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Research Article

Nexus between Environmental Corporate Social Responsibility and Sustainable Performance: The Mediating Role of Green Intellectual Capital

Muhammad Siffat Shah

Department of Economic and Business Science,
University of Granada, Spain
Email: syedsiffat@correo.ugr.es

Correspondence
Department of Economic and Business Science,
University of Granada, Spain
Email: syedsiffat@correo.ugr.es

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ABSTRACT

Aim of the study was to investigate the indirect effect of green intellectual capital (GIC) on relationship between environmental corporate social responsibility (ECSR) and sustainable economic, environmental and social performance. This study shows that how Successful businesses have also included corporate social responsibility (CSR) development into their common vision and acknowledged CSR as a sustainable development strategy that benefits society while also strengthening their own competitive edge. Companies are consequently becoming more concerned with environmental issues and incorporating environmental protection into their corporate social responsibility, enabling them to increase productivity while reducing waste and emissions to the greatest extent possible. In this study Survey was used to collect the primary data. Non probability convenience sampling was used. PLS-SEM was used for analysis of data. Results indicates that scales are found reliable and valid while GIC only mediates between ECSR and social sustainable performance but do not mediate between environmental and economic performance. Policy makers and managers can raise awareness about importance of ECSR and GIC to obtain sustainability.

KEYWORDS
Green Intellectual Capital, Sustainable performance, Environmental Corporate Social Responsibility, PLS-SEM

1 | INTRODUCTION

Organizations' concerns for sustainable performances, competitive advantage, environmental issues and cleaner production policies had been increased in past few years (Pham, Huang, Phan, 2019). Organizations are constantly getting pressure from consumers, customers, stakeholders, markets and law to produce eco-friendly products and services which are less harmful for environment (Pham, Tuckova & Jabbour, 2019). Environmental issues have been increased due to human negligence (Malik, Cao, Mughal, Kundi, Mughal, Ramayah, 2020). This led towards increase in pollution, environmental issues and depletion of natural resources, increase in emission of carbon dioxide gas. The increasing environmental issues led business firms to adopt socially responsible activities, environmentally responsible activities which could lead them towards competitive advantage and sustainable performance (Malik, Mughal, Azam, Cao, Wan, Zhu, Thurasamy, 2021). Apart from these concepts green intellectual capital concepts have been introduced which has positive effect on sustainable performance. This study extended literature of predictors and criterions. Scarce and sparse literature is available upon mediating role of intellectual capital. Majority of the past studies such as (Malik et al., 2020, 2021, Azam, Malik, Ren, Yuan, Mughal, Ullah, Fiaz Riaz, 2022) are conducted in manufacturing sectors as manufacturing sector is considered as major contributor of pollution, environmental issues; on the other hand, major contributor towards economy are overlooked and ignored.

Firms also need to obtain competitive advantage and sustainable performance. Organizations believed that implementing green objectives and behaving as a socially responsible firm helps to obtain sustainable performance. For this purpose, Carroll (2016) made some advancements in corporate social responsibility cited by Mughal, Jehangir, Khan, Saeed, (2020) is taken as predictor of sustainable performance. In addition, green intellectual capital as mediator is added in the current study. Corporate social responsibility has four attributes economic, legal, ethical and philanthropic responsibilities. Furthermore, corporate social responsibility encompasses a wide range of issues. corporate social responsibility is critical in developing the trust relationship between corporations and external stakeholders in the interaction between businesses as well as in establishing competitiveness for businesses. Further organizations have legal and ethical responsibilities legal means those rules of business which are available in written form while ethical which are not explained by law but explained by norms, tradition and culture of that society. Furthermore philanthropy means charity, donations given by corporate firms, organizations to raise the living standard of communities, societies and individuals is called philanthropic responsibility (Carroll, 2016; Mughal, et al., 2020; Malik et al., 2021). IC has three attributes structural, human and relational capital. When cognition and skills of employees are being used to add value is called intellectual capital.

