

## **The Effect of Corporate Social Responsibility on Organizational Performance: with mediation of Green Supply Chain Management: Reference from Select Ethiopian Manufacturing Industries**

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### **Abstract**

*The impact of corporate social responsibility on organizational performance was investigated using green supply chain management as a mediator. The study used an explanatory research design. Furthermore, using a stratified random sampling technique, data were collected from 138 Ethiopian manufacturing companies involved in the leather and leather products industry, textile and garment industry, and cement industry. Data were collected via questionnaires from top-level and middle-level managers and analyzed using PLS-SEM to determine the causal relationship between constructs. The finding showed that corporate social responsibility has a significant and direct positive effect on environmental performance while its effect on operational performance was negligible. Moreover, green supply chain management partially mediates the relationship between corporate social responsibility and environmental performance. Besides, corporate social responsibility affects operational performance only through the adoption of green supply chain management practices (full mediation). As a result, primary stakeholder-based corporate social responsibility practices have a significant impact on organizational performance via the effective implementation of green supply chain management practices.*

**Keywords:** 1. Corporate Social Responsibility 2. Green Supply Chain Management 3. Organizational Performance

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### **1. Introduction**

The development of sustainable business strategies has become a trend among academics and practitioners over the last two decades. Environmental concerns are the most pressing problems for governments, environmentally aware organizations, and modern human lifestyles, so sustainable development in the world, particularly in developing countries, can be encouraged (Hsu and Hu, 2008). Due to this companies are getting more concerned about their social responsibility than in previous times. Moreover, environmental worries are forcing companies, especially manufacturing firms to reevaluate their way of production in the supply chain. Businesses are under increasing pressure from stakeholders to incorporate environmental and social issues into their corporate strategies and

decisions. Due to accelerated environmental deterioration and competitive market conditions, focusing on socially responsible and green activities can be used to boost organizational performance (Suganthi, 2019).

Corporations are responsible for their internal social and business practices as well as the environmental and social performance of their supply chains (Wang et al., 2020). A company's participation in Corporate Social Responsibility (CSR) programs can determine whether or not it has the chance to enhance its performance (Gonzalez-Benito brothers, 2008). Although companies designed CSR policies and activities to ensure social legitimacy and improve stakeholder relationships, earlier research studies on the relationship between CSR and organizational performance produced inconclusive results. Some studies, for example, show a positive link between CSR and company performance (Orlitzky et al., 2003; Tilakasiri, 2012; Busch & Friede, 2018; Zaborek, 2018; Alemu et al., 2018; Suganthi, 2020). Many other studies, on the other hand, indicate a negative link between CSR and company performance (Wagner et al., 2002), or no relationship at all between these variables (Barnett & Salomon, 2006; McWilliams & Siegel, 2000; Kesto, 2017). The direct link between CSR and organizational performance can not guarantee a hundred percent reliability, because it may be influenced by a variety of additional factors that have been overlooked by many studies and are much more complex than they appear, and there is a dearth of a thorough mediation mechanism that links CSR with outcomes (Saeidi et al., 2015).

