The Effect of Green Supply Chain Management on Customer Effectiveness in the Presence of Environment Orientation and Supply Chain Orientation

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Abstract: The purpose of the study is to define the effect of environment orientation on GSCM, to discuss the supply chain orientation on GSCM, to determine the effect of GSCM on customer effectiveness and the mediating role of GSCM between environment orientation, SCO and customer effectiveness. This is a quantitatively study and 5point Likert scale is used to collect the data. Random sampling technique is used on the 200 respondents from Indonesia manufacturing firms. PLS3 is used to analyze the data. This study concludes that customer effectiveness can be enhanced though the perception of taking environmental friendly steps from the organization. HR plays the pivotal role in this regard in forming the strategy to boost the GSCM.

Keywords: environment orientation, supply chain orientation, green supply chain management, customer effectiveness,

1. Introduction

The essential objective of the most organizations is to make and sustain value of competitive edge [1]. Since the mid-1990s, specialists have found that “supply chain management” (SCM) assumes a critical job in helping firms enhance performance [2]. “Supply Chain Management” is the important management of resource streams among individuals from “the upstream and downstream supply chain” [3]. [4] Stated that the objective of SCM is enhancing the overall organizational performance in the chain. According to [5] stated that to make value, supply chains should be overseen proactively that makes procedures and shared objectives among the supply chain individuals. [6] Discussed that without doubt, study underpins the possibility that proactive SCM may speak to a "competitive weapon" in the business atmosphere, and one can convey an incentive for the firm. Inside SCM request, experts have started to look at the effect of SC tasks on the common environment [7]. [8] stated that environmental Practice in SCM are for the most part included activities that decrease or wipe out waste and contamination, take out risky materials, think through PLC, researcher provides environmental performance, stress consistence, limit the environmental effect of the association’s tasks, and cure environmental issues. Fundamentally, practices of GSCM on limiting the ecological effect of the advancing and opposite streams of the SC, while making financial esteem and inferior expense for the firm [9]. By way of it may, the absence of research suggests that associations between environment practice in “Supply Chain Management” and customer effectiveness are not altogether inspected and that progressively exact testing is important to examine extra regions of the subject. This has prompted a proceeding with discussion in the study in regards whether green SCM practices can prompt the higher customer effectiveness. In this way, the motivation behind this study is to apply the resource based view (RBV) hypothetical based to an examination of connections among “green SCM, environmental orientation (EO), and supply chain orientation and customer effectiveness”. The purpose of the study is to define the effect of environment orientation on GSCM, to discuss the supply chain
orientation on GSCM, to determine the effect of GSCM on customer effectiveness and the mediating role of green SCM between environment orientation, SCO and customer effectiveness.

2 Literature Review

2.1 Environment Orientation (EO)

In particular, an “environmental orientation” is characterized as “the acknowledgment by administrators of the significance of environmental issues confronting their organizations” [10]. Experimental research has discovered that an “environmental orientation” prevails in the organization with the help of two essential measurements [11]. The first is inside centered. An inside centered OE shows a company's inward qualities, measures of moral conduct, and responsibility to environmental beliefs over every single various leveled dimension of the firm [11].

Organization with an inside centered “environmental orientation” impart moral conduct to the atmosphere over the diverse territories of the organization and think about ecological destinations as characteristic to their financial objectives [12]. [11] further discussed that an inside centered EO is helped by business management and includes decisions identified with the generation and dispersal of environmental data all through the organization, communication of ecological statements of purpose, the arrangement of ecological supervisors, and the execution of ecological ventures.

The second measurement is based on supervisors’ view of outer powers and the need to react to partner interests. An externally involved in EO is a company culture that endeavors to simultaneously make a positive ecological and monetary business image to partners [13]. The catalyst of an externally engaged EO is a part of the bigger objective of authenticity according to partners, thought about one of the most powerful helpers of corporate activity toward enhancing its environmental obligation [13].

The RBV worldview clarifies that an environmental orientation is a vital resource on the bases of an environmental orientation is both important and no substitutable; consisting on abilities, tacit knowledge, subject to groups of individuals, and it is explicit to a specific firm [12]. According to [14] organization that receive this orientation recognize the significance of ecological duty in achieving monetary objectives and destinations.[15] consider the formation of an ecologically delicate business culture as basic to take care of partner inclinations and demand. [15] Further found that an EO, as showed by the components of an inside and an outside EO, is decidedly identified with the production of significant business strategies, marketing and abilities.

