains several portions. The first portion seeks the past arguments about the relation of ESG practices like corporate governance, environmental responsibilities, and social responsibilities with developing innovative culture and SDGs achievement. The 2<sup>nd</sup> portion explains the procedure adopted for data collection and analysis. The results are supported by the past studies, and this portion is followed by conclusions, implications, and limitations.

## 2. Literature review

The achievement of higher growth is only not satisfactory; there is always a need to maintain economic development. The sustainable development of a country is possible if it has sufficient resources, a clean work environment, healthy and prosperous inhabitants, peace and collaboration, and effective allocation of resources. These are the common principles of sustainable development which are applicable to all countries. The 17 SDGs approved by UN-GA in agenda 2030 for sustainable development are based on these principles (Antinienė et al., 2021; Betti et al., 2018; Özer et al., 2020; Yousaf et al., 2021). These are categorized into three factors social peace and prosperity, environmental sustainability, and corporate economic progress. The development in these areas assures the achievement of sustainable development goals. The implementation of the ESG score would be useful for attaining the SDGs as this focuses on corporate governance, environmental responsibilities, and social responsibilities (Gadeikiene & Svarcaite, 2021; Mahmood et al., 2021; Saetra, 2021). The role of ESG practices like corporate governance, environmental responsibilities, and social responsibilities in developing innovative culture and SDGs achievement is the major concern of the study. The relationship of ESG practices like corporate governance, environmental responsibilities, and social responsibilities with developing innovative culture and SDGs achievement have a presiding position in the literature. The study

sorts out the past studies to establish hypotheses about the correlation among ESG practices like corporate governance, environmental responsibilities, and social responsibilities, developing innovative culture and SDGs achievement.

One of the ESG score practices is the focus on environmental responsibilities. Environmental responsibilities are the duties of the firms towards the environment where they operate their business functions. It includes not only the consciousness of environmental responsibility but also the actions planned and their execution for the fulfilment of these responsibilities (Al-Omouh et al., 2020; Dimian et al., 2021; Flores & Chang, 2020; Roscoe et al., 2019). The sense of environmental responsibility motivates the firm management to take initiatives like waste management, water cleanliness management, energy resource management, energy efficiency, renewable energy transition, and sanitation management, which are meant for the protection of the environment against pollution from business practices. This assures the SDGs achievement like good sanitation, clean water and climate, and good health (Dlalisa & Govender, 2020; Peng & Huang, 2020; Vega-Muñoz et al., 2021). Heinrich et al. (2020) wrote a literary piece to examine the relationship between environmental responsibilities and the accomplishment of the 6th SDG, sanitation and clean water, and the 3rd SDG, excellent health. FHI (Freshwater Health Index) was calculated in 3 Latin American river basins such as 'Guandu, Alto Mayom, and Bogotá'. Data from perception-based questionnaires is used to score environmental governance on a 0–100 scale. The results revealed that when the firms have environmental responsibility, they regulate functioning in such a way as to minimize the wastage of chemicals or properly disposes the wastes. Hence, the water pollution can be controlled and SDGs can be attained. We put hypothesis:

**H1:** Environmental responsibilities the part of ESG is in a positive relation to SDGs achievement.

The ESG score puts the emphasis on the consciousness of social responsibilities and the undertaking of practices essential for the fulfilment of social responsibilities (Koloba, 2020; Litvinenko et al., 2022; Richterová et al., 2021). These responsibilities include the activities like the establishment of effective information and communication network and taking care of the rights, needs, emotions, and health of the stakeholders (employees, customers, suppliers, contractors, and public). The fulfilment of the social responsibilities helps the firm management achieve the SDGs, which are based on the social wellbeing and social right of the countrymen (Kikulwe & Asindu, 2020; Siakwah et al., 2020; Zygmunt, 2020). Piligrimienė et al. (2021) and Xue et al. (2018), made an investigation about social governance impacts on the SDGs achievement. The study sample for the data collection is based on the companies operating in the economy of China. For the social corporate, social responsibilities are taken as a measure, and through the application of different statistical approaches, the relationship between social responsibilities and SDGs achievement is analyzed. Companies must have the sense that they have some societal duties imposed on them. Through relationships with stakeholders, they always consider their rights and well-being when developing policies to achieve their corporate objectives. This not only increases stakeholders' well-being but also improves their health, encourages justice and safety as well as

enhances business development; as a result, it aids in the achievement of SDGs. Similarly, De Guimarães et al. (2020), with evidence from 829 inhabitants of cities in Northeast Brazil and the adoption of SEM methodology, examines the relationship between social responsibilities and SDGs attainment. The results stated that the social responsibilities fulfilment improves the social performance of the firm and increases its contribution to SDGs achievement. That's is why we say:

