ISSN 1112-9867

Special Issue

Available online at http://www.jfas.info

THE MEDIATING EFFECT OF SUSTAINABILITY CONTROL SYSTEM ON REVERSE LOGISTICS INNOVATION AND CUSTOMER ENVIRONMENTAL COLLABORATION TOWARDS SUSTAINABILITY PERFORMANCE

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Published online: 15 January 2018

ABSTRACT

This paper analyses part of the viability of green supply chain management practices created for fisheries industry to implement sustainability control system adoption as mediating on reverse logistics innovation and customer environmental collaboration towards sustainability performance. It examines reverse logistics innovation and customer environmental collaboration adopted in the supply chain as a result of pressures from primary stakeholders. The resulting hypotheses are tested using fishery industries in Indonesia data of 262 samples utilizing primary and secondary data. Finding reveal, a phenomenon with sustainability control system adoption have significant effect to enhancing sustainability performance. Moreover, our results yield insights to green practices in optimizing their supply chain and sustainability performance.

Keywords: reverse logistics innovation; customer environmental collaboration; sustainability control system; sustainability performance.

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doi: http://dx.doi.org/10.4314/jfas.v10i1s.53

1. INTRODUCTION

Indonesia is the world's largest archipelagic state with some 17.508 islands with 255 million populations and GDP per capita USD 3.379 [1-2] is on the list of low index cold chain markets as a part of green supply chain practices. There are rich natural resources; however, the infrastructure is too poor to exploit, to manage them efficiently. Based on the potential value of the logistics market, the potential use of green supply chain strategies in Indonesia is very large, especially for commodities are perishable (agriculture, livestock and fisheries) that the level of damage estimated at 40% [3].

The application of cold chain for the sector is very important. In addition, the growth of Indonesian fishery production is quite large which is about 7% per year and is the biggest producer in Southeast Asia [3]. Recently, managing logistic activities, the return flow of raw materials from customers to original suppliers, both covering reprocessing and disposal are increasing [4]. Regulation of environmental sustainability control of a program need companies to be responsible for their waste [5], while the cost of waste disposal is increasing. In the era of competence, companies with world-class standards have devoted their attention to the management of reverse logistics as one of the strategies to increase competitive advantage [6]. Based on previous research, concern over consumption of resources and other environmental issues has led to the creation of sustainable development initiatives [7].

This initiative should be supported attitude and innovative thinking aims to achieve economic growth for the moment without having to spend resources for future generations. In a previous study, method of achieving sustainable growth was to increase the amount of product material derived from waste recovery by using reverse logistics [7].

There are some fundamental issues have been answered by previous researchers related to the process of planning, implementing and controlling efficiently over the flow of raw materials, goods in process, finished goods an information-related, from the point of consumption to the point of origin with the aim to create value or disposal of products/goods appropriately with effective cost [8].

Many problems in fisheries industry applying reverse logistics not paying attention to environmental collaboration [9] and not being a belief, boundary and control system.

Currently, fisheries problem is a problem of economic industry in Indonesia [1].

Fisheries Distribution and Reverse Logistics issues need to be handled in better way with new ideas to improve sustainability performance in terms of economic, social, environmental and operational performance [10]. The fishery industry in Indonesia needs a thorough improvement, some companies in term of social responsibility reports, ethical and professional knowledge, environmental and social audit, top management regularly pay attention to sustainability control practices is still low [11]. According to SEAFDEC report, the fishery industry does not implement strategy use of intranet systems for communities for practitioners or business actors [12]. Some research on reverse logistics and customer is still not optimal environmental collaboration in improving the sustainability performance of companies that are often difficult to foresee the reverse flow of the product and it is difficult to accurately determine the type of product and how many products will be returned to the customer [7].

Based on previous research, implementation of reverse logistics and customer environmental collaboration is still not optimal when companies not only pay attention to the development of new products to replace products that no longer meet the functional needs, but also do not pay attention to how the product return [7]. A lot of companies in fisheries do not have the expertise, manpower or infrastructure to process operating system to return products. Hence, there needs to combine reverse logistics and environmental collaboration with the customer and to consider outsourcing to a 3PL company that is competent in managing the fisheries industry [11]. Previous research has implemented the impact of reverse logistics innovation by taking into account customization strategies, formalization, flexibility and integration of functions in the organization [10]. However, previous research described on belief, boundary, diagnostics control and interactive control that has a component of the sustainability control system is not implemented correctly and its difficult to achieve sustainable performance without its meant above in a company[7].