In reaction to the increasing global environmental consciousness, Green Supply Chain Management (GSCM) has emerged as a concept that considers both environmental concerns and intra- and cross-management of customers and suppliers in the supply chain (Walker and Jones, 2012; Zhu and Sarkis, 2004). Garcia et al. (2019) asserted that companies with CSR practices have a better chance of adopting green practices than those that do not. Companies that engage in primary stakeholder-centered activities can easily adopt and produce environmentally friendly products, ultimately improving their environmental and economic performance. Sustainability is a major worry for businesses in industrialized nations with sophisticated industries, but it is also a problem for growing economies like Ethiopia, which has large-scale manufacturing plans for the future. According to World Bank research, the Growth and Transformation Plan-II (GTP II) in Ethiopia view industrialization as a key driver of growth. The development of industrial output can, however, have negative effects on the environment if it is not controlled and regulated. Although the country has a strong industrialization growth engine, manufacturers have recently tended to use outdated technology and lack waste treatment facilities (World Bank, 2017). Ethiopia's industrial sector causes pollution even at its current low level of modernization, around 90% of currently operating industries, as noted in the World Bank report, discharge their waste into adjacent water bodies (World Bank, 2017). Most factories lack standardized effluent sewage systems and their liquid waste exceeds Federal Environmental Protection Agency standards (Sima & Restiani, 2017). Furthermore, Ethiopian industrial emissions of Green House Gas (GHG) are expected to rise by 16 percent annually since 2010. (UNDP, 2011). Despite this, the baseline emission measurement carried out by the ministry of industry in 2015 showed that cement (50%), textile & garment, and leather & leather products industries together (17%) generate significant GHG emissions. The review of empirical studies in the Ethiopian context by Kesto and Ravi (2017) indicated CSR practices in Ethiopian manufacturing companies are characterized by profit maximization (economic dimension in Carroll's CSR pyramid); Alemu et al. (2018) empirically confirmed that CSR practices are haphazard and not aligned with corporate strategies, hence, the funds provided are wasted.

In general, few studies have been carried out to evaluate the impact of CSR on organizational performance via GSCM (Wang et al., 2020; Garcia et al., 2019). Although empirical shreds of evidence are scarce in the literature, no research has been conducted on the relationship between these constructs in the Ethiopian context. Therefore, this study aimed to provide empirical evidence on the effect of CSR on organizational performance (environmental and operational) with the mediation of GSCM in the select manufacturing industries of Ethiopia.

## 2. Literature Review and Hypothesis Development

### 2.1 Corporate Social Responsibility (CSR)

CSR is still controversial because of it is interdisciplinary aspects. Many scholars have made attempts to define CSR over the years, but the concept has remained elusive and ambivalent. However, the definitions fall under two paradigms; stakeholder perspective and shareholders perspective.

In the State of the Art of the Stakeholder Theory, Freeman (1984) defines Corporate Social Responsibility is a set of initiatives launched by corporations in maintaining a balance between the stakeholders for whom these institutions wish to create more value. On the contrary, according to Friedman (1970) "*the responsibility of business is to maximize profit, to earn a good return on capital invested and to be a good corporate citizenship obeying the law no more and no less*".

However, in this study, CSR implies "*a company's voluntary activities that appear to further some social good, beyond the interest of the firm and that which is required by law*". (McWilliams and Siegel, 2001:117).

The stakeholder theory expands goals beyond profit maximization to include non-shareholders rights and interests into account (Mitchel et al., 1997). This theory asserts the relationship between the organization and the stakeholders (either voluntary or involuntary, primary or secondary stakeholders. Freeman et al. (2010) primary stakeholders are "*those groups who are vital to the survival and success of the corporation*". Owners, employees, dealers, consumers, and public stakeholders like the community and the environment are considered "primary stakeholders," without "whose continuous participation the firm cannot survive as a going concern" (Clarkson, 1995, p. 106). Hillman and Keim (2001) contend that managing and enhancing relationships with key stakeholders improves not only their continuous engagement with the organization but also the firm's capability to outperform rivals through the generation of long-term value. Following studies measured CSR using Kinder, Lydenburg, Domini (KLD) data, which reflects corporate attention to various stakeholder issues, based on Clarkson's (1995) stakeholder framework (Hillman & Keim, 2001; Kacperczyk, 2009; Inoue & Lee, 2011). The four categories of KLD data listed below have been widely used. This study considered these four indicators of CSR practices toward the primary stakeholders. According to (Inoue and Lee, 2011), CSR practices toward primary stakeholders include; environmental responsibility, community relations, employee relations, and product quality (a proxy for customer relations).

