

# An Overview of Sustainable Supply Chain for Company's Goal

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**Abstract:** There are three common company's goal achievement, i.e. economic, social and environmental perspective achievement. Business profitability, stability, social equity, improvement of people's relationship, environmental responsibility, friendly technologies, minimize ecological scarcities and reduce the environmental risks are examples for that company's goal achievement. Due to that achievement, there must be a comprehensive and integrated working system of groups that connected to all operations in various operations. This will give benefits for customer in term of using products and services with quality manner. This network relationship is known as the supply system. Integration between supply systems and sustainability is contained in strategic and transparent planning and implementation steps. The longstanding economic performance improvement from each organization is achieved in the organization's aim in the fundamental coordination of business operations between the main organizations. For implementing sustainability in the supply system, good management is needed. This is known as Sustainable Supply Chain Management (SSCM). SSCM contains information, materials and capital flow management along with collaboration between companies throughout the supply system. The company's efforts to decrease the negativity of environmental effects in their supply systems require SSCM to be combined with various concepts.

## 1 INTRODUCTION

For having a better quality of company's achievement, there are three common perspectives that business operations must have (Boukherroub, et al, 2015). The focus of economic perspective is about business profitability, stability and significantly financial improvement. Achievement for social perspective could be measured by social equity and improvement of people's relationship. Environmental perspective focus to environmental responsibility, friendly technologies and minimize ecological scarcities and reduce the environmental risks. All of these opportunities could be achieved by company's management when there is a balance between natural case (environment), social case (responsibility), and business case (economic) (Gomes, et al, 2015). All of this goals are called company's sustainability goals. This definition suggests to focus on the societies, the companies serve, and sustainment of nature's resources (Winter and Knemeyer, 2013).

The use of the ISO standard that has been used extensively nowadays, has resulted in the attention

to the company's sustainability and becoming a hope in the future. Following are the ISO standards that are widely used (Lodziensis, 2017): (1) ISO 14001, is an application of the environmental management operation. Inside of any basic requirements that must be met by the company (and any confirmation about it); (2) ISO 14040 series, used as a product life cycle evaluation model; (3) ISO 14020 series, used to get the exact environmental label of a product. (4) ISO 14062, which is a practical guide to product design that considers environmental aspects (environmentally friendly design approaches and relationships with partners in the supply chain); (5) ISO 14064, to develop programs aimed at reducing greenhouse gas emissions; (6) ISO 14051, contains guidelines for accounting for the costs of material flow in the supply chain. Using this ISO standard, means that there must be a comprehensive and integrated working system of groups.

This working system is connected to all operations in various operations. This will give benefits for customer in term of using products and services with quality manner. This network relationship is acknowledged as the supply system. The aim of the supply system is to give benefit in

term of using products and services sent to customers. "Sustainability is not only establishing our choices and actions for economically advantages, but also environmentally and socially responsible. Social problems in the supply system are described as product-related product operation that influence human safety, community development and welfare " (Bag, et al, 2014).

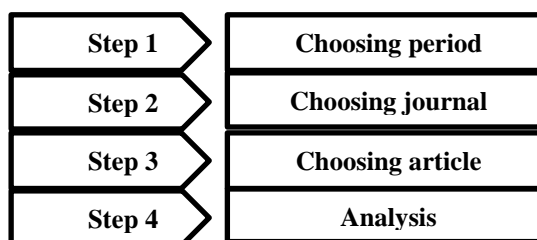


Figure 1: Methodology of Research

## 2 METHODS

To maintain the present case and analyze opportunities for the following research on sustainable SSCM, some articles have reviewed. From a methodological side, article review is an explicit, fundamental, approachable for analyzing, classifying, and clarifying the reference journals (Winter and Knemeyer, 2013) Figure 1 demonstrates an analysis of the elemental article review methodology.

### Step 1 – choosing period of paper publication

Several studies in the Period between 2007 and 2019 have been chosen as the main references. The selection of this period of time is considered to have sufficiently represented thinking that is a developing science.

### Step 2 – choosing journal

In this journal, a decision was made to spotlight on specific subjects for the analysis. *International journals such as Journal Supply Chain Management, Management Science, Journal of Physical Distribution and Logistics Managemen, Journal of Cleaner Production, Journal of Social Science and Humanity*, had been selected as citations. These journals contain disciplines logistics/SCM, Social science, operations/production management, and social/environmental management.