2.2 Supply Chain Orientation (SCO)

“Supply Chain Orientation” is the logic of “Supply Chain Management”, and is characterized as: “the acknowledgment by an organization of the foundational, key ramifications of the strategic exercises associated with dealing with the different streams in a supply chain” [16].

SCO is a mix of social and vital ideas.[15] depict that SCO organization as ones that comprehend the key significance of making and sustaining a logical position toward the significance of shaping basic associations with the individuals from the “upstream and downstream Supply Chain”.

[5] Suggest that the “supply chain orientation” organization should display various essential inside conducts. The components incorporate trust, responsibility, helpful standards, organizational similarity, and best management help. It is found exact help for these elements, the presence of which improve or obstruct “supply chain orientation” and eventually add to the ownership of “supply chain orientation” in the organization [5].

Trust is characterized as the nature to regard and depend on a colleague with certainty. Trust is made out of both validity and kindheartedness [17]. Believability is the trust by one group that another group will convey on guarantees that it consented to and satisfy any comprehended or expressed commitments. [5] Considered that a company's trust that its colleagues are keen on the wellbeing of the organization and would not take activities that might be damaging to the organization [5].

[5] Put the responsibility is the understanding that the two groups in a business association want to proceed
and esteem the association into the future. A firm is focused on an association with another individual from the supply chain if the firm will take part in the risk and rewards that might be acknowledged because of the relationship.

Helpful standards leads to the view of the joint endeavors of supply chain individuals to move in the direction of individual organizational objectives while refraining from artful activities [18]. Firms that effectively cooperate with different individuals from the supply chain toward characterized destinations will encounter agreeable standards through the procedure of common acknowledgment and regard [19].

[20] Argued that resource based view explains that the upside of a vital resource may be recognized by the consequences of applying the capitals in a way that is applied in the firm. “Supply chain orientation” is an empowering business culture that prompts “Supply chain management”. Observational examinations indicate help for the association among “Supply chain orientation” and higher organization performance. “Supply chain orientation” connected to organization performance, through “Supply chain management”. [5] Stated that “Supply chain orientation” had an immediate association to enhancing organization performance [5].

2.3 Green Supply Chain Management (GSCM)

“Green supply chain management” is characterized as the intra-and between top management of “the upstream and downstream supply chain” for limiting the generally speaking ecological effect of both forward and opposite streams [21]. GSCM practices into five essential measurements: “interior environmental management, green obtaining, eco-plan, participation with customers and investment recovery”. The five elements of GSCM practices recognize it from the customary meanings of “Supply chain management”.

2.3.1 Inside Environmental Management

The inside environmental management measurement identifies with the activities, procedures and strategies set up that helps the generally speaking environmental targets of a firm [22][46-50]. The activities of best and center administration are vital to associate the objectives and destinations of “Supply chain management”. [12]. Inward ecological procedures are intended for diminishing wasteful aspects by organizing building, quality, and advertising divisions, and the whole supply chain as an expansion of aggregate quality management [22].

2.3.2 Green Purchasing

Green obtaining and participation with customers are vital segments of GSCM and shows the significance of “upstream and downstream” connections in the SC [23]. According to [24] organizations need to incorporate providers as a major aspect of the usage of ecologically solid practices for materials management and acquiring procedures and methods, commensurate to "greening" the provider. [25] Said that providers are viewed as key supplier that can help the central company's ecological activities to help in enhancing the ecological performance of the SC. GSCM additionally includes considerate the requests of the end purchaser, which is basic to making an incentive in the SC.

2.3.3 Eco-plan

According to [26] Eco-plan or structure for the situation is a important thought in GSCM as about 80% of the lifespan cost of an item is guaranteed amid its plan stage. Organizations perceive that items planned in light of life cycle contemplations can prompt cost investment funds for the duration of the item life through "less material, less waste, and lower transfer and re-claiming charges".

2.3.4 Collaboration with Customers

[21] discussed that GSCM additionally includes considerate the requests of the end purchaser, which is basic to making an incentive in the SC. Working with consumers to make items and bundling that are less significant on the situation – called eco-plan - makes a double preferred standpoint for the firm: diminished material costs and higher purchaser fulfillment.

2.3.5 Investment Recovery (IR)

[27] Discussed that “Investment Recovery” is considered a customary “Supply chain management” process. According to [28] IR
into items which are viewed as GSCM practice as it catches both waste and resources that could some way or another be put into landfills. Closed SC can be utilized to oversee item end-of-life and IR forms. Closed SC plans are the obvious management of items in the forward SC and the opposite SC through item returns for “remanufacturing, revamping, recycling, or transfer” [29].