**H2:** Social responsibilities the part of ESG is in a positive relation to SDGs achievement.

The ESG score focuses on the corporate governance of the firms, and the effective execution of corporate governance helps achieve SDGs (Dabbous & Tarhini, 2021; Zhang et al., 2022; Zhao et al., 2021). Jonsdottir et al. (2021) and Sadiq et al. (2022a), states that the quality of the resources employed, the work efficiency of technologies, and the effectiveness of the production and marketing processes are all maintained through good corporate governance implementation within the firm. This helps businesses develop sustainably and aids the economy in meeting the UN's Sustainable Development Goals. In a research article, Martínez-Ferrero and García-Meca (2020) and Sadiq et al. (2022b) integrate the relationship between the internal corporate governance and the firm's compliance to the sustainable development goals thought by the united nation assembly members. An evidential data was collected from a sample of European companies for the time stretching during 2016–2017. Authors considered the elements of corporate governance like board composition, the board size, board attendance, and CEO independence and their effects on the firms' capacity to attain SDGs. Authors employed several regression analyses and found that when the corporate governance is effectively structured, and its principles are effectively implemented, the firm gains strength to achieve SDGs. Pizzi et al. (2021) present their views about firms' share in the attainment of SDGs presented in the 2030 proposal for sustainable development and examine the corporate governance role in this regard. The authors conducted research on 153 Italian Public Interest Enterprises and collected data through the non-financial reports. The appropriate board size, efficient board membership, board independence, suitable OS, and OC improves the firms' operational and financial performance which provide a basis for the SDGs attainment. Based on these literary arguments, it is hypothesized:

**H3:** Corporate governance part of ESG is in a positive relation to SDGs achievement.

A study was conducted by Antoncic et al. (2020) and Tan et al. (2021), to the investigation the relationship between environmental responsibilities on the part of ESG, innovative culture, and SDGs achievement. For the evaluation of the performance of environmental responsibilities consciousness and their execution, different innovative processes and procedures are applied. This develops the innovative culture in the organization, and the innovation in the activities improves the resources allocation and firms' performance. Innovation adoption itself is one of the SDGs, and the firms' performance leads to economic growth. So, the innovative culture builds a link between environmental responsibilities and SDGs. The research by Romano et al. (2020), investigated an interrelationship between environmental responsibilities in ESG, innovative culture, and SDGs attainment. The execution of environmental responsibilities like environmental monitoring, environmental evaluation, compliance

with environmental legislation, recycling practices, waste management, prevention of pollution incidents, and prevention of pollution motivates the firm management to adopt creativity and innovativeness. This develops an innovative culture and innovative behavior if the organizational personnel more effectively improve the environmental performance and thereby achieve the SDGs. Similarly, Zhan and Santos-Paulino (2021) analyze the environmental responsibilities in ESG, innovative culture, and the achievement of SDGs. The innovative culture plays a linking role between the environmental responsibilities and SDGs attainment. Based on the above discussion, it can be said:

**H4:** Innovative culture is a mediator between the environmental responsibilities the part of the ESG and SDGs achievement.

In a literary article Singhanian and Saini (2022) examine the social responsibilities in ESG score and SDGs attainment with the linking role of innovative culture. The study defines social responsibility as the company must act in the best interest of the environment and society as a whole so that the society members who are somehow in contact with the company do not have to face any problems because of the activities of the company. This study implies that when environmental, ethical, and philanthropic activities are to be performed, there may be a need for novel techniques, innovative resources, and up-to-date technologies. The performance of social responsibilities on innovative standards develops an innovative culture in the organization, and creativity & innovativeness opens many ways to achieve the SDGs. So, social responsibilities in ESG score implementation develop an innovative culture that helps achieve SDGs. Lee et al. (2021), also find that the ESG encourages corporations to fulfill their social responsibilities to stakeholders. The implementation of innovative policies that build an innovative culture within the company is enabled by the fulfillment of social duties. Furthermore, the inventive culture, which encourages innovation, aids in the achievement of the SDGs. The findings demonstrated that innovative culture acts as a bridge between corporate governance and SDGs. The empirical research by Naffa and Fain (2020) also confirms that an innovative culture mediates between corporate governance and SDGs. Hence, we put the following hypothesis:

