

How to Change MSME's Paradigm in Applying Green Industry Principles?

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Abstract—The application of green industry principles in MSMEs is one of the targets that must be addressed by the Indonesian government to achieve the goals of sustainable development. The application of green industry principles in Indonesian MSMEs, especially footwear processing industry sector in Bandung is still very low. Therefore, it is necessary to conduct a research that can identify the factors that influence the application of green industry principles in MSMEs. This study uses a narrative literature review by Cronin, Ryan and Coughlan. The results of this study are factors that influence the application of green industry principles to MSMEs, namely external factors, internal factors and connecting factors. External factors are (1) government regulation, (2) certification, (3) financing, (4) incentives, (5) awards, (6) competitors in the industry, (7) public buying interest, (8) public opinion, (9) social organization. As for internal factors are (1) production processes, (2) waste processing technology, (3) changes in production standards, (4) supplier, (5) corporate awareness, (6) environmental mitigation. Both of these factors are associated with connecting factors, namely (1) environment, and (2) education and training.

Keywords— *green industry; MSMEs; sustainable development*

I. INTRODUCTION

This paper discusses how to change MSME's paradigm in applying green industry principles. The background of this research is Indonesian government programs that support sustainable national development. Sustainable development focuses on how to advance the economy of the community, nation and state by taking into account environmental sustainability. The Ministry of Industry drafted a green industry concept in Regulation of the Minister of Industry No. 05/M-IND/PER/1/2011 where the green industry is defined as an environmentally sound industry that harmonizes growth with environmental sustainability, prioritizes efficiency and effectiveness of the use of natural resources and benefits the community. Some criteria of an industry can be said to fulfill the principles of environmental conservation are to do reduce, reuse, recycle, replace and replant [1].

In the Manila Declaration of 9-11th September 2009 concerning green industry, Indonesia stated concrete steps namely "reducing carbon emissions and efficient use of resources, especially industries that are consuming energy. Towards green industry through the production of eco

products". In order to achieve the CO2 reduction target by 2050 by 70%, the program that must be carried out includes the use of efficient energy utilization technology, energy savings, use of low carbon energy sources which include efficient product, balance of supply and demand, and use of renewable energy sources, plus improvements in social and institutional infrastructure [2].

MSMEs have a very important role in the economy but most MSMEs do not have good managerial ability in balancing economic, social and environmental aspects in the organization of their business activities. The cumulative contribution of MSMEs to pollution and environmental concerns is not documented, yet is suggested to be equal, if not more, by some researchers [3]. Thus, the potential contribution of MSMEs to cleaner environment may not be realized yet. In India, present policy and legal frameworks do not encourage and support MSMEs in this direction. With lack of enforcement mechanism, the local regulatory bodies may be missing much of the environmental impacts by MSMEs [4].

One industrial sector that plays a role in the economy of Bandung, Indonesia is the footwear processing industry sector. The application green industry principles in the MSME sector of the footwear processing industry in Bandung is still very low. The low application of the green industry principle to MSMEs in the footwear processing industry sector in Bandung is due to their low knowledge of the green industry concept, lack of production facility, lack of human resources and lack of technology [5].

Green industry cannot be separated from several factors, especially if it is related to the situation and conditions in Indonesia in the era of very rapid economic growth along with similar growth in Asia Pacific. Where the results of his research stated there were relationships between (1) economic growth factors and environmental performance and (2) economic growth and environmental sustainability [6].

There are several strategic issues that influence the realization of green industry, among others (1) the regulation is not yet effective in the framework of environmental management and control effectiveness related to industrial activities, (2) coordination and integration of programs among stakeholders is not optimal, both between the government and the private sector, (3) not optimal supporting infrastructure of

green industry, (4) not optimal network of community-based partnership relationships [7]. This means that the things that must be considered in realizing a green industry are regulation, coordination and integration of programs among stakeholders, supporting infrastructure, and network of community-based partnership relationships.