### 2.2 Green Supply Chain Management (GSCM)

GSCM refers to integrating environmental considerations into operations such as green purchasing and integrated life cycle management supply chains going from end to end and closing the loop through backward logistics (Zhu and Sarkis, 2004). GSCM is considered an emerging philosophy and effective management mechanism for vigilant and forward-thinking manufacturing firms (Zhu et al., 2008). The practice of GSCM can be regarded as a win-win tactic that can improve profit and market share by reducing waste and environmental impacts while enhancing the ecological efficiency of the organization (Niliwan et al., 2010). Companies that adopted GSCM activities saw financial benefits (saving resources, consuming less energy and water), a better reputation, and reduced environmental losses (Wisner, 2011). According to Zhu et al. (2008), GSCM crosses all organizational and departmental barriers, and this cooperation and communication are crucial to effective environmental practices. Five frequent GSCM activities are taken into account by corporations when beginning to implement such practices in their supply chains, according to Zhu et al. (2008). These include internal environmental management, eco-design, collaboration, green buying, and investment recovery.

### 2.3 Organizational Performance

There has been much empirical research regarding the association between environmental initiatives and organizational performances (Christman, 2000; Wagner et al., 2001) and the debate is still open. By implementing GSCM practices, companies may be improving their environmental performance by reducing waste and emissions, decreasing consumption of energy, and hazardous materials as well as improving the economic and operational performances by reducing costs, increasing market share, profits, and production efficiency (Garcia et al., 2019). In this study organizational performance includes environmental and operational performance aspects. According to

Zhu et al. (2008), Environmental Performance refers to a manufacturing plant's capacity to reduce air emissions, effluent waste, solid waste, and the consumption of hazardous and toxic materials. On the other hand, the manufacturing plant's capacity to create and deliver goods to clients more effectively is referred to as operational performance.

#### **2.4 CSR and Organizational Performance**

Mishra and Suar's (2010) survey of Indian manufacturing companies revealed engagement towards primary stakeholders has improved the company's performance by increasing their revenue or reduction of the cost that helps to achieve a win-win situation with its stakeholders by being "stakeholder-sensitive" than "business-sensitive". Inoue and Lee (2011) and Mwangangi, (2018) conclude organizations can gain a different degree of competitive advantage and financial benefits by engaging in specific primary stakeholder issues. The result revealed the mixed impact of CSR on a company's performance depends on their attention to appropriate primary stakeholders. Chebet and Muturi (2018) revealed philanthropic and ethical activities contribute more to the improvement of organizational performance. Similarly, Boulouta&Pitels (2014), suggested that businesses that engage in CSR activities connected to the community, the environment, consumers, and suppliers, would likely be able to improve their business, environment, and societal outcomes. Zaborek (2018) confirmed aggressive firms concerning CSR practices showed high operational performance. Suganthi (2020) investigated CSR and market, cost, and environmental performance relationships. Businesses that want to start or remain competitive in the global market should adopt CSR policies since they significantly improve the market, cost, and environmental performance. Tilakasiri (2012) on the contrary, confirmed that stakeholder-oriented CSR activities have no significant relationship with company performance. According to Kesto (2017), in the context of Ethiopia, CSR practices have little bearing on the financial viability of banks.

Accordingly, the following hypothesis is put forth;

***H<sub>1</sub>: CSR practices affect environmental performance***

***H<sub>2</sub>: CSR practices affect operational performance***

#### **2.5 Mediation of GSCM**

GSCM is one organizational strategy for reducing the burdens or adverse consequences of a company's operations on the environment (Zhu et al., 2008; Wang et al., 2020). In their study, Garcia et al. (2019) discover that CSR has a substantial impact on the adoption of GSCM practices in Guatemalan manufacturing firms. Furthermore, the adoption of CSR practices that prioritize main stakeholders lays a strong platform for the adoption of further environmentally focused initiatives like GSCM that can improve economic and environmental performance but not operational performance.