Based on problems and backgrounds above, in this research, the researchers hypothesized that sustainability control system can significantly improve sustainability performance in implementing reverse logistics innovation and customer environmental collaboration practices.

2. THEORITICAL BACKGROUND

The adoption of reverse logistics and customer environmental collaboration has been influenced by the stakeholder's theory [13]. Stakeholders are defined as any group or individual that affect or are affected by the achievement of a company's objective [14]. The influence by the stakeholders is undoubtedly significant to the adoption of green practices [15]. However, the type of influence may be varied. Previous literature suggests that reverse logistics, customer environmental collaboration and stakeholders' theory is based on the influence or pressure for the manufacturer or the firm to adopt supply chain practices towards sustainability performance [10]. The natural-resource-based view (NRBV) is an underpinning theory and improving model of the resource-based view (RBV) that relates to the adoption of the reverse logistics strategy [16]. Based on this review and evaluation, this research suggests that further application of RBV could enhance the understanding for the manufacturer with regard to the importance of resource allocation and to effectively use customer environmental collaboration in the firm [17].

2.1. Reverse Logistics Innovation

Based on previous research, the company in carrying out the RL can be done by way of technological development. The development of this technology is done by customization of existing technology [10, 18]. To avoid too much back order process, the company does a customized system and develops a formalized procedure in the form of a controlled system and procedure [10, 15]. Implementing reverse logistics when products are returned, the company able to take the initiative developing ways to overcome it with flexibility. Therefore, RL activities must be built by the company and linked to the existing information data to the customer in an integrated manner, so that it can be monitored its availability [10, 19].

In previous research, that there is a significant relationship between reverse logistic innovation with sustainability performance based on customization criteria; formalization; flexibility and information-related ability [10, 18]. Researcher see gaps about perishable product especially in fishery industry. Hence, researchers in this research hypothesize

H1: A Indonesia Fishery Industries Reverse Logistics Innovation (RLI) has a positive impact on its sustainability performance (SP)

2.2. Customer Environmental Collaboration

Customer Environmental Collaboration (CEC) in the implementation of supply chain information dissemination strategy is not enough. Companies should collaborate with end users or customers to distribute fish by maintaining good quality pre and post docking [20]. Companies have to teach to the vendor or customer in the design and environmentally friendly design. Then, the company seeks to optimize and synergize with customers in the process of fish delivery including green packaging and enable joint planning for environment. There are 4 indicators in measuring customer environmental collaboration that is customer support; cooperation with customer for eco-design; cooperation with customer for using less energy and cooperation for green packaging [21-23]. Researchers in this research hypothesize

H2: A Indonesia Fishery Industries Customer Environmental Collaboration (CEC) has a positive impact on its sustainability performance (SP).

2.3. Sustainability Control Systems

In previous research, company policy and corporate strategic plan is important including routinely make report such as sustainability reports and corporate social responsibility report; annual reports, management communications will improve the belief system that affects sustainability performance. Boundary system has significant impact on sustainability performance as it is a regular assesments and ethical and professional guidelines. Sustainability Performance can be improved if there is a pattern of diagnostics control system by implementing environmental management system; benchmarking sustainability practices with competitior and use of management tools. Interactive control systems can be implemented by holding regular meetings and sharing sustainability innovations. These indicators are Belief Systems; Boundary Systems; Diagnostics Control Systems; Interactive Control Systems [24]. In previous research, Sustainability Control System can improve Sustainability Performance so that researchers have a hypothesis,

H3: A Indonesia Fishery Industries Reverse Logistics Innovation and Customer Environmental Collaboration have a positive impact on its sustainability performance (SP) mediating by Sustainability Control Systems.

3. METHODOLOGY

This paradigm is quantitative in nature. Quantitative methodologies with the survey method have been used in most research in the social science disciplines [25].