Intellectual capital includes skills, capabilities, knowledge and potential of employees and in addition when these abilities are used to counter environmental concerns is called green intellectual capital (Malik et al., 2020). Green intellectual capital also helps the firms to obtain competitive advantage and sustainable performance. Sustainability was introduced in 1987 it is also called triple bottom line principle. There are three attributes of sustainable performance economic, social and environmental performance. As the names suggest these three attributes respectively deals with financial matters, well-being of individuals and reducing pollution (Azam et al., 2022). For sustainable performance green and socially responsible activities are essential at workplace (Azam et al., 2022). It motivates individuals to work hard and help organizations to get their goals on time.

The current study has following contributions and extended body of knowledge:

1. Scarce and sparse literature is available on combine effects of corporate social responsibility (CSR), (GIC) and SP.
2. Limited empirical evidence is available on mediating role of intellectual capital.
3. Sparse role of CSR, GIC and sustainable performance is available in manufacturing sector.
4. Limited evidence is available in perspective of Pakistan through lens of intellectual capital based view, stakeholder theory and signaling theory.

2 | LITERATURE REVIEW

2.1 | Environmental Corporate Social Responsibility (ECSR)

CSR is defined as "voluntary solution of societies' social, economic and environmental problems by organizations is called CSR" (Farrukh, Sajid, Lee & Shahzad, 2019). In addition, when organizations are willing to enhance quality

of life of communities, their well-being by providing them corporate resources is called CSR (Cheema, Afsar, Javed, 2019). CSR is one of the most ethical activities which allow organizations to directly contribute towards communities. For this purpose, organizations used different terminologies such as community services, donations, charity& philanthropy. CSR help organizations in value additions in their business, operations. The past studies conducted on CSR and firm performance shows different results, some studies reported positive and some reported negative relationship but the relationship between CSR and sustainable performance is assumed to be positive. CSR has numerous benefits for stakeholders. On the other hand, Wang Hsieh & Sarkis (2018) stated that firms must focus on multi stakeholders approach instead of single stakeholder. Corporate social responsibility main aim is to link and combine organizations' operations with social issues of societies to help communities to make progress and reduce emission of gases, make environment clean and pollution free, reuse of products and services, how to control waste of water and natural resources like energy, power etc. Through CSR firms could easily control child labor, human rights, inflation, unemployment, increase literacy rate and reduce environmental problem, community well-being, social and professional equity (Malik et al., 2021).

2.2 | Green Intellectual Capital (GIC)

As mentioned above GIC has 3 facets. Creating value in the organizations is the main aim of intellectual capital. In organizations knowledge and information exists in repositories, databases, systems, etc. in order to obtain competitive advantage and sustainable performance there is need to gather and collect knowledge and this can be done by green intellectual capital.

2.2.1 | Green Human Capital (GHC)

It is the skill and ability of an individual at workplace to protect environment. Skills, capabilities, knowledge and potential are assets of an individual and all these qualities are called green human capital. Through GHC better results and high performance workforce could be gained. Human resources are the assets of an organization and these resources help organization gain competitive advantage and sustainable performance. Once these assets are drained out the knowledge is also withdrawn from organizations. These employees are not substitutable and these are intangible assets (Malik et al., 2020).

2.2.2 | Green Relational Capital (GRC)

In this capital, organizations have to keep good relationships with suppliers, creditors, consumers, customers and all stakeholders. In hard times these stakeholders could help the organizations. These relationships led towards sustainable wealth. In past consumers were more interested in packaging and pricing; but besides these now they are also concerned about environment. Due to this fact organization now focus on customer-oriented products and services rather than goods and services focused. In green relational capital it is very essential the two parties must share knowledge and information among each other. It helps the two parties to have long term relationships (Malik et al., 2020).

2.2.3 | Green Structural Capital (GSC)

It was argued by Malik et al., (2020) HC is not enough so it is crucial to add GSC. Trademarks, logo, image and reputation of the organizations also play crucial role in achieving sustainability. Implementing green objectives is very important to achieve sustainable performance. Implementing green objectives in the organizations help to reduce cost and boost performance. Green structural capital also helps to achieve competitive advantage and sustainable performance, moreover; increase market share, new market development enhance productivity.

2.3 | Sustainable Performance

Brundtland (1987) presented concept of sustainability. TBP is second name of SP. Dealing with financial matters, reducing pollution and waste of energy and power and taking care of well-being of employees is called sustainable performance. This idea was given due to increasing concern from customers, and stakeholders. They are willing to pay more prices for eco-friendly services and goods. Due to revolution in the industries whether services or manufacturing rapid increase in issues of environment has been notices for this purpose new international laws insists organizations to take care of natural resources. It is essential to investigate the framework of the study.