**H5:** Innovative culture is a mediator between the social responsibilities the part of ESG and SDGs achievement.

Through empirical research, Jan et al. (2021) identify the relation between corporate governance in ESG, innovative culture, and SDGs. The study reveals that when the corporation is effectively governed through internal regulations or external controlling authorities, the performance of different organizational areas, both the performance of personnel and the quality of resources applied, is evaluated periodically. The weaknesses in the performance can be removed by applying innovative techniques and innovation-based resources. The innovativeness on a periodical basis creates an innovative culture and changes according to the changing circumstances. This helps achieve SDGs which require change with the change in time. Scherer and Voegtlin (2020), examine ESG corporate governance, innovative culture, and SDGs for establishing relations among these factors. Under corporate governance, the firms

are required to follow the principles like responsibility, accountability, transparency, and fair undertakings. AS the firms must be accountable and take care of the transparency of their functioning, they not only focus on the financial performance but also take care of that they must not damage the environmental quality and rights of the society. For this purpose, they have to update the processes and resources applied. The resultant innovative culture maintains the social and environmental performance which are the foundations of SDGs. Based on the above discussion, we put a hypothesis.

**H6:** Innovative culture is a mediator between the corporate governance of the part of ESG and SDGs achievement.

### 3. Research methods

The paper scrutinizes the effect of environmental and social responsibilities and corporate governance on the achievement of SDGs and also examines the mediating impact of innovative culture among the linkage of environmental and social responsibilities, corporate governance, and achievement of SDGs of logistic firms in Malaysia. The current article has applied the questionnaire method to gather the primary data from selected respondents. The questionnaires consist of the statements asked from the respondents regarding understudy variables. The environmental responsibilities (ER) have been used as the independent variable, and the current study has taken four items scale from the study of Yue et al. (2020). These items are given in Table 1.

In addition, the current study has also taken social responsibilities (SR) as the independent variable, and it also used four items scale extracted from the study of Cha and Jo (2019). These items are given in Table 2.

Moreover, corporate governance (CG) has been used as the independent variable by the researchers and used five items scale extracted from the study of Khan et al. (2019). These items are given in Table 3.

Additionally, innovative culture (IC) has been used as the mediating variable by the researchers and used eight items scale extracted from the study of Khan et al. (2019). These items are given in Table 4.

Finally, the study has taken the achievement of SDGs (ASDG) as the predictive constructs. The present article has taken the seventeen items scale extracted from Zamora-Polo et al. (2019). Table 5 shows the measurement for the achievement of SDGs.

In addition, these questionnaires have been sent to the selected managers using mail and personal visits. The managers of the logistic companies dealing with SDG achievement are the respondents selected based on simple random sampling. A total of 535 surveys were sent to the selected managers, but only 290 were received and

**Table 1.** Measurements for environmental responsibilities.

Variable	Items	Statements
Environmental Responsibilities	ER1	'My organization's actions impact the health of the environment'.
	ER2	'I have the power to protect the environment'.
	ER3	'I can learn how to improve the environment'.
	ER4	'I will work to make my surrounding environment a better place'.

Source: Zamora-Polo et al. (2019).

**Table 2.** Measurements for Social Responsibilities.

Variable	Items	Statements
Social Responsibilities	SR1	'My organization encourages collaboration of business with the regional community and other institutions'.
	SR2	'My organization sponsors sports and cultural events'.
	SR3	'My organization encourages charity services supporting regional communities'.
	SR4	'My organization gives back to society'.

Source: Zamora-Polo et al. (2019).

**Table 3.** Measurements for Corporate Governance.

Variable	Items	Statements
Corporate Governance	CG1	'Smaller board enhances organizational performance and achieves SDGs'.
	CG2	'Independent committees would focus on improving the company competitiveness, performance, and SDGs'.
	CG3	'Most of the board meetings have been relevant to the organization's mandate to achieve SDGs'.
	CG4	'All stakeholders have been involved in the achievement of SDGs'.
	CG5	'Executive directors are better placed in handling the affairs of the organization to achieve the SDGs'.