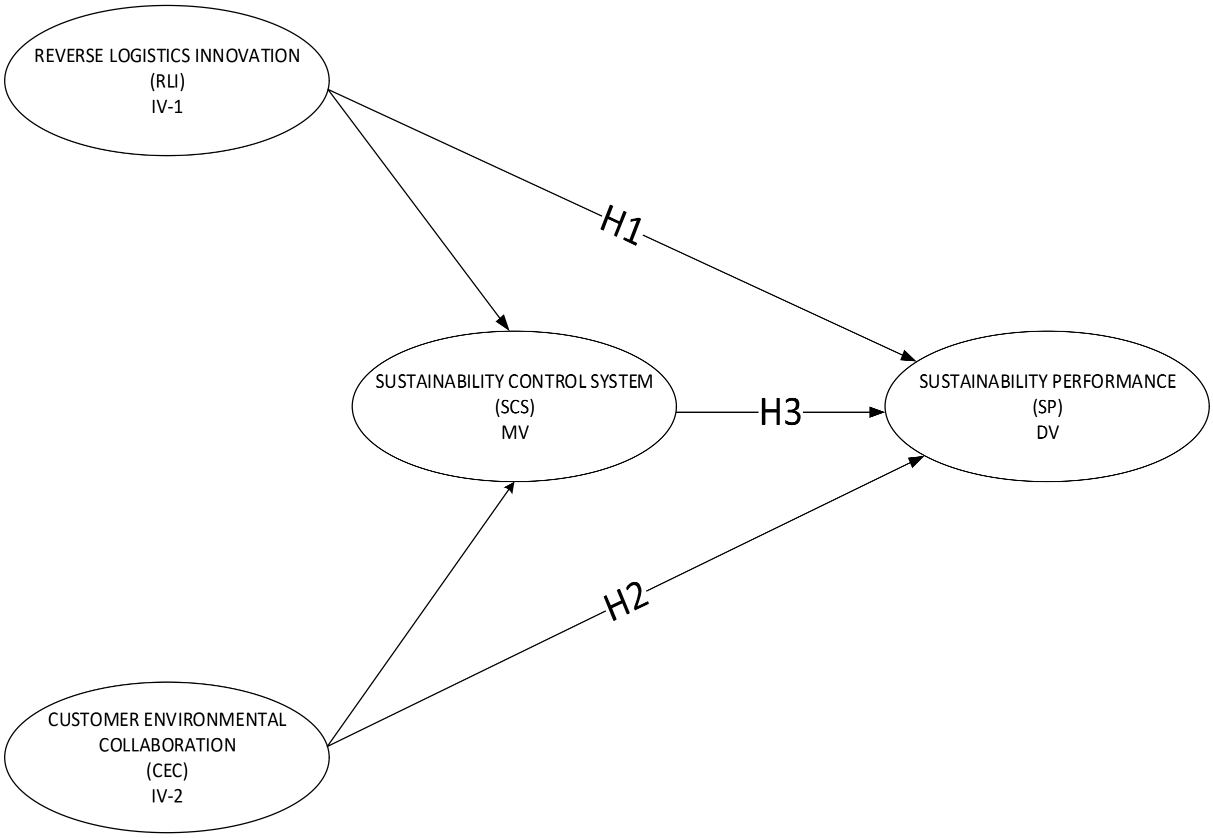

Fig.1. Theoretical framework

As shown in Fig. 1 proposed the final hypothesized measurement model this study examines the extent to which parts of Reverse Logistics Innovation and Customer Environmental Collaboration affect sustainability performance.

We investigate the impact of Reverse Logistics Innovation (RLI) and Customer Environmental Collaboration (CEC) as independent variables towards Sustainability Performance (SP) and Sustainability Control System (SCS) as a mediating pathway. There were confirmed 262 usable respondents for data analysis and model validation. The main respondents in this research study are fishery industries in Indonesia that have register to feasibility of fish processing from Southeast Asia Fisheries Development Centre (SEAFDEC)® and EMS certified.

We investigate the impact of mediating effect of sustainability control system towards sustainability performance with Smart PLS 3.0 Software. Systematic random sampling the sampling frame is first divided into a number of segments called intervals. Then, from the first interval, using the SRS technique, one element is selected. In this research, a systematic random sample relies on some sort of ordering to choose sample all selected manager from each region fisheries industries. While the first individual chosen by a random method, subsequent members are chosen by means of a predetermined process [24-26]. The selection of subsequent elements from other intervals is dependent upon the order of the element selected in the first interval. This random sampling use because eliminates bias by giving all individuals an equal chance to be chosen [27-28]. Conceptualization model is the first step in PLS-SEM analysis. At this stage, the researcher has to do the development and measurement of the construct [29]. For the current study, Likert scales is used to measure the responses, since this scale is widely used in green supply chain practices research and has been extensively tested in social science. A 7-point scale was used (from 1 _ "strongly disagree" to 7 _ "strongly agree"), applying the average of the four latent for subsequent analysis. The data analysis procedure is a step that entails various activities such as responses data entry, selecting the suitable data for analysis, screening the data [31]. Smart PLS 3.0 software utilized to carry out some of the statistical tests. The final stage involved using the Structural Equation Modeling (SEM) SMART PLS 3.0 to the hypothesis testing and do analyze data. Researcher use reflective indicators based on reasons theoretical and empirical consideration [30].