2.4 | Hypotheses Development

One of the main reason our planet is facing huge climate challenge is due to human factor, negligence from human side and revolution in industrial as well as services sector is the main reason for environmental issues. On the other side manufacturing and services sectors are major contributors towards economic development of any country. Organizations are taking keen interest to initiate green activities so that with minimum resources maximum output can be achieved. This concept gets momentum after World Commission on Environment and Development (WCED) introduced sustainability concept. Organizations initiated green HRM, green CSR, green intellectual capital, green supply chain management and electronic HRM activities to reduce hard to environment and less depletion of natural resources to obtain competitive advantage and sustainable performance. Empirical investigations on the relationship between corporate social responsibility and performance have been reported in past studies (Mughal et al., 2020; Malik et al., 2021). There are positive as well as negative relationships reported between CSR and performance. In some countries investors get CSR as ethical step by organizations and they invest in those organizations who conducted CSR activities in regular basis. While some investors' thinks that CSR is an expense which comes from their profits so they do not want to invest in those activities that is the reason CSR has positive and negative relationship with sustainable performance. In this study researcher assumed that environmental CSR has positive relationship reported by Mughal, et al., 2020). On the other hand green intellectual capital and its attributes have positive relationship with sustainable performance (Malik et al., 2020). On the basis of above discussions following hypotheses are developed.

H_1: Environmental corporate social responsibility is positively related with economic sustainable performance
H_2: Environmental corporate social responsibility is positively related with environmental sustainable performance
H_3: Environmental corporate social responsibility is positively related with social sustainable performance
H_4: Environmental corporate social responsibility is positively related with Green Intellectual Capital.
H_5: Green intellectual capital is positively related with economic sustainable performance
H_6: Green intellectual capital is positively related with environmental sustainable performance
H_7: Green intellectual capital is positively related with social sustainable performance
H_8: Green intellectual capital positively mediated between ECSR and environmental sustainable performances
H_9: Green intellectual capital positively mediated between ECSR and economic sustainable performances
H_{10}: Green intellectual capital positively mediated between ECSR and social sustainable performance