### Step 3 – choosing article

The main criterion for selecting articles to be included in the analysis is clear relationship of the content of the article to the framework of the previously defined text.

### Step 4 – analysis

The next step is to study and examine selected articles to find out how research has developed over time. This analysis also provides capability to analyze the article opportunities in current article because it connects to the integration of sustainability and SCM. This provides further input and specifications concerning potential research opportunities.

## 3 RESULT AND DISCUSSION

### 3.1 Dimension Of Sustainability

Sustainability is defined as "development that meets current needs without reducing the ability of posterity to fulfil their needs" (Seuring and Müller, 2008). This description is most often used. Sustainability has two principles, one is the concept of 'needs', especially the basic needs of the world's poor. This must be seen as the most important priority; Two is the idea of meeting current and future needs is associated with environmental conditions. Attention to all dimensions is what must be done holistically and totally. These things are also often termed attention to People, Planet and Profit. Also often termed Economic, Environment and Equity. These three "pillars" are the main topics in reviewing sustainability (Ashby, et al, 2012). In simple terms, the following questions represent the meaning of sustainability (Linton, et al, 2007):

1. In the future, what resources will be needed?
2. In the future, how can a waste or pollutant be released by having a positive effect?
3. For posterity, the extent can new sources of exhausted resources be provided?
4. How is exploitation of renewable resources taken into account that these resources can still be updated?
5. How can sustainable use of technology for processing resources with increased material wealth?
6. At what level can consumers who are market forces drive sustainability? How do you change your lifestyle?
7. to realize sustainability, what policies must be established?

The table 1 shows several indicator of sustainable development in each dimension (Gomes et al., 2015).

Table 1: Indicator of Sustainable Development

Indicator of Sustainable Development			
Social	Environment	Economic	Institutional
<ul style="list-style-type: none"> <li>• Equity</li> <li>• Security</li> <li>• Housing</li> <li>• Education</li> <li>• Population</li> <li>• Health</li> </ul>	<ul style="list-style-type: none"> <li>• Atmosphere</li> <li>• Fresh water</li> <li>• Land</li> <li>• Oceans, seas, coasts</li> <li>• Biodiversity</li> </ul>	<ul style="list-style-type: none"> <li>• Economic structures</li> <li>• Consumptions and productions patterns</li> </ul>	Institutional framework ↓ Institutional capacity

### 3.2 Supply chain

The whole physical operation needed starts from the fulfillment of crude materials from suppliers that contain all steps of the process to produce finished products, directly or indirectly, so that this product finally arrives at the end user and the related information flow is a clear definition of Supply chain. In this supply chain, many separate companies are interrelated based on their section in satisfying or meeting the special needs of end consumers. There is a close and integrated relationship between producers, suppliers, carriers, warehouses, retailers, and end-users of the product (Tay, et al, 2015).

### 3.3 The integration between sustainability and supply chain

Integration between supply chains and sustainability is contained in strategic and transparent planning and implementation steps. So that each of company's long-term economic performance improvement is achieved in the group's economy social and environmental aim in the fundamental management of business operations between the main organizations. In addition, for achieving sustainability in the supply system, good management is needed. This is known as Sustainable Supply Chain Management (SSCM). SSCM contains information, material and capital flow management including collaboration between companies throughout the supply system(Linton et al., 2007). All objectives things contained in the ranges of sustainable development such as economy, environment and social, are analyzed inside of accounts that come from the requirements of customers and stakeholders. Therefore, the principle that only considers profit and profitability is the only element in the longstanding success of business and the economy is not relevant anymore. Due to business system is aggressive and unstable, it creates

the urgency for firms to enhance their sustainability and profitability to accomplish their will to gain advantage. These new business types emphasize the obligation to boost product's life span, material reuse, recycling and recovery. This allows companies to save resources, reduce costs, improve their competitive position, fulfil those sustainability goals and increase the customer's loyalty. Another goal is to achieve corporate resource self-sufficiency through the recovery of waste (Sgarbossa and Russo, 2017). Sustainable Supply chain has been used in many areas such as for the heavy industry, Small and medium entrepreneur, the meat industry, health care system, textile industry. the essence of urban and rural eco-development ( the bamboo industry and place making in Anji Anji, China, etc.(Singh, et al, 2012).