4. RESULTS AND DISCUSSION

According to [32-34], it states that these measurements can be used to measure the reliability of latent variable component score and the result is more conservative than the composite reliability. Recommended AVE value must be greater than 0.50 means that 50% or more of the variance of the indicator can be explained. In Table 1, it explained that all the latent variable has a value of more than 0.50 and the latent variables sustainability performance (0.815), the highest of which can be explained variance indicator.

Table 1. Cronbach's alpha, composite reliability and AVE

	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
CEC	0.839	0.889	0.668
RLI	0.802	0.865	0.619
SCS	0.772	0.855	0.602
SP	0.924	0.946	0.815

In addition to the validity of the test, measurement models were also carried out to test the reliability of a construct. However, the use of Cronbach's Alpha to test the reliability of the constructs will give lower values (under estimate) so it is more advisable to use Composite Reliability in testing the reliability of a construct. Rule of thumb reliability of the construct that is the value of Composite Reliability (CR) greater than 0.7 for studies that are confirmatory and 0.6-0.7 is acceptable [30]. From the analysis that the value of CR for RLI (0.865), CEC (0.889), SCS (0.855) and SP (0.946) of more than 0.7 means that the construct models is valid. Researchers continue to use Cronbach alpha that RLI, CEC, SCS and SP above threshold value > 0.7 but this measure does not assume equivalence between measurements assuming all indicators are given equal weight. Thus, the Cronbach alpha were more likely to underestimate the measure of reliability while the composite reliability is a closer approximation assuming the parameter estimation is accurate. AVE and composite reliability as internal consistency measures can only be used for constructs with reflexive indicators [31].

Table 2. R-square and R square adjusted

	R Square	R Square Adjusted
SCS	0.845	0.843
SP	0.905	0.904

Generally, the PLS model testing can be done easily because of their graphical representation and language assistance simple operation. Results of graphical provide sufficient information about the measurement model, which is the connection between latent variables and block indicator. Then, the structural models which is the connection between latent variables explained later in this study. In assessing the structural models with PLS, the same interpretation to the interpretation of the OLS regression. Changes in the value of R squares can be used to explain the influence of certain exogenous latent variable to the endogenous latent variable whether it has substantive impact. The values of R-squares 0.75, 0.50 and 0.25 can be concluded that the model is strong, moderate and weak [31]. Results from PLS R-squares represents the amount of variance explained by the model construct. The results of analysis of this research suggest that the SCS (0.845) and SP (0.945) has a strong influence and substantive as shown in Table 2.

The influence of F Square recommended for multiple regression operational definition is 0.02, 0.15 and 0.35. The value is interpreted that the predictor variable latent influence of small, medium and large at the structural level [31]. From the analysis, the CEC has large influence (0.351) against SCs. This is almost the same as the SCS to the SP of (0.452). RLI influence on the SCS (0296) can be classified as medium. However, RLI to SP has small effect (0.161) at the structural level as shown in Table 3.

Table 3. F square analysis

F Square	SCS	SP
CEC	0.351	0.044
RLI	0.296	0.161
SCS		0.452

Table 4. Path coefficients

	CEC	RLI	SCS	SP
CEC			0.501	0.156
RLI			0.446	0.303
SCS				0.526

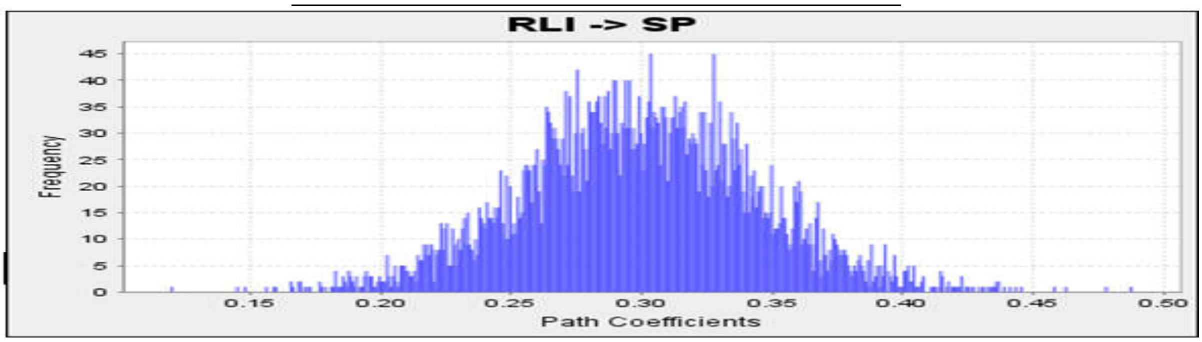

Fig.2. Path coefficient histogram (RLI-SP)

