The Mediating Role of Supply Chain Management and Moderating Impact of Competitive Intensity on the Association among Environmental Orientation and Firm's Performance in Indonesia

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***Abstract*- The research examines a model that describes the correlation between sustainability awareness, green supply chain management (GSCM) practices (green purchasing, consumer engagement and investment recovery) and firms' performance (FP). Survey responses from 210 manufacturing firms influential in Indonesia, this research has developed many significant observations. Firstly, it indicates that when internal and external environmental strategies may positively and substantially impact on green procuring and consumer coordination policies, internal environmental orientation also plays as a key determinant of capital recovery techniques. Secondly, it demonstrates that the operation of all these three core GSCM practices in addition greatly improves organizational performance. Eventually, the research shows that competitive strength reinforces the positive impact of consumer engagement on firm growth. Generally, the observations illustrate the significance for firms, predominantly located in competitive industries, of fostering a pro-environmental organizational philosophy and strengthening responsiveness to the environmental needs of decision-makers in order to achieve GSCM.**

Introduction

Due to the introduction of numerous massive-developments, such as growing community issues about environmental degradation and expanding environmental monitoring of corporate practices by policymakers, businesses are now increasingly under pressure to behave in an environment-friendly context [1-3]. Whereas sociologists argue that taking care of firms ' impacts on the environment is an ethical duty all by itself, several policymakers assume that recognizing the strategic importance of being more environmentally focused is of greater significance for sustainable firm performance [4].

In the literature on environment protection, environmental orientation (EO) relates to the organizational acknowledgement of the significance of environmental challenges faced by the companies [5, 6]. A number of elements have been reported in the previous research work, like administrative/legislative factors [2], influence of decision-makers [5], corporate resources and cultural elements [1, 7], that will push businesses to be more socially responsible. Furthermore, though investigators in sustainable development have long argued that the increasing amount of environmental orientation of a company will enhance its decisive reactions to environmental problems and therefore its efficiency, their assumption is still to be completely substantiated [8]. For example, with the exception of the limited number of previous studies that claimed positive influence of environmental preference on output across organizational strategy policies for the ecosystem [2], past studies mostly are based on the bivariate association between environmental and performance orientations [7] or excluded from the evaluation the performance consequences of that behavior in any way [1]. The issue of how environment preference specifically impacts organizational environmental policies, as well as efficiency, appears mostly undeveloped as a consequence of this insufficient interest shown by academia.

In the context above, the work serves to enhance the available knowledge by exploring the phenomenon driving the association between EO and FP. This research first proposes GSCM as a mediator on the association among EO on FP due to its emerging and considerable substance in academia [9-11]. Notwithstanding GSCM's ability to enhance marketing activities (e.g. product and packaging development, brand interaction and market

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choice) and eventually boost business profitability, marketing experts have paid little consideration to these domains. Furthermore, with respect to those GSCM disclosures investigated in other fields such as transportation and operational management they have usually excluded from their evaluation a key strategic parameter, environmental orientation as a precedent. Considering that the environmental orientation is strongly related to the environmental strategies of an organization [6], a more detailed explanation of the environmental effects of GSCM and its performance consequences are classified timely and significant in integrating the discrepancies in the existing research work.

The study also examines how economic conditions (e.g. competitive intensity) reduce the impact on organizational efficiency of the environmental orientation. This analysis aims to resolve the conventional internal concentration of previous resource-based research and to improve awareness of the critical function and situational factors can perform in transitioning EO into such beneficial consequences as environmentally sustainable supply chain activities and enhanced FP[12].

1.1. Research Framework and Hypothesis Development

EO towards the climate, GSCM initiatives and organizational efficiency. This research explicitly asserts that the practices of the GSCM facilitate the effect of environmental orientation on organizational efficiency. Such associations suggested are compliant with the [6], especially the concept of EO which involves the psychological behaviors of management to environmental challenges faced by companies. Therefore, the effect of this performance orientation is perceived to be understood only after it has been transformed into effective mechanisms. The hypothesized moderating impact of GSCM practices often reinforces the long-held assumption of strategy experts that administrative expectations must be converted into subsequent actions before competence is compromised [13]. Statistical analysis of these new relations is thought to supplement the restricted number of previous environmental orientation studies. As indicated previously, the previous analysis frequently excluded from its assessment the performance results of the environmental preference [1], or only aimed at the bivariate relation between that inclination and results [7].