Wang et al. (2020) provide empirical support on the implementation of GSCM in Chinese manufacturing firms is positively impacted by internal CSR practices for employees and external CSR for external stakeholders. Therefore, businesses must view GSCM implementation favorably since it enables them to address global environmental issues and meet the expectations of external stakeholders, which eventually improves their performance.

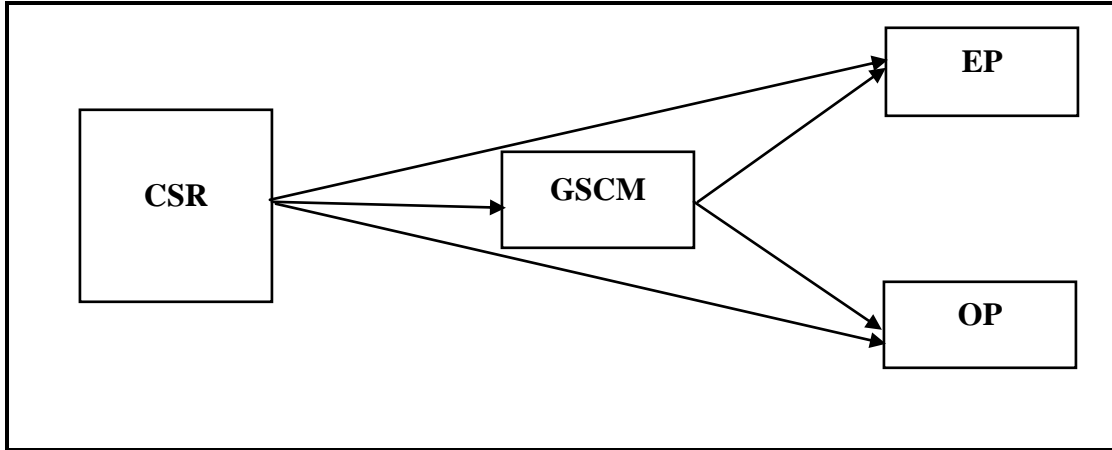
According to Suharnomo's (2017) research, CSR has a favorable, considerable impact on corporate performance both directly and indirectly through social collaboration and green innovation. Companies that implement CSR initiatives and those that include it in their corporate strategies improve their performance by bringing about positive social, environmental, and financial effects. By implementing green innovation, businesses can generate environmentally safe products, minimize pollution, enhance their reputation, strengthen their competitive edge, and ultimately improve organizational performance.

In light of the resource-based view, Kraus et al. (2020), their study investigated the association between CSR & environmental performance through environmental strategy & green innovation. The finding confirmed that CSR has an indirect significant effect on environmental performance through environmental strategy & green innovation by reducing material usage, energy usage, air pollution, and consumption of hazardous materials.

***H<sub>3</sub>: GSCM mediates the relationship between CSR and environmental performance of selected manufacturing industries.***

*H<sub>4</sub>: GSCM mediates the relationship between CSR and operational performance of selected manufacturing industries*

**Conceptual Framework**



**Figure 1: Conceptual Framework of the study**

*Note: CSR-Corporate Social Responsibility, GSCM-Green Supply Chain Management, EP- Environmental Performance, OP-Operational Performance*

**3 Research Method**

**3.1 Research Design**

This study was designed to investigate the effect of CSR on Organizational Performance with the mediation of GSCM in select Ethiopian Manufacturing industries. The study employed an explanatory research design to examine the causal relationship among these constructs.

**3.2 Data Source and Instrument**

Primary data were collected from top-level and middle-level managers using a questionnaire from leather and leather products industry, textile and garment industry, and cement industry. A five-point Likertscale (1-“strongly disagree” to 5- “strongly agree”) used by Inoue & Lee (2011) and Turker (2009) was adapted to measure CSR practices. Environmental responsibility, community relations, employee relations, and product quality (a proxy for customer relations) were dimensions of CSR. GSCM practices were evaluated using items adapted from Zhu et al. (2008) to assess the level of adoption of GSCM with a five-point Likert scale (1-“not considering it”, 2-“planning to consider it”, 3-“considering it currently”, 4-“initiating implementation”, and 5-“implementing successfully”). Internal environmental management, green purchasing, cooperation with customers for environmental requirements, eco-design, and investment recovery were dimensions of GSCM. Components of Organizational Performance were measured using Zhu et al. (2008) five-point Likert scale (1-“not at all”, 2-“a little bit”, 3-“to some degree”, 4-“relatively significant”, and 5-“significant”). Organizational Performance was represented by Environmental Performance (EP) and Operational Performance (OP) achievements.