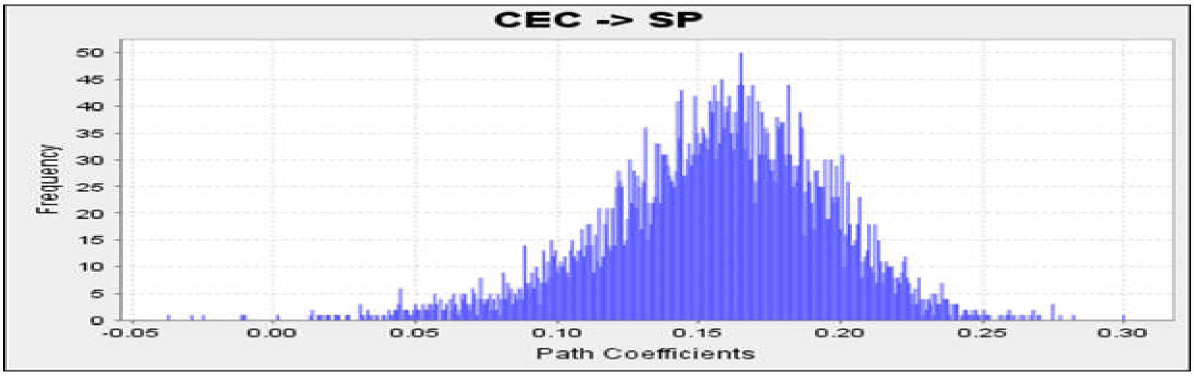

Fig.3. Path coefficient histogram (CEC-SP)

Based on the analysis using Smart PLS 3.0, Path Coefficient explained that standardized regression coefficient (beta) shows the direct influence of independent variable to dependent variable in the model. In Table 4, it is shown that only CEC → SP (0.156) has the smallest positive effect value compared to the influence of RLI (0.303) and SCS (0.526) → SP. In this research, it is found that all relationships have direct positive effects of independent variables to dependent variables in the model as shown in Fig. 2 and 3.