Cheok and Singh state that MSMEs face more challenges in pursuing green growth compared to larger company's despite being more flexible in adapting to market changes. The challenges faced include (1) lack of awareness, (2) limited access to information and technology, (3) strict regulatory requirements, (4) lack of qualified personnel, (5) limited access to finance, and (6) barriers to markets. This means that to face challenges in realizing a green industry, cooperation between the government, industry and the community is needed [8]. This is the same as the statement put forward by Alrasyid [7]. So, there are five things that need to be considered, namely (1) awareness, (2) access to information and technology, (3) regulatory requirements, (4) qualified personnel, (5) finance, and (6) barriers to market.

Therefore, real action is needed and the cooperation of all parties, both government and business people, one of them is the MSMEs sector to have a mindset and actions that lead to the green industry. Firms which proactively pursue green strategies stand to benefit in many ways than just profits.

A green competitive advantage is the potential for environmental performance to improve long term profitability. The benefits are classified into four categories namely emerging market opportunities, early mover advantage in markets, managing cost and risk, and environmental stewardship. Nulkar states that there are ten factors that must be considered in shaping awareness of the application of green strategies, namely (1) regulation, (2) the environment, (3) customers, (4) environmental risks, (5) industry changes, (6) new environmental technologies, (7) community awareness, (8) stakeholders, (9) ethical motives and (10) environmental awareness [4].

Based on the four researchers above, we can see several factors that influence an industry to switch to a green industry, both based on green strategies by Nulkar [4], strategic issues that influence the realization of green industry by Alrasyid [7], research result by Yuliawati, Rani dan Assyofa [5] and challenges in pursuing green growth by Cheok and Singh [8]. This research will formulate the factors that influence the MSMEs in applying green industry principles in the context of sustainable development.

II. RESEARCH METHODOLOGY

This study uses a narrative literature review by Cronin, Ryan and Coughlan [9]. This methodology has four types of narrative reviews, namely general literature review, theoretical literature review, methodological literature review and historical literature review. Based on the four types, the theoretical literature review will be used in this study, which examines how theory shapes or frames research [10].

This type of review is useful in gathering together a volume of literature in a specific subject area and summarizing and

synthesizing it. Its primary purpose is to provide the reader with a comprehensive background for understanding current knowledge and highlighting the significance of new research.

III. RESULT AND DISCUSSION

Based on the steps of the theoretical literature review above, this study shows that there are four main sources that discuss green industry, namely Nulkar [4], Alrasyid [7], Yuliawati, Rani and Assyofa [5] and Cheok and Singh [8]. However, all four use different terms, the difference is based on the point of view and setting.

Nulkar has a framework for a green industry, where governments, industries and communities implement green business strategies so that their businesses have competitive advantages. As for Alrasyid the focus is on the green industry [7]. Alrasyid wants to implement a green industry area that involves industry, government and society [7]. Yuliawati, Rani and Assyofa conducted field research on MSMEs as a form of support for Sustainable Development because the Financial Services Authority and the Indonesian government were still focused on greening large companies [5]. Meanwhile, Cheok and Singh conducted a survey of MSMEs in the Asia-Pacific Economic Cooperation (APEC) member countries, the results of which were challenges of MSMEs in implementing a green industry. MSMEs faces many challenges in realizing green growth compared to large companies [8].

The four researchers showed a number of different factors in building the application of Green Industry. There are several factors that are the same and there are different ones.

The factors stated above are the same but some need to be adapted to Indonesian settings. These factors are (1) government regulation, (2) certification, (3) incentives, (4) awards, (5) financing, (6) competitors in the industry (7) public buying interest, (8) public opinion, (9) social organization, (10) production processes, (11) waste processing technology, (12) changes in production standards, (13) supplier, (14) corporate awareness, (15) environmental mitigation, (16) environment and (17) education and training.

Government policies as stated by Nulkar [4] and Alrasyid [7], also in Indonesia in the form (1) Government Regulation No. 52/2011 concerning Income Tax Facilities for Investment in Certain Business Sectors and / or in Certain Regions, where in Annex I Revised Regulation No 52/2011 required the use of environmentally friendly technologies [11], (2) Presidential Regulation No. 28/2008, concerning National Industrial Policy which regulates environmentally friendly industries [12], and (3) Law No. 3/2014 concerning Industry has specifically regulated the Green Industry (articles 77-83) [13].