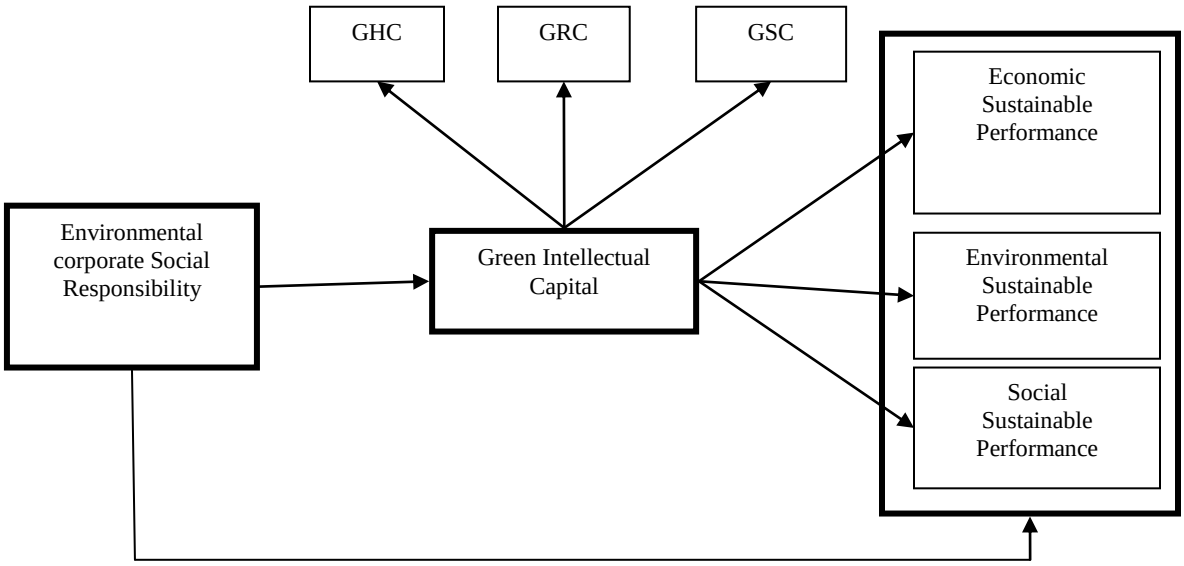

Figure 1 Theoretical Framework

3 | RESEARCH METHODS

3.1 | Population and Sampling

The current study is quantitative in nature. Unit of analysis are organizations. Manufacturing industries are conducted to know about their steps taken for reducing the environmental issues, increasing socially responsible activities and obtaining sustainable performance. For this purpose structured closed ended questionnaire was adapted from past studies. Benefit of survey is to cover big population and save time, cost and analyze big data in short time (Sekaran, 2016). Population of the study was manufacturing sector; non-probability convenience sampling technique was used to select the sample size. Factories and mills and their human resource departments, administration was contacted to collect the data. Online data was collected using Google forms.

3.2 | Measures

7 scales were used. Questionnaire of environmental CSR having four items was taken from Chang et al., (2020). GIC with eighteen items was taken from Malik et al., (2020) and sustainable performance with fifteen items was taken from Azam et al (2022) and Malik et al., (2021).

3.3 | Data Collection and Analysis

Data was collected from HR managers, and those officials who are involved in social responsible activities and community services. Those professionals having knowledge and awareness about green initiatives and their benefit are selected for data collection. Partial least square structural equation modeling (PLS-SEM) was used for analysis of data. Measurement model was developed to check convergent validity (average variance extracted and composite reliability) while discriminant validity was checked through HTMT ratios, factor loadings and Cronbach alpha was also investigated. For hypotheses testing bootstrapping in structural model was run.

3.4 | Analytical Strategy

Partial Least Square Structural Equation modeling is used (Ringle, Wende & Becker, 2015). Researchers and scholars preferred to use this software PLS-SEM (Yusliza et al., 2020). PLS-SEM is effective for small data sets and non-normal data. It is variance based software (Hair et al., 2019). Prior to test hypotheses confirmatory factor analysis (CFA) was run to check fit for measurement model. Factor loadings, composite reliability (CR), average variance extracted (AVE), Cronbach alpha are presented in Table 1. It is evident that loadings >0.7, CR>0.7, AVE>0.5 and Cronbach alpha >0.7, met the threshold we also investigated data for discriminant validity Table 2 summarized the HTMT ratios for discriminant validity.

Table 1
Confirmatory Factor Analysis

Items	Loadings	CR	AVE	α
ECSR1	0.916	0.945	0.853	0.914
ECSR2	0.938			
ECSR3	0.916			
GHC1	0.877	0.932	0.733	0.908
GHC2	0.866			
GHC3	0.876			
GHC4	0.901			
GHC5	0.753			
GRC1	0.830	0.920	0.696	0.891
GRC2	0.822			
GRC3	0.859			
GRC4	0.857			
GRC5	0.803			
GSC1	0.800	0.898	0.595	0.864
GSC2	0.715			
GSC3	0.745			
GSC4	0.716			
GSC5	0.816			
GSC6	0.829			

ESP1	0.799	0.936	0.746	0.915
ESP2	0.889			
ESP3	0.870			
ESP4	0.870			
ESP5	0.887			
ENP1	0.928	0.965	0.872	0.951
ENSP2	0.931			
ENSP3	0.945			
ENSP4	0.931			
SSP1	0.836	0.931	0.729	0.908
SSP2	0.875			
SSP3	0.881			
SSP4	0.834			
SSP5	0.841			

Table 2
Discriminant Validity (HTMT Ratios)

Variables	1	2	3	4	5	6	7
ECSR							
ENSP	0.535						
ESP	0.181	0.262					
GHC	0.575	0.415	0.113				
GIC	0.569	0.345	0.163	0.861			
GREENRC	0.343	0.080	0.158	0.460	0.858		
GSC	0.434	0.318	0.119	0.492	0.910	0.486	
SSP	0.273	0.284	0.076	0.502	0.397	0.185	0.257

Table 3 presented findings of direct effects path coefficients, it shows significant direct effect between ECSR & EP (β=0.213**, p<0.05); ECSR & ENP (β=0.446***, p<0.01); ECSR & GIC (β=0.545***p<0.01), GIC & SP (β=0.335***, p<0.01) thus found support for H_1, H_2, H_4& H_7. Table3 also presented insignificant impact of ECSR & SP (β=0.083, p>0.05); GIC & EP (β=-0.075, p>0.05) and GIC & ENP (β=0.100, p>0.05) thus we did not found support from H_3 H_5 and H_6.