The study will be supported by an interpretation of the GSCM theory and how this organizational environment approach and environmental orientation will contribute to understanding organizational efficiency collectively. Eventually, it will demonstrate why competitive strength decreases the impact on organizational performance of a given GSCM operation (consumer cooperation). This discussion additionally illustrates how the indirect effect on business efficiency of environmental orientation (through consumer cooperation) depends on competitive marketplace strength.

1.2. Environmental Orientation

EO has long been seen as a key principle in the analysis of sustainable development as a significant management theory to direct strategic environmental policies [6]. Moreover, [5] established that environmental awareness is one of the two important variables for businesses to embrace corporate environmentalism (the other is the sustainability approach). Based on a comprehensive empirical analysis and conversations with top management, he conceptualized EO as an organizational acknowledgement of the value of a company's effect on the environment and the ability to decrease this effect. He subsequently argued the presence of two forms of internal and external EO. Internal EO contributes to the internal principles and practices of the business about the extent of the contribution it should provide to the protection of the environment. It can be described as a pro-environmental business philosophy that expresses itself in the development of corporate policies and practices for the conservation of the environment, the preparation of environmental papers and workforce environmental education [14]. External environment orientation includes the interpretation by executives of the imperative to fulfil external stakeholder environmental needs. This supposed imperative, in effect, focuses on how critically management takes the results linked to the inability of their businesses to fulfil these standards.

1.3. Marketing and GSCM

Concentrating on developing a green procurement collaboration between stakeholders inside the supply chain, GSCM incorporates numerous environmentally sustainable activities structured to integrate environmental aspects into policy-making at each level of a firm's materials handling and operational activities by post-consumer processing [15]. GSCM essentially incorporates environmental issues into material flows inside and outside of organizational limits. It has become an exceedingly prominent method for production companies to meet the sustainability targets of different parties concerned [16].

Whereas marketing problems related to GSCM have not been researched properly, some researchers have subsequently argued that the incorporation of environmental problems into their SCM by businesses may significantly improve their marketing strategies and competition [17]. Even as GSCM work is still in development phase [9], practices regarding fundamental for GSCM practice continue to evolve and therefore differ

across research works [15, 18]. Nonetheless, the latest study into production companies in China conclusively illustrated the existence of three key practices for GSCM, comprising green purchasing, customer collaboration and recovering of investment [9]. These three determinants provide a significant guideline in this investigative process for GSCM research.

Green purchasing requires joint efforts between both the organization and its suppliers to reduce the adverse environmental consequences of its inbound logistics operations. Prime examples of this are including offering design specifications to distributors and introducing environmental demands for goods procured [10]. Customer cooperation affects harmonious initiatives between the company and its consumers to reduce the adverse effect on the environment of its outbound logistics operations and offers. This coordination generally involves cooperation with consumers to obtain more environmentally sustainable design, manufacture and branding for components or finished goods. Investment recovery involves the systematic use of recycling, redeployment and reselling by the company in order to gain higher revenue from its components and goods [9].

1.4. Influence of EO on GSCM

By a resource-based context, the tactical inclination of an organization (e.g., EO) may be conceived as its essential intangible asset that drives strategic activities and thus improves performance [19, 20]. Factually, previous business and marketing studies have also identified facts supporting the idea for an orientation approach. For example, [21] Illustrated that exporting enterprises in China with a stronger merchandising priority is more appropriate for competitive pricing, new product design and brand interaction practices. Similarly, [2] also demonstrate that both internal and external environmental guidelines represent as significant factors for the tactical and operational marketing activities of firms with sustainability techniques. In conclusion, this analysis demonstrates both conceptual and statistical evidence for the positive effect on organizational sustainability standards such as GSCM of these two kinds of environmental orientation. Notwithstanding the credibility of having a better impact on GSCM from both internal and external environment orientations, the assumption that these two paradigms are derived from two separate sources indicates that their corresponding effects on GSCM may be extracted from separate mechanisms.