**3.3 Sampling Design**

From the total population of 204 firms in the above three industries, 143 firms were taken as samples which represent 70% of the total population. Specifically, 58 out of 82companies engaged in the leather and leather products industry, 72 out of 103 firms inthe textile & garment industry, and 13 out of 19 factories engaged in cement industries were used as a sample for the study. The study used a two-step sampling approach. First, stratified-random sampling was used to select sample organizations from respective strata (industry type), and second,

purposive sampling was applied to select specific top and middle-level managers who have adequate knowledge. The study employed cross-sectional data collected from 347 respondents in 138 companies. The researcher considered multiple respondents from each company to collect reliable data. All the distributed questionnaires for companies in the leather & leather products industry and textile & garment industry were collected, while only 8 cement factories returned the filled questionnaire. Hence, the response rate was 96.5%.

**3.5 Data Analysis**

To evaluate the causal link among latent variables, Partial Least Square based Structural Equation Modelling (PLS-SEM) was employed with SmartPls software version 4.0. The statistical tool for analysis was used once all of the statistical tests and presumptions were verified.

**4 Result and Discussion**

In this section of the study, proposed hypotheses are tested and interpreted with a detailed explanation of each aspect. For discussion and analysis using PLS-SEM, two steps of the measurement and structural model were evaluated first.

**Measurement Model**

CSR and GSCM were considered high-order constructs whereas environmental and operational performances were lower-order constructs. CSR has four dimensions with respective indicators, and GSCM has five dimensions with respective indicators. Environmental performance and Operational performance are lower-order constructs with their respective indicators. Therefore, a higher-order reflective-reflective model was applied because of two layers; one from indicators to dimensions, and another from dimensions to respective latent variables (Hair et al., 2017). Although lower-order and higher-order validation of constructs have been done, in this case only validation for higher-order constructs were presented.

Before the structural model, the factor loading, multi-collinearity, reliability, and validity of the measurement model were evaluated. As presented in table 1, indicator OP2 with loading below 0.40 was immediately rejected since it affects the reliability and validity criteria. All construct indicators' factor loadings are higher than the minimum permitted value of 0.70 (Hair et al., 2019). Because the results were already over the suggested threshold, the removal of the items (GSIR, loading =0.658, and OP3, loading of 0.648) would not have substantially enhanced internal consistency and AVE in the current study. Comparably, it is important to investigate the collinearity between indicators. According to Hair et al. (2019), multi collinearity is not a serious issue, if the Variance Inflation Factor (VIF) value is under 5. The VIF values for every indicator in the study showed that they are all below the suggested target value of 5. This information is provided in Table 1. As a result, collinearity is not a problem.

**Table 1. Factor Loadings, Reliability, and Validity**

| Variables | Indicators | Loading | VIF   | Alpha        | CR           | AVE          |
|-----------|------------|---------|-------|--------------|--------------|--------------|
| CSR       | CSRE       | 0.806   | 1.652 | <b>0.804</b> | <b>0.872</b> | <b>0.630</b> |
|           | CSRER      | 0.840   | 1.946 |              |              |              |
|           | CSRRCR     | 0.797   | 1.720 |              |              |              |
|           | CSRPR      | 0.728   | 1.572 |              |              |              |
| GSCM      | GSIEM      | 0.879   | 2.805 | <b>0.865</b> | <b>0.903</b> | <b>0.653</b> |
|           | GSGP       | 0.800   | 2.182 |              |              |              |
|           | GSCC       | 0.880   | 2.699 |              |              |              |
|           | GSED       | 0.796   | 1.987 |              |              |              |
|           | GSIR       | 0.658   | 1.587 |              |              |              |
| EP        | EP1        | 0.781   | 1.919 | <b>0.872</b> | <b>0.903</b> | <b>0.608</b> |
|           | EP2        | 0.824   | 2.249 |              |              |              |
|           | EP3        | 0.767   | 1.908 |              |              |              |