Source: Zamora-Polo et al. (2019).

**Table 4.** Measurements for Innovative Culture.

Variable	Items	Statements
Innovative Culture	IC1	'My organization's culture is challenging'.
	IC2	'My organization culture is creative'.
	IC3	'My organization culture is enterprising'.
	IC4	'My organization culture is stimulating'.
	IC5	'My organization culture is driving'.
	IC6	'My organization culture is risk-taking'.
	IC7	'My organization culture is result-oriented'.
	IC8	'My organization culture is pressurized'.

Source: Zamora-Polo et al. (2019).

**Table 5.** Measurement for Achievement of SDGs.

Variables	Items	Statements
Achievement of SDGs	ASDG1	'My organization takes part in poverty reduction'.
	ASDG2	'My organization plays a significant role in hunger reduction'.
	ASDG3	'My organization is working for health care and wellness'.
	ASDG4	'My company also provides quality education to their employees and employees' family'.
	ASDG5	'My firm always works for gender equality'.
	ASDG6	'I have access to clean water and sewerage'.
	ASDG7	'My firm has the accessible and non-polluting energy'.
	ASDG8	'My firm takes part in decent work and economic growth'.
	ASDG9	'My firm has the innovation and effective infrastructure'.
	ASDG10	'My firm always works for reducing inequalities'.
	ASDG11	'My firm is creating sustainable cities and communities'.
	ASDG12	'My firm has the ability of responsible consumption and production'.
	ASDG13	'My organization always considers the weather care'.
	ASDG14	'My firm always cares about underwater life'.
	ASDG15	'My firm always cares for life in terrestrial ecosystems'.
	ASDG16	'My firm takes part in peacebuilding, justice, and corruption-free institutions'.
	ASDG17	'My organization strives to build alliances to achieve the above goals'.

Source: Zamora-Polo et al. (2019).

used for analysis after twenty days. These valid responses have about a 54.21 percent response rate. The present research also applied the Smart-PLS to analyze the primary data using measurement and structural model assessment. This statistical tool provided accurate and reliable results even if the researchers applied a larger sample size or used complex frameworks (Hair et al., 2021).

#### 4. Research findings

The researchers have examined the content validity using factor loadings and the figures are larger than 0.50, indicating that the content validity is valid. In addition, convergent validity and reliability have also been examined using 'average variance extracted (AVE), Alpha and composite reliability (CR), and the results also exposed the AVE values are bigger than 0.50 showing convergent validity is valid. The results also exposed that CR and Alpha values are also larger than 0.70 and exposed valid reliability of the items. Table 6 shows all of these findings.

The researchers have examined the discriminant validity using cross-loadings along with Fornell Larcker. The figures indicated that the values that exposed the stronger

**Table 6.** Convergent Validity.

Constructs	Items	Loadings	Alpha	CR	AVE				
Achievement of SDGs	ASDG1	0.463	0.930	0.937	0.507				
	ASDG10	0.778							
	ASDG11	0.860							
	ASDG12	0.643							
	ASDG14	0.603							
	ASDG15	0.648							
	ASDG16	0.623							
	ASDG17	0.705							
	ASDG2	0.672							
	ASDG3	0.473							
	ASDG4	0.670							
	ASDG5	0.862							
	ASDG6	0.782							
	ASDG8	0.862							
	ASDG9	0.860							
	Corporate Governance	CG1				0.892	0.893	0.918	0.693
		CG2				0.864			
CG3		0.819							
CG4		0.840							
CG5		0.738							
Environmental Responsibilities	ER1	0.877	0.885	0.921	0.744				
	ER2	0.843							
	ER3	0.891							
	ER4	0.837							
Innovative Culture	IC1	0.810	0.912	0.930	0.654				
	IC3	0.841							
	IC4	0.810							
	IC5	0.833							
	IC6	0.817							
	IC7	0.805							
	IC8	0.740							
	IC8	0.740							
Social Responsibilities	SR1	0.965	0.953	0.966	0.878				
	SR2	0.920							
	SR3	0.956							
	SR4	0.904							

Source: authors estimates.