With respect to internal environmental orientation, the principle of organizational learning demonstrates that its impact on GSCM is mainly due to intra-firms' knowledge and information distribution between the stakeholders of the business. by this point of view, an internal environmental orientation can be identified as representative of a company's key organizational beliefs and values. Business executives often pursue it out of their own pro-environmental perspective. This particular philosophy would ultimately be integrated across the organization because of the exhortations of these leaders [22, 23]. In addition, the said study indicates that internal environmental orientation can aid businesses to build a shared understanding of the significance of environmentally sustainable practices and consequently encourage them to try to find alternatives to decrease the environmental effects of these activities [1]. Under this principle, enterprises should address the multiple limitations implemented by different effective entities [24]. If businesses perform inside the limitations authorized by these agencies, they can maximize their efficiency and credibility, and consequently increase the possibility of survival. These agencies can also be interpreted as incredible external stakeholders in environmental management analysis that enforce formal (e.g., guidelines) or informal (e.g., standards) regulations on how companies should organize their association with the natural ecosystem [5]. By this point of view, managers who identify a compelling ability to actually adapt to relevant stakeholders ' environmental priorities are expected to be more motivated to participate in environmentally friendly activities (e.g., Green Supply Chain Management) to meet these expectations. As, in addition, this administrative interpretation comes within the concept of [5] external environmental orientation is going to have a positive effect on green supply chain management (GSCM). Moreover, the argument above indicates the preceding hypotheses:

Hypothesis 1(a): Internal EO has a positive influence on green purchasing of GSCM practices.

Hypothesis 1(b): Internal EO has a positive influence on customer cooperation of GSCM practices.

Hypothesis 1(c): Internal EO has a positive influence on investment recovery of GSCM practices.

Hypothesis 2(a): External EO has a positive influence on green purchasing of GSCM practices.

Hypothesis 2(b): External EO has a positive influence on customer cooperation of GSCM practices.

Hypothesis 2(c:) External EO has a positive influence on investment recovery of GSCM practices.

1.5. Influence of GSCM on FP

To address several other operational restrictions arising from increasing governmental and societal grievances about environmental deterioration, [25] concluded that the firm's resource-based view (RBV) to indicate, enterprises must integrate environmental concerns into their long term planning. He additionally suggested that these integrations would improve firms ' capability to adapt to economic uncertainty at the market-environment, leading to increased business performance. This hypothesis was also supported by many corresponding

studies carried out in the established [26, 27], and emerging economies [2, 28]. In addition, RBV researchers concluded that this stronger performance was due to the minimized regulatory risks linked with environmental violations by an enterprises [29], increased organizational image and improved capability to represent environmentally responsible consumers [28], as well as other investment and marketing opportunities related to persistent innovation [30]. Notwithstanding the evidential support stemming from many RBV studies, the relation among pro-environmental strategic activities and FP is irrefutable. For example, some investigators questioned that the considerable capital involved in these activities could in fact undermine performance. Others who regularly contribute to the idea of ' easy targets ' also believed that companies might discover it progressively complicated to understand cost reduction from these procedures when the inefficiencies have been fully investigated.

With respect to supply chain management, some academics have concluded that GSCM would offer better long-term efficiency with enhanced management of environmental threats and capacity building for sustainable environmental development. Many, nevertheless, argued that GSCM is unable to lead to short-run productivity or FP due to the massive capital invested [31]. Moreover, in a research study of Indonesian manufacturing businesses demonstrates that GSCM practices can advance the FP. Based on the above discussions, the hypothesis has been proposed for extensive investigations in this research paper:

Hypothesis 3(a): The GSCM practices associated with green purchase has a positive impact on customer cooperation.

Hypothesis 3(b): The GSCM practices associated with green purchase has a positive impact on investment recovery.

Hypothesis 3(c): The GSCM practices associated with green purchase has a positive impact on FP.

1.6. Competitive Intensity as a Moderator

Competitive intensity (CI) is identified as a condition in which competitiveness is extreme because of the involvement of various companies and the scarcity for future growth potential [32]. It has previously been considered as a significant contributing factor to aggression in the operational environment of a firm [33]. From this point of view, marketing researchers concluded that a business may not experience a substantial decline inefficiency in an environment of limited competitiveness since it does not devote adequate consideration to consumer needs. Because consumers should adhere to the company's offers attributable to the absence of substitutes [34]. In comparison, whereas consumers in a competitive marketplace are far more able to switch their suppliers, a business that meets customer demand more than its competitors in this sector is expected to substantially improve its performance (e.g., in context of higher revenues). It indicates that, in relation to those located in a less competitive environment, companies that operate in a highly competitive environment are likely to experience the better performance as they can efficiently meet customer demand.

