

The Impact of Social Well-being on Sustainability Practice among Malaysian Manufacturing Firms

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Abstract

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Manufacturing social well-being depicts the extent and degree to which society members within and around manufacturing firms is functioning well within the industrial space. It reflects the impact of manufacturing firms' activities on community members' social lives. This study investigated Malaysia manufacturing firms' social well-being by selecting 104 manufacturing firms were selected for data collection. This study made use of survey research based on quantitative approach using three basic dimensions of social well-being indicator: employees, customers and the immediate community. The study result pointed out 10 important factors that should be taken into consideration by Malaysia manufacturing firms in order to enhance their sustainable practice.

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1. Introduction

The concept of sustainable development became more known with the publication of the Brundtland Report during the World Commission on Environment and Development in the year 1987. It is defined as the ability of the present generation to meet their needs without compromising the ability of the future generation from meeting their needs too (Brundtland, 1987). In order to achieve sustainable manufacturing, efforts have been shifted by the manufacturing industries from the end-of-pipe solutions to product life cycles, more integrated environmental strategies and management systems (Fadzlin et al., 2012). The consideration for sustainable manufacturing practices was further

strengthened in the Asia-pacific region and many other countries in the world by the economic, social and the environmental factors (Fadzlin et al., 2012; Gunasekaran and Spalanzani, 2011).

These identified factors gave birth to the five set of components for measuring sustainability as provided by the National Institute of Standard and Technology: environmental stewardship, economic growth, social well-being, technological advancement, and performance (Joung, Carrell, Sarkar, and Feng, 2013). Whereas many studies have focused on environmental stewardship (Smith, DuBois and Krasny, 2015), economic growth (Schandl et al, 2015), technological advancement (Mainali and Silveira, 2015), and performance (Boons, Montalvo, Quist and Wagner, 2013), however, very limited studies have been done on the measurement and impact of social well-being on sustainable manufacturing practice. Majority of the studies do not specifically address issues of manufacturing social well-being on sustainable manufacturing practice but only considered it as a subcomponent which might not give richer findings. Therefore, this present study will investigate the impact of manufacturing social well-being on sustainability practice among Malaysian manufacturing firms.

2. Methodology

This study made use of survey research based on quantitative approach using Malaysia manufacturing industry as study population. A total of 104 registered manufacturing companies with the federation of Malaysian manufacturers (FMM) were selected for this study. The manufacturing industry was chosen because they represent one of the major contributors to environmental degradation in Malaysia (Samuel, Agamuthu and Hashim, 2013) and contributes hugely to both infrastructural and economic development of the nation (Nordin and Adegoke, 2015; Hulten, Bennathan and Srinivasan, 2006). A mail survey questionnaire technique was used to collect data from the selected respondents which include manufacturing managers, operation managers and environmental (health and safety officers) managers of manufacturing firms in Malaysia. Data were collected and analyzed by using SPSS version 20.

2.1 Study Measurement

The measure of the social well-being indicates the societal effect of the manufacturing process and the combinations of the safety and health practices, human rights and the development management of the manufacturing firms. There are three basic dimensions of social well-being indicator: employees, customers and the immediate community (the surrounding communities that are directly or indirectly affected by the manufacturing activities of the firms). According to (Joung et al., 2013), the impact of these dimension are core to the sustainable operations and the entire sustainability of the organization.

Employee indicator entails the entire health and safety of the organizations' employees plus the professional development and their satisfaction with the organization. This indicator is important for sustainable manufacturing because of the issues of human right and the close link between the employee and the firms' products. The customer indicators represent the organizations' customer health and safety, the use of the organizations' products, and their satisfaction on the organizations' operations and productions which includes certain customers' rights. This indicator is subcategorized

to show the firm’s ability to meet and exceed the demand and wants of their customers. The indicator is required in measuring the satisfaction of customers of a firm and their well-being towards the sustainability of an organization.

Community are the firms’ environment that is directly affected by the operations and actions of the organization. The indicator is subcategorized into the product responsibility, justice, and community development programs. In addition, fairness, equity, human rights, and corruption are also part of the dimensions for measuring the social well-being of the community. They are as well related to the healthy relationship kept by an organization with its community. Thus, the instrument measured social well-being into three dimensioned where employee dimension was measured by 12 items, 5 items were used to measure the dimension of customer’s social well-being and community dimension was measured by 3 items which were all based on Joung et al (2012).