|    |     |       |       |              |              |              |
|----|-----|-------|-------|--------------|--------------|--------------|
|    | EP4 | 0.720 | 2.057 |              |              |              |
|    | EP5 | 0.755 | 2.096 |              |              |              |
|    | EP6 | 0.827 | 2.028 |              |              |              |
| OP | OP1 | 0.770 | 1.765 | <b>0.860</b> | <b>0.899</b> | <b>0.643</b> |
|    | OP3 | 0.648 | 1.458 |              |              |              |
|    | OP4 | 0.861 | 2.025 |              |              |              |
|    | OP5 | 0.859 | 3.234 |              |              |              |
|    | OP6 | 0.848 | 3.106 |              |              |              |

Source: Survey, 2021

Note: CSR- Corporate Social Responsibility, CSRE-environmental responsibility dimension, CSRER-employee relations dimension, CSRCR-community relations dimension, CSRP-product quality dimension  
 GSCM- Green Supply Chain Management, GSIEM-internal environmental management dimension, GSGP-green purchasing dimension, GSCC-cooperation with customers for environmental requirements dimension, GSED-eco-design dimension, GSIR-investment recovery dimension  
 EP- Environmental Performance, OP-Operational Performance  
 CR-Composite Reliability, AVE- Average Variance Extracted

Both Cronbach's alpha and CR criteria were used to evaluate the constructs' reliability (Hair et al., 2019). As shown in table 1, Cronbach's alpha and CR measures indicate all the constructs have a value above the minimum target value of 0.70. This confirmed that the constructs are reliable. On the other hand, convergent validity can be measured using AVE criteria. All of the AVE values presented in table 1 are above 0.50 which implies convergent validity is well established.

On the other hand, using the Fornell and Larcker and Hetrotrait-Monotrait ratio (HTMT) criterion, discriminant validity can be evaluated (Bagozzi et al., 1991, p. 425).

**Table 2. Discriminant Validity**

| Fornell and Larcker Criterion         |              |              |              |              |
|---------------------------------------|--------------|--------------|--------------|--------------|
|                                       | CSR          | GSCM         | EP           | OP           |
| CSR                                   | <b>0.794</b> |              |              |              |
| GSCM                                  | 0.505        | <b>0.808</b> |              |              |
| EP                                    | 0.448        | 0.535        | <b>0.780</b> |              |
| OP                                    | 0.331        | 0.427        | 0.545        | <b>0.802</b> |
| Hetrotrait-Monotrait (HTMT) Criterion |              |              |              |              |
|                                       | CSR          | GSCM         | EP           | OP           |
| GSCM                                  | 0.580        |              |              |              |
| EP                                    | 0.501        | 0.604        |              |              |
| OP                                    | 0.381        | 0.475        | 0.612        |              |

Source: Survey, 2021

Note: In Fornell and Larcker Criterion, Bold and Italics represent the Square-root of AVE

A variable shares more with its linked items than it does with any other variable, according to the rationale behind Fornell and Larcker criterion (Fornell and Larcker, 1981; Hair et al., 2017). According to this criteria, a construct's square root of AVE presented in table 2 (bold and italics values in the diagonal position) was stronger than its association with other constructs. Hence, the discriminant validity requirement is well established. Similarly, the HTMT ratio is also used to establish discriminant validity. Hence, Kline (2011) recommended a 0.85 or lower threshold. Hence, as shown in table 2, the HTMT ratio is less than the required values and discriminant validity criteria are satisfied.