Complies to the above argument, [21] They further concluded that, because businesses have to be increasingly strategically adaptive to the competitive behavior of competitors in a competitive marketplace, those using market-oriented approaches to meet customer demands in this kind of environment are likely to achieve much-improved performance than businesses that do the same when dealing with less competitiveness. This perspective also reflects the existing academic papers on innovation, which concludes for more considerable competitive advantages that businesses experiencing higher competitiveness can obtain from adding values for their consumers [12].

During the age of increasing global environmental issues, consumers nowadays are constantly insisting their suppliers for environmentally sustainable goods manufacturing [1]. Therefore, if a business may collaborate actively with its clients to identify alternatives to reduce the negative consequences of its processes and/or goods on the community, the positive effects of this customer coordination ought to be more prevalent in an environment of higher instead of lower competitiveness. In this context, a hypothesis is thus suggested regarding the positive mediating impact of competitive intensity on the relationship between consumer coordination and business performance:

Hypothesis 4: Competitive intensity increases the positive impact of consumer coordination on FP.

2. Methodology

2.1. Data collection and operationalization of variables

The data related to the study was collected from manufacturing firms in Indonesia through email. The persistent environmental damage by the Indonesian manufacturing firm [28] makes Indonesia as an ideal context for this research. A total of 610 manufacturing firms all over Indonesia were selected and the questionnaire was sent to the top management because they have a significant influence on the policies associated with environment [2]. While the measures to operationalize, the variables are presented in Table 1. The internal and external EO and FP were adapted from relevant scales based on the 7-point Likert scale based on past studies [6, 35]. GSMC is adapted from the scale developed by [9] to evaluate the three major GSMC

activities [1, 6, 7, 26, 32]. These measures are used extensively in the literature.

Table 1. Results of confirmatory factor analysis.

	Constructs and measures	Standardized factor loading
Internal environmental orientation (IEO) (α= 0.87; AVE = 0.58)		
1.	Our firm makes concerted efforts to let every employee understand the importance of environmental preservation.	0.830
2.	Our firm has clear policy statements urging environmental awareness in every area of operations.	0.735
3.	Environmental preservation is highly valued by our firm members.	0.819
4.	Environmental preservation is a central corporate value of our firm.	0.756
External environmental orientation (EEO) (α= 0.95; AVE = 0.74)		
1	The developments in the natural environment affect our firm's business activities	0.756
2	The financial well-being of our firm depends on the state of the natural environment.	0.945
3.	Environmental preservation is vital to our firm's survival.	0.945
4.	Various external stakeholders expect our firm to preserve the environment.	0.903
GSCM — Green Purchase (GP) (α= 0.85; AVE = 0.62)		
1.	Providing design specification to supplies that include environmental requirements for purchased items	0.903
2.	Cooperation with suppliers for environmental objectives	0.872
3.	Suppliers are selected using environmental criteria	0.590
GSCM — Customer Cooperation (CC) (α= 0.92; AVE = 0.68)		
1.	Cooperation with customers for eco-design	0.840
2.	Cooperation with customers for cleaner production	0.840
3.	Cooperation with customers for green packaging	0.861
4.	Cooperation with customers for using less energy during product transportation	0.851
GSCM — Investment Recovery (IR) (α= 0.81; AVE = 0.56)		
1.	Investment recovery (sale) of excess inventories/materials	0.704
2.	Sale of scrap and used materials	0.840
3.	Establishing a recycling system for used and defective products	0.746
Financial Performance (FP) (α= 0.96; AVE = 0.75)		
1.	After-tax returns on investment	0.893
2.	Earnings growth	0.924
3.	Sales growth	0.777
4.	Market share change	0.924
Competitive Intensity (CI) (α= 0.99; AVE = 0.72)		
1.	Competition in our market is cut-throat.	0.872
2.	There are many "promotion wars" in our market	0.840
3.	Anything that one competitor can offer in our market, others can match readily.	0.861
4.	Price competition is a hallmark of our export market.	0.830
5	One hears of a new competitive move in our market frequently	0.872
Social Desirability Bias (SDB) (α= 0.99; AVE = 0.82)		
1	I am always courteous even to people who are disagreeable. [R]	0.777
2	There have been occasions when I took advantage of someone.	0.977
3	I sometimes try to get even rather than forgive and forget	0.956
4	I sometimes feel resentful when I don't get my way.	0.966
5	. No matter who I am talking to, I am always a good listener	0.945
Fit statistics of the overall measurement model:		
$\chi 2$ (465) = 604, p = 0.00; TLI = 0.98; CFI = 0.98; RMSEA = 0.04		