2.4 Customer Effectiveness

[30] Stated that effectiveness is an appraisal of the degree to which objectives have been achieved by the organization.[31] estimating SC effectiveness is the examination between how well objectives and targets are achieved versus the expressed dimension of the set objective or goal. At last, enhancing effectiveness equals to the focal point of in general income upgrade. Income improvement is dependent on serving customers at the most elevated amount conceivable, given key objectives and cost requirements. [32] Said that customer benefit destinations are cultivated through the effect on item accessibility, satisfaction time, process duration and comfort, and the capacity of the company’s SC to deal with troublesome or nonstandard requests and crises. Customer benefit goals are likewise cultivated when customer esteem is made. [33] Discussed that in this manner, effectiveness is viewed as a consumer-driven performance objective, where the organization and its SC can convey items to the end purchaser in a way that makes customer esteem and fulfillment [33].

2.5 Relationship among the Factors

2.5.1 Environmental Orientation – GSCM Link

[20] Used RBV to depict the effect of a fundamental ecological business culture in an organization as one that reinforces the greatness of practicing of green management in the SC. Experimental proof that a proactive green way to deal with SCM impacts the production of green management practices [34]. Besides, a similar report discovered firms that perceive the significance of incorporating ecological strategies into the business culture, likewise perceived the possible organization performance profits that are conceivable through the recognizable proof and utilization of GSCM practices. Along these lines, an EO as an antecedent to GSCM.

2.5.2 SCO – GSCM Link

SCM joins firms together with their supply chain stakeholders and SCO is fundamental as the basic rationality for powerful SCM. [35] argued that community oriented connections and banding together with supply chain individuals encourage the presentation of GSCM practices in the firm. In this way, SCO as a reasoning of deliberately connecting procedures and streams all through the supply chain with the association of supply chain individuals is required for the usage of GSCM practices also [36]. Thus, SCO works as an antecedent of GSCM.

2.5.3 GSCM – Customer Effectiveness Link

SCM has been appeared to enhance customer administration and customer fulfillment, all things considered esteemed customer effectiveness [16]. GSCM practices have likewise been connected to customer effectiveness. Banding together with upstream (providers) and downstream (customers) supply chain individuals to create and actualize GSCM practices is connected to cost, a proportion of proficiency, yet additionally with quality, conveyance, and adaptability, proportions of effectiveness [37].
Hypothesis

H1: There is a positive relationship between Environment Orientation and Green Supply Chain Management

H2: There is a positive relationship between Supply Chain Orientation and Green Supply Chain Management

H3: There is a significant relationship between Green Supply Chain Management with the Customer Effectiveness

H4: There is a significant mediating role of Green Supply Chain Management between Environment Orientation and Customer Effectiveness

H5: There is a significant mediating role of Green Supply Chain Management between Supply Chain Orientation and Customer Effectiveness

3. Methodology

This is a cross-sectional study. Quantitative techniques were made to obtain the study objectives. Data were collected from the Green supply chain (GSC) companies in Indonesia. Employees of these companies were selected as the respondents for this study. [38] Presented sample in a series for inferential statistics. “Sample having less than 50 participants will observed to be a weaker sample; sample of 100 size will be weak; 200 will be adequate; sample of 300 will be considered as good; 500 very good whereas 1000 will be excellent”. Therefore, in the current study 200 sample size was selected. Survey questionnaire was used to collect the data from tourism management companies of Indonesia. Questionnaires were distributed by using simple random sampling. Hence, 200 questionnaires were distributed among the employees of manufacturing sectors of Indonesia. Moreover, 5-point Likert scale was used to analyze the data. Moreover, Smart PLS 3 was used to analyze the data. The response rate from respondents is given in below Table.
Table 1: Response Rate

<table>
<thead>
<tr>
<th>Responses</th>
<th>Frequency Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questionnaire Distributed</td>
<td>200</td>
</tr>
<tr>
<td>Questionnaire Returned</td>
<td>181</td>
</tr>
<tr>
<td>Useable Questionnaire</td>
<td>173</td>
</tr>
<tr>
<td>Response rate before entering data in %</td>
<td>87 %</td>
</tr>
</tbody>
</table>