**Table 7.** Fornell Larcker.

	ASDG	CG	ER	IC	SR
ASDG	0.712				
CG	0.228	0.833			
ER	0.446	0.210	0.862		
IC	0.618	0.179	0.437	0.809	
SR	0.554	0.354	0.422	0.481	0.937

Source: authors estimates.

**Table 8.** Cross-loadings.

	ASDG	CG	ER	IC	SR
ASDG1	<b>0.463</b>	0.263	0.169	0.280	0.358
ASDG10	<b>0.778</b>	0.144	0.386	0.786	0.440
ASDG11	<b>0.860</b>	0.167	0.329	0.774	0.453
ASDG12	<b>0.643</b>	0.184	0.308	0.426	0.405
ASDG14	<b>0.603</b>	0.130	0.324	0.376	0.324
ASDG15	<b>0.648</b>	0.155	0.341	0.406	0.327
ASDG16	<b>0.623</b>	0.190	0.295	0.361	0.301
ASDG17	<b>0.705</b>	0.156	0.330	0.455	0.387
ASDG2	<b>0.672</b>	0.188	0.342	0.404	0.342
ASDG3	<b>0.473</b>	0.178	0.233	0.244	0.339
ASDG4	<b>0.670</b>	0.147	0.349	0.457	0.427
ASDG5	<b>0.862</b>	0.176	0.329	0.779	0.454
ASDG6	<b>0.782</b>	0.152	0.384	0.786	0.439
ASDG8	<b>0.862</b>	0.172	0.331	0.767	0.456
ASDG9	<b>0.860</b>	0.178	0.331	0.786	0.457
CG1	0.241	<b>0.892</b>	0.149	0.200	0.330
CG2	0.175	<b>0.864</b>	0.156	0.151	0.289
CG3	0.124	<b>0.819</b>	0.121	0.051	0.290
CG4	0.111	<b>0.840</b>	0.118	0.103	0.268
CG5	0.219	<b>0.738</b>	0.277	0.162	0.275
ER1	0.363	0.199	<b>0.877</b>	0.365	0.350
ER2	0.381	0.173	<b>0.843</b>	0.402	0.381
ER3	0.427	0.169	<b>0.891</b>	0.413	0.376
ER4	0.360	0.186	<b>0.837</b>	0.319	0.346
IC1	0.636	0.142	0.356	<b>0.810</b>	0.394
IC3	0.653	0.112	0.376	<b>0.841</b>	0.354
IC4	0.587	0.096	0.356	<b>0.810</b>	0.321
IC5	0.735	0.166	0.366	<b>0.833</b>	0.408
IC6	0.745	0.205	0.329	<b>0.817</b>	0.443
IC7	0.707	0.140	0.362	<b>0.805</b>	0.454
IC8	0.525	0.143	0.330	<b>0.740</b>	0.322
SR1	0.517	0.331	0.409	0.454	<b>0.965</b>
SR2	0.534	0.316	0.369	0.436	<b>0.920</b>
SR3	0.502	0.316	0.414	0.459	<b>0.956</b>
SR4	0.521	0.362	0.389	0.453	<b>0.904</b>

The bold values explain the correlation between independent variables and dependent variable.

Source: authors estimates.

link with the variable itself are bigger than those that show a stronger association with other variables. These values exposed no high association among variables. [Tables 7 and 8](#) show all of these findings.

The researchers have also examined the discriminant validity using Heterotrait Monotrait (HTMT) ratio. The figures indicated that the values are not larger than 0.90. These values exposed no high association among variables. [Table 9](#) shows HTMT results.

The results of the path analysis mentioned in [Table 10](#) indicated that environmental and social responsibilities have a positive linkage with the achievement of SDGs of

**Table 9.** Heterotrait Monotrait Ratio.

	ASDG	CG	ER	IC	SR
ASDG					
CG	0.241				
ER	0.492	0.222			
IC	0.614	0.177	0.484		
SR	0.587	0.376	0.459	0.511	

Source: authors estimates.