To achieve the application of government regulations, the government must carry out policy formulation, institutional strengthening, standardization and provision of incentives. The impact of standardization is certification. There is an International Organization for Standardization (ISO) 14001 which sets the company's management being environmentally friendly. Also, the Indonesian National Standard (SNI) regulates how standard products are environmentally friendly. The incentives are relief in the form of discounts for the

purchase of new machines in the footwear industry. In addition to incentives, the government also gave awards since 2010 through the Ministry of Industry to give an environmentally friendly industry award to companies that have applied environmentally friendly industrial principles in their production processes.

Furthermore, there are financing factors. This factor can usually be seen from the existence of banks that want to finance or lend funds to environmentally friendly industries. The next factor is competitors in the industry. The presence of competitors can make an industry make environmentally friendly products because there are other products that are environmentally friendly. The aim of being an environmentally friendly industry is also influenced by the presence of other producers that have been certified as environmentally friendly.

Furthermore, another factor is public buying interest. The existence of consumers who choose environmentally friendly products can make an industry make products that are environmentally friendly. This is related to the public opinion. The existence of good public opinion about an environmentally friendly industry can be a factor in switching an industry into a green industry because they hope that it will be like the public's view that the industry is an environmentally friendly industry. The existence of social organizations that can hinder an industry that does not implement environmentally friendly industries is the next factor. This social organization factor will have an effect if there are social organizations that can help or cooperate together in supporting an industry to be an environmentally friendly industry.

Another factor is production processes. Production processes include (1) saving the use of materials in the production process, (2) the use of materials, places, and tools that can be used repeatedly, (3) the use of human resources that care for the environment to become employees, include (5) application of environmentally sound production rules, (6) regulation of factory layout to be efficient and effective, (7) modification of equipment used to be efficient, and (8) packaging of products with recyclable packaging. Furthermore, waste processing technology. Environmentally friendly products can be produced if there is technology to process the waste to meet environmental quality standards. Meanwhile, factor changes in production standards includes recycling of waste from production residues, improving the environment damaged by the production process, using low energy and water intensity. Next is the existence of suppliers that supply environmentally friendly materials that can make a company get a good image.

Corporate awareness is another factor that can build the application green Industry. The company's awareness that they must prioritize efforts for the efficiency and effectiveness of lasting power use is the first. The second is that the company must be able to harmonize the industry with the preservation of environmental functions and can benefit for the community. Another factor is environmental mitigation, that is companies are morally and materially responsible for completing production waste and pollutant waste cases.

Environment and education and training are factors that has the potential to connect the green industry. Environment is an

inseparable factor in building a green industry. Do not pollute the environment, keep the surrounding environment sustainable so that they can remain in certain environments even though there are production activities. Then, the education and training factor, especially from the Ministry of Industry for employees that can support industry into green industry.

Seventeen of the factors above can be grouped into two main aspects, namely external and internal that can build green industry applications for MSMEs. External factors are (1) government regulation, (2) certification institution, (3) financing, (4) incentives, (5) awards, (6) competitors in the industry, (7) public buying interest, (8) public opinion dan, (9) social organization. Internal factors are (1) production processes, (2) waste processing technology, (3) changes in production standards, (4) suppliers, (5) corporate awareness, and (6) environmental mitigation. The connecting factors are (1) environment and (2) education and training.

IV. CONCLUSION

Coordination between the three parties (government, industry and society) is needed to build a green industry that leads to sustainable development. There are seventeen factors that can build green industry applications for MSMEs, namely (1) government regulation, (2) certification, (3) financing, (4) incentives, (5) awards, (6) competitors in the industry, (7) public buying interest, (8) public opinion, (9) social organization, (10) production processes, (11) waste processing technology, (12) changes in production standards, (13) supplier, (14) corporate awareness, (15) environmental mitigation, (16) education and training, and (17) environment.

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