4. Data Analysis

4.1 Measurement Model Assessment

In this study, smartPLS3 is used to measure the model. Factor internal consistency process, Composite reliability, average variance extracted (AVE) and Cronbach's alpha have been measured. Fig. 2 shows the measurement model assessment. The results of measurement model assessment have been given in Table 2. The results show that all the items had a factor loading more than 0.70. No items having value in the factor loading below 0.70 but above 0.60. Internal consistency has been attained as the factor loading is more than 0.50 approving the convergent validity. AVE and Composite reliability have also been more than satisfactory range 0.70 and 0.50, respectively. The external consistency, furthermore, for the discriminant validity used the Fornell and Larcker (1981) criteria to approve. Table 3 exhibits the results of discriminant validity.

Table 2: Cronbach’s alpha Factor Loading, Composite reliability and average variance extracted

<table>
<thead>
<tr>
<th>Construct</th>
<th>Indicators</th>
<th>Loading</th>
<th>Cronbach’s alpha</th>
<th>Composite Reliability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Orientation</td>
<td>EO1</td>
<td>.823</td>
<td>.761</td>
<td>.772</td>
<td>.632</td>
</tr>
<tr>
<td></td>
<td>EO2</td>
<td>.825</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EO3</td>
<td>.842</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EO4</td>
<td>.861</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Chain Orientation</td>
<td>SCO1</td>
<td>.834</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SCO2</td>
<td>.861</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SCO3</td>
<td>.849</td>
<td>.864</td>
<td>.875</td>
<td>.647</td>
</tr>
<tr>
<td></td>
<td>SCO4</td>
<td>.834</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SCO5</td>
<td>.868</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Supply Chain Management</td>
<td>GSCM1</td>
<td>.881</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GSCM2</td>
<td>.768</td>
<td>.856</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>GSCM3</td>
<td>.875</td>
<td></td>
<td>.862</td>
<td>.673</td>
</tr>
<tr>
<td></td>
<td>GSCM4</td>
<td>.782</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Effectiveness</td>
<td>CE1</td>
<td>.745</td>
<td>.861</td>
<td>.861</td>
<td>.856</td>
</tr>
<tr>
<td></td>
<td>CE2</td>
<td>.867</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OC3</td>
<td>.825</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CE4</td>
<td>.837</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>CE5</td>
<td>.868</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 3: Discriminant Validity

<table>
<thead>
<tr>
<th>Environment Orientation</th>
<th>Supply Orientation</th>
<th>Chain Management</th>
<th>Green Supply Chain Management</th>
<th>Supply Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment Orientation</td>
<td>0.874</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Supply Chain Orientation</td>
<td>0.664</td>
<td>0.841</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Green Supply Chain Management</td>
<td>0.816</td>
<td>0.715</td>
<td>0.826</td>
<td></td>
</tr>
<tr>
<td>Customer Effectiveness</td>
<td>0.841</td>
<td>0.710</td>
<td>0.714</td>
<td>0.721</td>
</tr>
</tbody>
</table>

Note:

#### 4.2 Structural Model Assessment

In this analysis, table 4 makes the measurement model assessment puts direct effects. It comes to know that all the direct associations having t-value more than 1.96 at 0.05 level of significance. So, all the relations have been significant. Furthermore, β-value exhibits a positive association. Therefore, all the hypotheses (H1, H2, and H3) have been approved as shown in Table 4. Furthermore, Table 4 exhibits the size of effect (f2). The recommendations of Cohen (1988), it is found that Environment Orientation (EO) and Green Supply Chain Management (GSCM) having strong effect (f2). Further, Supply Chain Orientation (SCO) and Green Supply Chain Management (GSCM), Green Supply Chain Management (GSCM) and Customer Effectiveness (CE) all have strong effect.

### Table 4: Direct Result

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>β-value (STDEV)</th>
<th>T Statistics</th>
<th>P-Value</th>
<th>f2</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 EO→GSCM</td>
<td>0.242 0.078</td>
<td>2.313</td>
<td>0.031</td>
<td>0.21</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2 SCO→GSCM</td>
<td>0.189 0.081</td>
<td>2.217</td>
<td>0.000</td>
<td>0.28</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3 GSCM→CE</td>
<td>0.183 0.070</td>
<td>2.321</td>
<td>0.011</td>
<td>0.20</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Moreover, Table 5 exhibits that mediation effect has been significant with t-value 3.224 with positive β-value 0.256. Thus, Green Supply Chain Management (GSCM) is a mediating variable between Environment Orientation (EO) and Customer Effectiveness (CE). Hence, H-4 is accepted. Similarly, mediating effect of with Green Supply Chain Management (GSCM) β-value 2.241 and t-value is 2.218 and is a mediating variable between Supply Chain Orientation (SCO) and Customer
Effectiveness (CE) has been proved. So, H-5 is accepted.