Table 3
Direct Effects

Relationships	β	S.E	T	p	BLLCI	ULLCI	Support
ECSR → ESP	0.213	0.086	2.476	0.014	0.052	0.381	Yes
ECSR →ENSP	0.446	0.076	5.881	0.000	0.275	0.580	Yes
ECSR → SSP	0.083	0.093	0.898	0.369	-0.111	0.241	No
ECSR → GIC	0.545	0.056	9.799	0.000	0.423	0.637	Yes
GIC→ESP	-0.075	0.112	0.670	0.503	-0.277	0.152	No
GIC →ENSP	0.100	0.089	1.115	0.265	-0.066	0.290	No
GIC →SSP	0.335	0.092	3.655	0.000	0.178	0.533	Yes

Table 4 presents indirect effects of mediation analysis. We found support for H_{10}indirect effect of green intellectual capital on the relationship between environmental corporate social responsibility and social performance (β=0.183, p<0.01) but no support for H8 and H9 ECSR, GIC and ENP (β=0.054, p>0.05 and ECSR GIC and EP (β=-0.041, p>0.05).

Table 4
Indirect Effects

Relationships	β	S.E	T	p	BLLCI	ULLCI	Support
ECSR → GIC → ENP	0.054	0.051	1.068	0.286	-0.034	0.170	No
ECSR → GIC → EP	-0.041	0.063	0.655	0.513	-0.161	0.081	No
ECSR→GIC → SP	0.183	0.057	3.180	0.002	0.324	0.529	Yes

4 | FINDINGS AND DISCUSSION

Aim of the study was to investigate the indirect effect of green intellectual capital on relationship between environmental corporate social responsibility and sustainable economic, environmental and social performance. Environmental corporate social responsibility (ECSR) enhanced reputation of the firms, attracts the investors and talented staff, consumer attracted to those firms who behave ethically and produce eco-friendly products and services. So firms get competitive advantage and sustainable performance through ECSR. Green intellectual capital is an asset of the employee and organization. Ethically well-mannered firms get success in attracting the talented hard working staff but those employees who have awareness to reduce environmental issues also attracted towards those firms who initiated green activities and regularly conduct CSR activities to help societies to reduce their environmental issues. the findings of this study are in line with past studies of (Malik et al 2020; Mughal et al., 2020, Malik et al., 2021; Azam et al., 2022, Yusliza et al., 2020) thus hypotheses of the current study 1,2,4,7 and 10 are supported while hypotheses 3, 5, 6 8 and 9 are not supported and in line with studies of (Anwar et al., 2020).

5 | CONCLUSION

It is concluded that manufacturing firms are major source of economic development as well as contributor towards depletion of natural resources and increase in pollution and environmental issues. Therefore it is crucial that manufacturing firms in Pakistan should give awareness to their existing employees and hire those employees who have awareness to save natural resources and implement green activities. It would help firms to increase their image, reputation and good will in societies in which they operate, could attract talented staff and obtain competitive advantage and sustainable performance.

6 | POLICY IMPLICATIONS

Policy makers' environmentalists and researchers could take benefits from findings of the current study. Awareness in seminars, workshops could be raised so that manufacturing firms can implement green policies in their firms. Managers provide training to their employees to reduce waste of natural resources and get maximum output with minimum use of resources.

7 | LIMITATIONS AND FUTURE DIRECTIONS

The first limitation of the study is to small sample size and is limited to manufacturing sector. One must be careful while generalizing the findings to other sectors. Second single source of data collection it is therefore recommended to use mix methods or longitudinal data for better understanding of the subject matter. Green HRM can be used as mediator between ECSR and sustainability.

Conflict of Interest: Author declare no competing interest

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