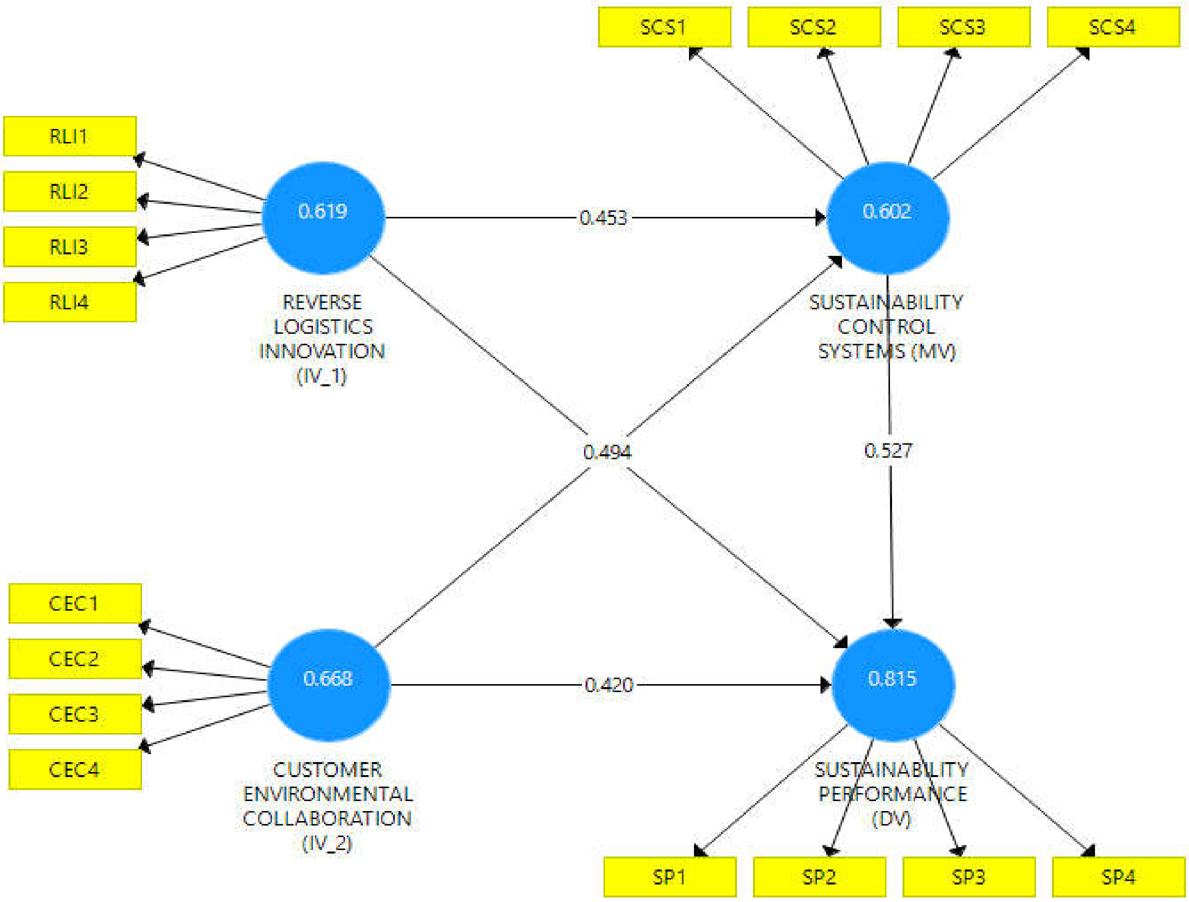

Fig.4. Structural model with SmartPLS 3 (AVE and total effect)

Table 5. Total effect

Total Effect	SCS	SP
CEC	0.494	0.420
RLI	0.453	0.537
SCS		0.527

Researchers had analysed that evidence of a positive impact between Reverse Logistics Innovation, Customer Environmental Collaboration and Sustainability Control System towards Sustainability Performance in Indonesia Fisheries Industry.

Total Effect corresponding rule of thumb adopted by [30] which shows that the model is 0.02, 0.15 and 0.35 (small, medium and large). In this study, researchers analysed that the total effect relationship between the CEC, RLI against SCS has a large effect as well as the CEC, RLI and SCS to the SP has a large effect as shown in Fig. 4. Under these conditions, researchers can formulate relationships above model as follows.

Formula Model Sustainability Control System:

$$SCS = \{[0.494] * CEC + [0.453] * RLI\}$$

Formula Model Sustainability Performance:

$$SP = \{[0.420] * CEC + [0.537] * RLI + [0.527] * SCS\}$$

Convergent validity test indictor reflexive with SmartPLS 3.0. Rule of thumb is normally used to assess the validity of the convergent value loading factor must be greater than > 0.7 for research that is both confirmatory, and value loading factor between 0.6 - 0.7 for the research that is exploratory still be received if (AVE) must greater than 0.5. But for the initial stages of measurement scale development, the loading factor value of 0.5 to 0.6 is still considered sufficient [32]. Item of CEC for all indicators > 0.7, while the value CEC2 (0.866) have valid values are great at CEC latent variables namely cooperation with customers for eco-design; then next is CEC1, customer support for cleaner production on fish chain distribution from pre and post docking. In items, RLI1 (0.651), SCS1 (0.611) and SCS4 (0.669) are still acceptable because the value of AVE > 0.50. From the analysis results of RLI, RLI4 (0.867) and RLI3 (0.836) dominant variables in this variable is the process to better manage RL activities, firms develop and connect information systems availability (information-related ability and functional integration); and when products are returned, firms are good at finding their own ways of handing them (flexibility). The result of analysis of variable of Sustainability Control System (SCS), got SCS3 and SCS2 dominant about Diagnostic Control Systems and Boundary System. For Sustainability Performance (SP3 and SP4) has a dominant value of 0.949 and 0.913 on Environmental Performance and Operational Performance.