**5 Structural Model(Hypothesis Testing)**

After the assessment of the measurement model, testing the proposed hypothesis will follow. The size and significance of structural relationships among constructs were done using a bootstrapping procedure with a 95% confidence interval.

***H<sub>1</sub>. CSR practices affect EP***

As shown in table 3, socially responsible practices have a significant statistical relationship with environmental performance ( $\beta=0.197, t=2.954, p=0.003$ ). As a result, the notion that CSR has a significant and favorable effect on environmental performance is endorsed.

**Table 3. Direct effect of CSR on EPand OP**

| Paths                    | Beta-Coefficient | t-values | p-values | Result        |
|--------------------------|------------------|----------|----------|---------------|
| H <sub>1</sub> .CSR->EP  | 0.193            | 2.912    | 0.004*   | Supported     |
| H <sub>2</sub> . CSR->OP | 0.104            | 1.739    | 0.082    | Not Supported |

Note:\* significant @0.05

This implies that a one-unit change in CSR practices will bring a 19.3 percent increase in the environmental performance of the companies under study. According to the findings of this study, socially responsible activities in the areas of employee relations, community development, product quality, and environmental responsibility result in lower levels of air pollution, liquid waste, and waste materials, a decrease in the consumption of hazardous materials, a decrease in the intensity of environmental accidents, and betterment in the environmental situations of the companies engaged in leather, textile, and cement industries. This research finding is similar to Mishra and Saur (2010), Inoue and Lee (2011), Tilakasiri (2012), Suharnomo (2017), Chebet and Muturi (2018), and Suganthi (2020). In their findings, Mishra and Saur (2010), firms' engagement with each of their primary stakeholders has improved their performance by increasing revenue or lowering costs. CSR practices on stakeholders do have a significant and positive impact on Kenyan manufacturing firms' performance (Mwangangi, 2018).

***H<sub>2</sub>. CSR practices affect OP***

As shown in table 3, the correlation between CSR and operational performance is not significant ( $\beta=0.104, t=1.739, p=0.082$ ). This means socially responsible activities toward primary stakeholders in the select Ethiopian manufacturing industries have no contribution to their operational performance. This research finding is different from that of Zaborek (2018), firms that are aggressive in their CSR practices can enhance their operational performance. This may be because of CSR in developing countries like Ethiopia in which companies' engagement in such practices is fragmented and followed a reactive than aggressive approach. CSR practices designed proactively by manufacturing firms help to improve their operational performance. However, in developing countries where proactive measures are not in place, socially responsible practices may not provide benefits in terms of prompt shipment of materials, a reduction in the level of inventories, a decline in the scrap rate, an increase in the quality of product, and an improvement in production levels. Moreover, CSR activities were implemented for the sake of meeting the requirements expected from stakeholders.

***H<sub>3</sub>. GSCM mediates the association between CSR and EP.***

Table 4 shows that CSR has a favorable and substantial indirect effect on EP via GSCM ( $H_3: \beta=0.188, t=5.117, p=0.000$ ). Furthermore, even with the presence of GSCM, the direct effect of CSR on EP was still favorable and significant ( $\beta=0.193, t=2.912, p=0.004$ ). Moreover, the total effect of CSR on EP was positive and statistically significant ( $\beta=0.381, t=8.825, p=0.000$ ). This suggests that GSCM may play a role in mediating the relationship between CSR and EP. Hence, H3 was supported. Companies' CSR practices toward primary stakeholders (local community, environment, employees, and customers) lead to improved environmental performance via



GSCM. The more environmentally friendly their internal and external practices, the better their environmental performance. This result corresponds with that of Garcia et al. (2019).