**Table 10.** Path Analysis.

Relationships	Beta	S.D.	T Statistics	P Values	L.L.	U.L.
CG -> ASDG	0.026	0.034	0.764	0.223	-0.031	0.077
ER -> ASDG	0.057	0.040	1.409	0.081	0.001	0.127
IC -> ASDG	0.701	0.039	18.103	0.000	0.638	0.766
SR -> ASDG	0.184	0.046	4.027	0.000	0.103	0.253
ER -> IC -> ASDG	0.200	0.049	4.112	0.000	0.118	0.268
CG -> IC -> ASDG	-0.006	0.036	0.180	0.429	-0.061	0.057
SR -> IC -> ASDG	0.255	0.040	6.321	0.000	0.185	0.317

Source: authors estimates.

logistic firms in Malaysia and accept H1 and H2. However, the results also indicated that corporate governance has an insignificant linkage with SDG achievement and rejects H3. In addition, the findings also exposed that innovative culture significantly mediates among environmental and social responsibilities and achievement of SDGs of logistic firms in Malaysia and accept H4 and H5. However, the findings also exposed that innovative culture insignificantly mediates among corporate governance and achievement of SDGs of logistic firms in Malaysia and reject H6.

## 5. Discussions

The results have indicated that the environmental responsibilities on the part of ESG are in a positive relation to SDGs achievement. The results mean that when the businesses have consciousness of their responsibilities towards the climate and environment where they operate, they can maintain an environment quality for the people who live in it and those who work in it. The improved environmental performance of the firms as a result of the sense of accountability serves to the achievement of SDGs. These results agree with Sciarelli et al. (2021), which states that it is the environmental responsibility that motivates the firms to take environmentally-friendly actions like waste management, and appropriate sanitation system, and water management. These all actions add to sustainable development with the achievement of goals like good sanitation, clean water, a clean climate, and good health. These results match with Folqué et al. (2021), which state that the firms having compliance with the environmental responsibilities imposed on them reduce environmental issues like greenhouse gas emissions, chemicals, and toxic wastes and give a clean, healthy environment to the employees and customers whose retention is required for consistent production, innovation, and EG. These are the part of sustainable development goals.

The findings revealed that the social responsibilities on the part of ESG are in a positive relation to SDGs achievement. The results imply that the companies which feel that they have some responsibilities towards society through their relation to the

stakeholders always take care of the rights and well-being of the stakeholders while making policies to achieve their business goals. This not only improves the well-being of the stakeholders but also pays attention to the health, justice, and safety of the stakeholders and gives development to business; thus, it helps achieve sustainable development. These results agree with Ye et al. (2020), which tells that some of the SDGs are health safety, peace, effective communication, justice, fair dealings, and creativity. These developmental goals are interrelated, and their attainment depends on fair, transparent, and just relations of the organizational management or other representatives with their stakeholders like the public, customers, contractors, and employees. These results match with Barbeito-Caamaño and Chalmeta (2020), which examines the impacts of the social responsibilities of firms on SDGs achievement. The study reveals that the firms which take care of their responsibilities towards the society and people who come in contact with them keep their practices fair. Their fair practices result in responsible production, responsible consumption, and decent business performance leading to the attainment of SDGs.

The results revealed that the corporate governance is in a positive but insignificant relation to SDGs achievement. The results state that corporate governance, whether it is an internal corporate control or an external one, puts the corporation on the universal standards through regulations, rules, and mechanisms. This improves and maintains the performance of all business areas and thus, helps to achieve the goals like innovativeness, industrial development, improved infrastructure, fair performance, and economic growth acceleration but this situation has not been existing in logistic firms in Malaysia. These results agree with Naciti (2019), who argues that corporate governance implements the rules and regulations based on the principles like responsibility and accountability within the organization. The execution of these rules and regulations by the organizational personnel is much beneficial to the organization, gaining not only financial development but also strengthening its bonding with the stakeholders in their circle but if the organization fails to follow them then not achieve the desired goals. These results also match with Blagov and Petrova-Savchenko (2020), which highlight that the effective implementation of corporate governance within the organization maintains the quality of resources used, work efficiency of technologies, and effectiveness of the processes applied for the production and marketing. This assists the firms to have sustainable development and help the economy achieve SDGs presented by the UN but if an organization fails to follow them then the firms also fail to achieve the desired goals.