Table 6. T statistic

	Original Sample (O)	**T Statistics (|O/STDEV|)**
CEC -> SCS	0.494	7.734
CEC -> SP	0.159	4.026
RLI -> SCS	0.453	6.862
RLI -> SP	0.298	6.658
SCS -> SP	0.527	10.660
CEC -> SCS -> SP	0.260	6.898
RLI -> SCS -> SP	0.239	5.228

In this study, measurements and modelling were made by making multiplication between exogenous and moderator variable indicators to form interaction constructs. The researcher examined and evaluated the measurement model or outer model for this case by examining valid and reliable. To test the significance to determine the influence between variables, based on the literature recommend to use 5000 resampling numbers in the bootstrapping process [31]. From result of analysis by using SMARTPLS 3.0, hence result analyse got that all variable has significant influence to sustainability performance (SP) direct effect or indirect effect. This is based on the rule of thumb considered to have significance when T Statistics > 1.96 for one-tailed test. CEC direct effect has significant effect on SCS (7,734) and SP (4,026) and indirect effect of CEC, SCS and SP (6,898). Furthermore, RLI has significant influence on SCS (6,862) and SP (6,658). Similarly, the indirect effect relationship analysed that RLI, SCS and SP (5.228). This means that all of the variables have a significant effect because T Statistic > 1.96. Researchers had analysed that evidence of a positive significant relationship between Reverse Logistics Innovation, Customer Environmental Collaboration and

Sustainability Control System towards Sustainability Performance in Indonesia Fisheries Industry.

5. CONCLUSION AND RECOMENDATIONS

In this research, the sustainability control system has a significant impact in improving the relationship between reverse logistics innovation and customer environmental collaboration toward sustainability performance. Researchers has note that the availability and integrase of information systems and flexibility in solving product problems can be an important matter for customization of technology development. Formulation of procedures in handling back orders in fish distribution should be of particular concern in the fisheries industry. In Indonesia, the fishery industry collaborates with customers in designing eco-design and green packaging distribution. Based on the results of this study, researchers propose to industry players that regular assessment within the boundary system is required including belief systems and interactive control systems. The findings may not reflect the overall situations in the state or government owner enterprises sector. As such, further research should be conducted in other organizational culture and environment to examine the generalizability of the findings of this study. The study employed in the present study was the survey method that used a set of questionnaires as measurement scale. All finding not described reverse logistics innovation and customer environmental collaboration practices because this research has limitation focus on customer environmental collaboration and reverse logistics. In an attempt to examine the existing sustainability process model, this research will propose a build process model. The proposed part of green supply chain model will address the issues of sustainability, and efficient forward and green supply chain practices. The process model will examine how the sustainability issues can be deal with in an integrated way using lean program, knowledge management and green supply chain linkage in fisheries supply chains. Thus, the proposed research will produce additional knowledge and contribute significantly on the theoretical aspects of green supply chain practices, sustainability supply chain performance controlling by knowledge acquisition. Government, Fisheries Industries and stakeholders can use the model in their policy analyses by looking into the future behavior of particular inputs and outputs. Input and output values rely on existing circumstances of capacity, investment, constraints and dynamic policy. Measuring future behavior in a timely way for various variables is the key to making decisions for better profitability and sustainability. This integrated model can implement in the fisheries supply chain practices in Indonesia at different levels of the supply chain from harvesting until retailing.

6. ACKNOWLEDGEMENTS

An appreciation is given to the SEAFDEC, Supply Chain Indonesia for their secondary data support and wish to acknowledge of Widyatama Foundation in financial support.

7. REFERENCES

[1] U.S. Department of Commerce. 2016 top markets report cold chain country case study. Washington DC: International Trade Administration, 2016

[2] U.S. Department of Commerce. 2016 top markets report cold chain. Washington DC: International Trade Administration, 2016

[3] Setijadi. Cold chain untuk peningkatan efisiensi dan produktivitas sektor perikanan. Bandung: Supply Chain Indonesia, 2014

[4] Peri G, Traverso M, Finkbeiner M, Rizzo G. The cost of green roofs disposal in a life cycle perspective: Covering the gap. Energy, 2012, 48(1):406–414

[5] Campbell G J, Marian S E. Environmental regulation, sustainability and risk. Sustainability Accounting, Management and Policy Journal, 2013, 4(2):120–144

[6] Jack E P, Powers T L, Skinner L. Reverse logistics capabilities: Antecedents and cost savings. International Journal of Physical Distribution and Logistics Management, 2010, 40(3):228–246

[7] Hsu C C, Tan K C, Mohamad Zailani S H. Strategic orientations, sustainable supply chain initiatives, and reverse logistics. International Journal of Operations and Production Management, 2016, 36(1):86–110

[8] Huang Y C, Yang M L. Reverse logistics innovation, institutional pressures and performance. Management Research Review, 2014, 37(7):615–641