**Table 4. Mediation Analysis**

**CSR-Corporate Social Responsibility, GSCM-Green Supply Chain Management, EP-Environmental**

| Direct Effect (CSR->EP) |         |         | Indirect Effects of CSR on EP   |         |         |         | Total Effects (CSR->EP ) |         |         |
|-------------------------|---------|---------|---------------------------------|---------|---------|---------|--------------------------|---------|---------|
| $\beta$                 | t-value | p-value | Path                            | $\beta$ | t-value | p-value | $\beta$                  | t-value | p-value |
| 0.193                   | 2.912   | 0.004   | H <sub>3</sub> . CSR->GSCM ->EP | 0.184   | 5.006   | 0.000   | 0.381                    | 8.828   | 0.000   |
| Direct Effect (CSR->OP) |         |         | Indirect Effects of CSR on OP   |         |         |         | Total Effects (CSR->OP ) |         |         |
| $\beta$                 | t-value | p-value | Path                            | $\beta$ | t-value | p-value | $\beta$                  | t-value | p-value |
| 0.104                   | 1.739   | 0.082   | H <sub>4</sub> . CSR->GSCM->OP  | 0.146   | 4.056   | 0.000   | 0.250                    | 6.280   | 0.000   |

*Performance, OP-Operational Performance*

**H<sub>4</sub>. GSCM mediates the association between CSR and OP.**

Another mediation analysis was carried out to assess the role of GSCM in mediating the relationship between CSR and OP. Table 4 shows that CSR has a favorable and significant indirect effect on OP via GSCM (H<sub>4</sub>:  $\beta=0.146$ ,  $t=4.056$ ,  $p=0.000$ ). In the presence of the mediator, however, the direct effect of CSR on OP was negligible ( $\beta=0.104$ ,  $t=1.739$ ,  $p=0.082$ ). Furthermore, the total effect of CSR on OP was positive and statistically significant ( $\beta=0.250$ ,  $t=6.280$ ,  $p=0.000$ ). This indicates that GSCM completely mediates the relationship between CSR and OP. As a result, H<sub>4</sub> was approved. The GSCM practices of select Ethiopian manufacturing industries in this research mediate the association between their CSR practices and OP. Therefore, this relationship is fully dependent on GSCM practices. The CSR practices of Ethiopian manufacturing firms towards their primary stakeholders do not have an impact on the timely delivery of goods, inventory levels, scrap rates, and capacity utilization without the involvement of environmentally safe activities. Similarly, Jabbour et al. (2015) support developing environmental programs and adopting cleaner production techniques in their supply chain can improve OP by fostering strong collaboration with suppliers and customers.

**6 Conclusion and Suggestions for further research**

**6.1 Conclusion**

CSR practices aimed at primary stakeholders improve the environmental performance of Ethiopian manufacturing firms engaged in cement, textile & garment, and leather & leather products industries. CSR programs for primary stakeholders reduce air pollutants, liquid waste, and waste materials, as well as the usage of harmful substances, the probability of environmental disasters, and the environmental situations of businesses. Furthermore, GSCM practices serve as a link between CSR and environmental performance. The more GSCM practices that are implemented in the whole supply chain, the better the environmental performance of the companies will be. On the other hand, socially responsible activities toward primary stakeholders have no direct impact on operational performance. However, CSR practices have a positive impact on the operational performance of Ethiopian manufacturing industries via GSCM practices. GSCM practices have the potential to increase the timely delivery of products, decrease stock levels and wastages, and improve product quality and capacity utilization. Therefore, the manufacturing industries of Ethiopia especially those engaged in the above sectors have to adopt environmentally conscious practices in their supply chain that enhance their environmental and operational performance. Moreover, primary stakeholder-oriented CSR practices can encourage these industries to adopt GSCM practices that can assure long-term sustainable performance.

## 6.2 Suggestions for Further Research

Future studies should also compare the practice of CSR and GSCM and their effect on organizational performance across different industries, other developing countries, and developed countries. Finally, future researchers can conduct a detailed investigation using the dimensional components of CSR and GSCM variables.

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