### 3.4 Drivers towards SSCM

The company's efforts to minimize negative environmental impacts in their supply chains require SSCM to be combined with various concepts. Top management has a big influence in the SSCM application. Internal incentives to be involved in the problem of sustainable supply, provide a strong motivation in implementing this. Government regulations, general standards that must be met and customer requirements are external influences so that SSCM can be more successfully implemented (Tay et al., 2015). Table 2 shows some of Drivers towards SSCM

Drivers Towards Sustainable Practices								
Internal Drivers/Enablers			External Drivers/Enablers					
Worker Issues	Strategy Issues	Functional Issues	Politic	Competitors	Patrons	Suppliers	Investors	NGOs
<ul style="list-style-type: none"> <li>Employee involvement</li> <li>Top management commitment</li> <li>Culture</li> </ul>	<ul style="list-style-type: none"> <li>Competitive advantage / firm competitiveness</li> <li>Alignment of company strategy</li> <li>SCM Company sustainable strategy</li> <li>Risk management</li> </ul>	<ul style="list-style-type: none"> <li>Purchasing and supply function: Capabilities in purchasing and supply function</li> <li>Other internal CSR practices</li> </ul>	<ul style="list-style-type: none"> <li>Government policy</li> <li>Regulation</li> </ul>	<ul style="list-style-type: none"> <li>Pressures from competitors</li> </ul>	<ul style="list-style-type: none"> <li>Pressures from customers</li> </ul>	Cooperate with suppliers	Push from investors	Influence of NGOs

### 3.5 Sustainability Performance Criteria

Economic factors namely financial aspects (capital investment, the total operating cost of the new plant, the revenue, return on investment, etc.) are usually made as a measurement of SC performance. This is always associated with Flexibility (high adaptability in the fields of production, distribution, etc.), and suitability of demand (production quality, service quality, etc.), responsiveness (lead time, cycle time,

etc.), reliability (approximate reliability, service shipment rates, etc.). Environmental and social performance has not been the focus of attention because performance still depends on the industrial sector. However some standards such as the SCOR (reference model, OECD guidelines, GRI, ISO 26000, etc.) can be used to determine environmental, economic and social performance criteria (Boukherroub et al., 2015). Sustainability performance criteria could be seen in table 3.

Table 3: Sustainability performance criteria

Sustainability performance criteria			
Dimension	Economy (Eco)	Environment (Env)	Society (Soc)
Criterion	<ul style="list-style-type: none"> <li>Financial performance</li> <li>Responsiveness</li> <li>Flexibility</li> <li>Reliability</li> <li>Quality</li> </ul>	<ul style="list-style-type: none"> <li>Resources consumption</li> <li>Climate change Pollution</li> <li>Hazardous materials</li> </ul>	<ul style="list-style-type: none"> <li>Safety and Health</li> <li>Job creation and Wealth</li> <li>Work Condition</li> </ul>

### 3.6 Future research.

Future research is needed to address problems found in many industrial fields (e.g. electronics, heavy industry, and also in Small and Medium Industries). Other fields such as education, banking, fisheries, livestock, agriculture and others can also be used as research land. Qualitative and quantitative research can be applied to this field. Experimental research is also needed. The application of a multidisciplinary approach such as the use of logistics / SCM disciplines, manufacture operations / management, social / environmental management, strategic management, marketing and finance. Another thing that can also be used as the research theme is the

synergy between risk management and sustainability related to SCM. Research related to sustainable SCM and outsourcing or depends on initiatives seem to be feasible for future research efforts. Things like profit indicators, variations in supply chain productivity, energy process performance. Ordinary themes in the fields of logistics, product development, supplier relations, manufacturing and supervisory issues can also be investigated. Attempts to link or convert existing theories and approaches to research are needed in all these fields (Singh et al., 2012a).

## 4 CONCLUSION

Sustainable supply chain management is needed in terms of competitive industrial commercialization. There are many incentives to create sustainable supply chains, including pressure from global warming and environmental problems. The implementation of effective and sustainable supply chains will apply throughout the world. New ideas contained in future research must always be encouraged to strive for continuous improvement in sustainable supply chain management.

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