[9] Bianca L. Sistem rantai dingin (cold chain) dalam implementasi sistem logistik ikan nasional (SLIN). Bandung: Supply Chain Indonesia, 2014

[10] Huang Y C, Yang M L. Reverse logistics innovation, institutional pressures and performance. Management Research Review, 2014, 37(7):615–641

[11] Fitrianah D, Praptono N H, Zen R A M, Hidayanto A N, Arymurthy A M. An integrated system architecture in managing fishery data in Indonesia. In 4th International Conference on Digital Information and Communication Technology and Its Applications, 2014, pp. 101–108

[12] Osawa T, Julimantoro S. Study of fishery ground around Indonesia archipelago using remote sensing data. In A. Sumi, K. Fukushi, & A. Hiramatsu (Eds.), Adaptation and mitigation strategies for climate change. Tokyo: Springer, 2010, pp. 57-69

[13] Álvarez-Gil M J, Berrone P, Husillos F J, Lado N. Reverse logistics, stakeholders' influence, organizational slack, and managers' posture. Journal of Business Research, 2007, 60(5):463–473

[14] Freeman R. E. Strategic management: A stakeholder approach. England: Cambridge University Press, 2010

[15] Vachon S, Klassen R D. Environmental management and manufacturing performance: The role of collaboration in the supply chain. International Journal of Production Economics, 2008, 111(2):299–315

[16] Hart S L. A natural-resource-based view of the firm. Academy of Management Review, 1995, 20(4):986–1014

[17] Moldan B, Janoušková S, Hák T. How to understand and measure environmental sustainability: Indicators and targets. Ecological Indicators, 2012, 17:4–13

[18] Agrawal S, Singh RK, Murtaza Q, Authors F. Triple bottom line performance evaluation of reverse logistics. Competitiveness Review, 2016, 26(3):289–310

[19] Guo S, Shen B, Choi T M, Jung S. A review on supply chain contracts in reverse logistics: Supply chain structures and channel leaderships. Journal of Cleaner Production, 2017, 144:387–402

[20] Lee S. Drivers for the participation of small and medium-sized suppliers in green supply chain initiatives. Supply Chain Management: An International Journal, 2008, 13(3):185–198

[21] Zhu Q, Sarkis J, Lai K hung. Green supply chain management implications for "closing the loop." Transportation Research Part E: Logistics and Transportation Review, 2008, 44(1):1–18

[22] Jabbour C J C, De Sousa Jabbour A B L. Green human resource management and green supply chain management: Linking two emerging agendas. Journal of Cleaner Production, 2016, 112:1824–133

[23] Srivastava S K. Green supply-chain management: A state-of-the-art literature review. International Journal of Management Reviews, 2007, 9(1):53–80

[24] Wijethilake C. Proactive sustainability strategy and corporate sustainability performance: The mediating effect of sustainability control systems. Journal of Environmental Management, 2017, 196:569–582

[25] Morgan G A, Gliner J A, Harmon R J. Measurement and descriptive statistics. Journal of the American Academy of Child and Adolescent Psychiatry, 1999, 38(10):1313–1315

[26] Sekaran U, Bougie R. Research methods for business: A skill building approach. New JerseyJohn Wiley and Sons, 2016

[27] Fornell C, Larcker D F. Structural equation models with unobservable variables and measurement error: Algebra and statistics. Journal of Marketing Research, 1981;18(3):382-388

[28] Hair J F, Sarstedt M, Ringle C M, Mena J A. An assessment of the use of partial least squares structural equation modeling in marketing research. Journal of the Academy of Marketing Science, 2012, 40(3):414–433

[29] Hair Jr J F, Sarstedt M, Hopkins L, G. Kuppelwieser V. Partial least squares structural equation modeling (PLS-SEM). European Business Review, 2014, 26(2):106–121

[30] Chin W. The partial least squares approach to structural equation modeling. Modern Methods for Business Research, 1998, 295(2):295–336

[31] Henseler J, Chin W W. A comparison of approaches for the analysis of interaction effects between latent variables using partial least squares path modeling. Structural Equation Modeling: A Multidisciplinary Journal, 2010, 17(1):82–109

How to cite this article:

Hutomo A, Mohd Saudi MH, Sinaga HO. The Mediating Effect Of Sustainability Control System On Reverse Logistics Innovation And Customer Environmental Collaboration Towards Sustainability Performanc. J. Fundam. Appl. Sci., 2018, *10(1S), 705-721*.