Table 5: Mediation Result

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>β-value</th>
<th>(STDEV)</th>
<th>T Statistics</th>
<th>P-Value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H4 EO→GSCM→CE</td>
<td>0.256</td>
<td>0.085</td>
<td>3.224</td>
<td>0.000</td>
<td>Mediation</td>
</tr>
<tr>
<td>H5 SCO→GSCM→CE</td>
<td>0.241</td>
<td>0.081</td>
<td>2.218</td>
<td>0.001</td>
<td>Mediation</td>
</tr>
</tbody>
</table>

Note: **p<0.1, *p<0.05, ns= not significant (p>.05) (Two Tail)

5. Findings

In this study, the literature review determines that there have been several variables prompting Customer Effectiveness (CE). Though, the most conclusive variables, Environment Orientation (EO), Supply Chain Orientation (SCO) and Green Supply Chain Management (GSCM). The t-value is greater than the standard value of 1.96 at 0.05 significant level is acceptable. Further, the path between CO and GSCM (β=0.242, t-value=2.313, p<0.05), shows a positive significant relationship. Therefore, the current study found a significant positive relationship between CO and GSCM, supporting H1. It proves that increasing one variable would increase other variable towards the same direction. Similarly, the path between SCO and GSCM (β=0.189 t-value=2.217, p<0.05), so, this study has found a significant positive relationship between SCO and GSCM, supporting H2. Likewise, the path between GSCM and CE (β=0.183 t-value=2.321, p<0.05), so, this study has found a significant positive relationship between GSCM and CE, supporting H3. Similarly, SA→OC (β=0.212, t-value=3.012, p<0.05), values show a positive significant association between two variables. Consequently, it exhibits that increasing one variable would increase other variable towards the same direction. Finally, the mediation role of GSCM between EO and CE (β=0.256, t-value=3.224, p<0.05), values show a strong mediation role of GSCM between EO and CE. So, this study results exhibits GSCM between EO and CE, Hence H-4 is mediated. Similarly, the mediation role of GSCM between SCO and CE (β=0.241, t-value=2.218, p<0.05), values show a strong mediation role of GSCM between SCO and CE. So, this study results exhibits GSCM between SCO and CE, Hence H-5 is mediated.

5.2 Discussion

Hypothesis 1 anticipated EO as an antecedent to GSCM with an immediate, constructive outcome and was supported. The evidence gives proof that fruitful GSCM practices should be supported by a basic environmental corporate culture [39]. EO is the proactive acknowledgment of the vital significance environmental obligation and environmental practices are to the firm and in SCM [40]. Accordingly, the quality of the connection among EO and GSCM is not astonishing [41].

In the discussed the connection among SCO and GSCM was supportive [42]. Hypothesis 2 demonstrated that the setup of SCO as antecedent to GSCM was hypothesizes altogether, and findings have supported the connection among SCO and SCM [43].

Hypothesis 3, 4 and 5 supported the connection between GSCM and customer effectiveness. Outcomes of this study supports the previous results. The connection between GSCM and customer effectiveness is fascinating. GSCM played the pivotal role in between OE and CE that these representatives speak to enhance customer effectiveness for the firm. Similarly, GSCM also put a strength to enhance the positive relation between SCO and customer effectiveness. So, the critical connections between
GSCM and proficiency/effectiveness give proof that directors consider GSCM to be a resource that assumes a key job in the firm.

5.3 Conclusion

As the worldwide business environment has turned out to be increasingly unique and complex, in which changes happen quickly [44]. Firms progressively look to make matchless particular abilities through their GSCM practices so as to decidedly affect their performance. On a similar note the ramifications of EO and SCO with customer effectiveness alongside the mediating job of GSCM make more an incentive for Indonesian manufacturing firm [45, 52-57]. This examination is one of a kind from past research by clarifying the job GSCM plays in the firm alongside its antecedents and results. Future research around there is promising not just for researchers are keen on investigating the developing zones in GSCM, yet in addition for specialists trying to discover competitive edge in the management of their supply chain activities in progressively challenging and focused worldwide business markets.

References