The results revealed that innovative culture is a mediator between the environmental responsibilities the part of ESG and SDGs achievement. These results agree with Bravo and Reguera-Alvarado (2019), whose focus is on ESG and SDGs. The study reveals that ESG focuses on the consciousness and fulfillment of environmental responsibilities. Environmental responsibility motivates the firms to bring innovativeness in their behaviors, practices, and outcomes so that the outdated things may not hinder the environmental performance. The developed innovative culture, in this way, develop creativity and innovativeness in the individual personnel and is helpful for attaining SDGs which require improvement or betterment. The results showed that innovative culture is a mediator between the social responsibilities the part of

ESG and SDGs achievement. The results match with Sultana et al. (2018), which state that the ESG motivates the execution of social responsibilities that individuals or businesses have towards other linked entities. The fulfillment of social responsibilities enables the firms to implement innovative policies which establish an innovative culture within the organization. Furthermore, the innovative culture which tends to encourage innovativeness assists achieves SDGs. The results revealed that innovative culture does not a mediator between the corporate governance of the part of ESG and SDGs achievement.

## 6. Implications

The current study has much theoretical significance. It successfully contributes a lot to the theory of sustainable development. The study speaks of the presentation of SDGs by the UN-GA in an agenda for sustainable development by 2030 and examines the role of ESG with its individual parts like corporate governance, environmental responsibilities, and social responsibilities in getting SDGs. ESG is a measurement for evaluating the performance of a firm from three perspectives like environment, society, and governance, and this has been debated as a whole in the existing literature for its contribution to SDGs achievement. The present study goes into deep insight and considers the corporate governance, environmental responsibilities, and social responsibilities one by one for the SDGs achievement. The study checks the need for success in achieving SDGs for the developing country Malaysia which distinguishes a place for the study in the literature. The present article is a guideline for different entities which are concerned with the SDGs. The government and related entities whose primary duty is to lead the economy towards sustainable development have guidance from this study that they must focus on the ESG score with corporate governance, environmental responsibilities, and social responsibilities execution through suitable policies for attaining the SDGs. The firms which should contribute to the SDGs achievement and have many benefits from these goals' achievement must implement environmental responsibilities, and social responsibilities.

## 7. Conclusions and Limitations

With the increasing threats to the environment and society, the sustainable development of a country is at risk. So, present study's objective was to evaluate the role of corporate governance, environmental responsibilities, and social responsibilities, the parts of ESG score in getting SDGs, and also to check the role of innovative culture between CG, and environmental responsibilities, and social responsibilities and SDGs achievement. The supportive data for the validity of the relationship between ESG score practices like environmental responsibilities, social responsibilities, and SDGs was attained through the questionnaires from logistics enterprises of Malaysia, and the results of the study are based on this empirical data. The results showed that environmental responsibilities and social responsibilities have a positive relationship with the achievement of sustainable development goals. The results shows that when businesses are aware of their responsibilities to the climate and environment in which

they operate, they can maintain the quality of the environment for the people who live and work there. The fulfillment of SDGs is aided by enterprises' increased environmental performance as a result of a sense of environmental accountability. The results showed that the firms have an awareness of their social responsibilities form and execute their practices for the goodness of the stakeholders, which help to achieve several SDGs like peace, justice, partnership, fair work, innovation, good health, etc. The results revealed that the execution of corporate governance does not control effectively and fails to improve the firms' performance and fails to attain the SDGs to the largest possible extent. The study also found that innovative culture can be attained through ESG practices like environmental responsibilities, and social responsibilities further help in achieving SDGs.

Many limitations are associated with this study. These limitations leave the opportunity for the other authors to show their intellect by presenting a better study. First of all, it is only the ESG score with the practices like corporate governance, environmental responsibilities, and social responsibilities which have been considered for achieving SDGs. Though, corporate governance, environmental responsibilities, and social responsibilities are the factors that help achieve all the SDGs. However, these are many other factors that affect the SDGs and have considerable significance. The authors are instructed to broaden their thinking and consider maximum factors affecting the SDGs achievement. The present study seeks the mediating role of innovative culture among corporate governance, environmental responsibilities, and social responsibilities and attaining SDGs. In comparison, innovative culture helps in executing corporate governance, environmental responsibilities, social responsibilities and SDGs. So, future authors must also examine the moderating impacts of innovative culture on the relationship between corporate governance, environmental responsibilities, social responsibilities and SDGs.

## Disclosure statement

No potential conflict of interest was reported by the author.

## ORCID

Fengsheng Chien  <http://orcid.org/0000-0002-1394-4161>

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