Notes: α= composite reliability; [R] = reverse-coded item.
*p < 0.05.
Initially fixed at 1.0 for estimation.

3. Results

3.1. Sample profile

An average of 210 eligible responses had been collected. There was a response rate of 33.33 % (210/630) and is equivalent to prior surveys of Indonesian companies [21]. To inspect non-response prejudice, [36] methodology was applied. A correlation was established between the early (first 53 responses) and the late (last 53 responses) participants to analyses, if they varied in their answers to the list of

questions and these questions, are comprised of 50% of total responses. The findings of the t-test demonstrate no substantial difference at p≤ 5%, therefore excluding value for significant non-response bias.

3.2. Validation of measures

CFA was conducted utilizing EQS to verify the measurements implemented in this research. CFA findings are presented in that has shown a satisfactory fit for measurement model [37]. To evaluate the discriminating validity of all these arrangements, the square correlation between every two model and their corresponding AVEs were additionally examined and all results are consistent with the satisfactory values [38].

3.3. Hypothesis testing

This research is based on the path analysis to assess the structural associations, hypothesis 1 to 3 (a to c) [1]. Overall, the results are presented in Table 3 showed a good fit for the structural model: $\chi2(5)=9.05$, p=0.17; TLI=0.84; CFI=0.92; and RMSEA=0.09 [37]. First, H1a to c indicated that, among the studied manufacturing firms, internal EO significantly and positively impacted on the GSCM activities of GP (Beta=0.494) and CC (Beta=0.462) and IR (Beta=0.619) at 5% significance level. On the other hand, external EO also positively and significantly impacts GP (beta=0.263) and CC (Beta=0.420), but not on IR (beta=0.063). The findings did not support H2c. In support of H3a to c, the findings also showed that GP, CC and IR are significant determinants for FP (Beta GP=0.315; Beta CC=0.452; Beta IR=0.222) at 5% significance level. While moderating effects of competitive intensity H4, [39] are presented in Table 4 and supported H4.

Table 3. Hypothesis testing results by path analysis (direct effects).

Structural path		**Standardized path estimate**
Direct effect of exogenous variables		
H1a	Internal environmental orientation Green purchase (GP)	0.494 (supported)
H1b	Internal environmental orientation →Customer cooperation (CC)	0.462 (supported)
H1c	Internal environmental orientation →Investment recovery (IR)	0.619 (supported)
H2a	External environmental orientation →Green purchase	0.263 (supported)
H2b	External environmental orientation →Customer cooperation	0.420 (supported)
H2c	External environmental orientation →Investment recovery	0.063 (not supported)
H3a	Green purchase →Corporate performance	0.315 (supported)
H3b	Customer cooperation →firms' performance (FP)	0.452 (supported)
H3c	Investment recovery → firms' performance (FP)	0.222 (supported)
Overall model fit		
$\chi^2_{(5)}$ = 9.05 (p = 0.17); TLI = 0.84; CFI = 0.92; RMSEA = 0.09 % of variance of corporate performance explained = 62%		

*p<0.05

Table 4. Hypothesis testing results by path analysis (direct and moderating effects)

Structural path		**Standardized path estimate**
The direct effect of exogenous variables		
H1a	Internal environmental orientation →Green purchase	0.489 (supported)
H1b	Internal environmental orientation →Customer cooperation	0.428 (supported)
H1c	Internal environmental orientation →Investment recovery	0.621 (supported)
H2a	External environmental orientation →Green purchase	0.254 (supported)
H2b	External environmental orientation →Customer cooperation	0.428 (supported)
H2c	External environmental orientation →Investment recovery	0.061 (not supported)
H3a	Green purchase →Corporate performance	0.357 (supported)
H3b	Customer cooperation →Corporate performance	0.418 (supported)
H3c	Investment recovery →Corporate performance	0.255 (supported)
Moderating effect of competitive intensity		
H4	Customer cooperation × competitive intensity	0.153 (supported)
Overall model fit		
$\chi^2_{(8)}$ =9.69 (p=0.29); TLI=0.97; CFI=0.99; RMSEA=0.04 % of variance of corporate performance explained = 62%		

. *p<0.05

4. Discussion and conclusion

This research adds to the latest discussion on the performance impacts of EO. It had extensively been discussed between many researchers and scholars whether and how companies would improve their competitivity by adopting environmental orientation. Nevertheless, the research on this subject is actually quite inconsistent and not satisfactory [7]. The research illustrates that both internal and external sustainability standards have a positive and substantial impact on FP, but also explains how GSCM activities (i.e. GP, CC and IR) moderate the impact. Ultimately, these findings empirically endorse RBV's basic theory, specifically that both thinking and acting ' green ' pay off the businesses [17]. The study also draws attention to green supply chain management. GSCM is recognized as a significant business strategy which not only offers more comprehensive evidence of whether an organization is actually committed to environmentally friendly but has significant tactical consequences for its competitive long-term growth [9, 40].

Comparatively limited studies have investigated GSCM's historical roots at the organization level. However, the influence of environmental orientation on GSCM indicates the ripple effect of environmental perspectives of top management and potential stresses on the managers of these strategic areas as supply chain management in a ' green ' background from outside environmental participants. Though previous environmental management studies were primarily limited to the performance consequences of organizational management approaches [27]. This research explicitly examines the ripple effect of supply chain management in the scope of a developing Asian market [26].

The results of this investigation on the mediating impact of competitive intensity on the economy have substantial consequences for research work. The findings primarily illustrate that competitive intensity further improves the positive impact of customer cooperation on FP. The study indicates that how the effectiveness of CC (as expressed in business performance) depends on the competitiveness of the market. Since it is assumed that consumer satisfaction is far more relevant to surpass the competitors in a competitive marketplace, this research, as discussed, only speculates a mediating impact of competitive intensity on CC. As a substitute for organizational competitiveness, the competitive intensity has long been considered as a significant conceptual variable that regulates the internal mechanism of the business, which underlies the transition of customer orientation into outstanding organizational performance [21]. Therefore, the current observations broaden this market study to illustrate that competitive intensity often regulates the performance outcomes of a consumer-oriented approach, called customer cooperation. It explicitly highlights the strategic significance for organizations to collaborate effectively with their clients in this competitive environment [7].

Furthermore, the latest results indicate the negative impact of external environmental orientation on investment recovery. This irrelevance can be referred to the lack of information of external stakeholders about the quantum of unproductive resources that targeted firm requires. Therefore, they can usually devote little importance to the role of the business in investment recovery. It likely illustrates the lower estimated external pressure to perform its specific GSCM operation [1].

In practically the significance of developing a pro-environmental organizational culture and strengthening their responsiveness to exceptional environmental expectations of external stakeholders in order to achieve GSCM strategies. Top business executives must concentrate on the very significant job that internal environmental orientation performs for further enhancing their GSCM activities. Therefore, due to the strong sociological impact of senior management inside the company, it is recommended that they play a significant part in promoting the flow of this inclination. They may, for example, be active in environmental management programs such as offering sufficient environmental training to all stakeholders of the business, recognizing the environmental impact while developing incentive schemes and appointing senior managers to monitor the development and enforcement of environmental strategies of the organization [41].

Notwithstanding the scholarly and logical consequences of this examination, it's limiting to manufacturing firms working in the more advanced Indonesian provinces the limit the degree to which the outcomes can be replicated. In addition, other avenues may be chosen for future studies. GSCM's mediating influence on the influence of EO may, for instance, be evaluated in many other nations. Academics can further investigate the future mediating impact of other situational factors in order to discover other possibilities that may influence the GSCM performance association.

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