The demographic information of the respondents was elucidated in section H of the questionnaire. The section contains seven questions which include the industry category of the respondents, quality system used in the respondents’ company, type of respondent’s company ownership, company’s size, respondent’s position and the respondent’s working experience. The respondents were asked to tick their most suitable response from the options given in the section. Furthermore, this study used a 6-point Likert type scale in the development of the questionnaire in this study. The reasons for the choice of this scale lies in its ability to increase the reliability of the instrument and also reduce the potentials of social desirability bias (Krosnick, 1999). This is supported by Chomeya (2010) who assessed the quality of psychology test between the 5-point and the 6-point Likert scale and found that the 6-point scale has a better discrimination and reliability quality than the 5-point scale.

2.2 Study Demographic

The study selected manufacturing companies consisting of the Electrical and Electronic industry which represents the major percentage (29.8%) of the respondents’ industrial sector. Rubber and plastic industries have 14.4% representation of the respondents, food and beverages have 8.7% representation, while the Textile, wearing and apparel industry has 1.9 % representation. More so, the Paper and allied industry is represented by 5.8%, Chemical and allied products has 8.7% representation, Basic metallic parts industry is represented by 4.8%, Transport equipment industry has 6.7% representation, while the industry categorized as others has 19.2% representation which were within the range of recycling industry, medical equipment and precision. Table 1 summarized the study companies’ profiles.

Table 1. Demographic profile of the Companies

	Frequency	%
1		
Category of industry		
Food products and beverages	9	8.7
Textile, wearing apparel	2	1.9
Paper and allied products	6	5.8
Chemical and allied products	9	8.7
Rubber and plastics	15	14.4
Basic metallic parts	5	4.8
Electrical, electronic, computing machinery parts	31	29.8
Transport equipment	7	6.7
Others	20	19.2

2 Certification			
ISO 9001	22	21.2	
ISO/TS 16949	4	3.8	
QS 9000	2	1.9	
ISO 14001	50	48.1	
Other	26	25.0	

Based on Table 1, the frequency analysis of the certification of the companies revealed that majority of the companies (48.1%) are certified in Environmental Management System (ISO 14001). 21.2% of the companies have been certified in quality management (ISO 9001), only 1.9% of the companies have quality system (QS 9000) certification, 3.8% of the companies are certified in ISO/TS 16949 while 25% of the companies have other certification which ranges between Halal certification, integrated management system certification. In respect of the company ownership, 38.5% of the companies are privately owned and also, 38.5% are multinational companies. 15.4% of the companies are foreign owned, while 3.8% are both state owned enterprises and joint venture. With respect to the size of the companies, this is measured by the number of full-time employees of the company. The majority of the companies are large (51.9%), having more than 251 full-time employees. 22.1% of the companies are medium sized with full-time employees between 151 and 250 employees, while those companies with full-time employees ranging between 51 and 150 is represented by 26%. These results indicate that the sample companies are financially, technically capable and also have expertise capability to provide needed environmental stewardship.

The study respondent consist of 11.5% operations managers, 12.5% production/manufacturing managers, 37.5% environmental/health and safety managers while 38% were top management executives as presented in Figure 1.

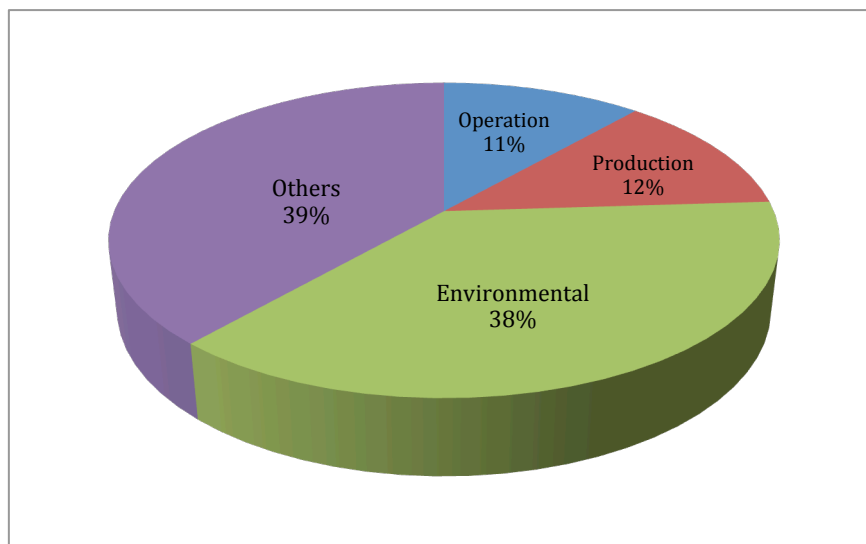


Fig 1. Demographic profile of the Respondents

In addition, the demographic analysis result revealed that 14.4% of the respondents are less than one year of employment in their current position. The majority of the respondents (42.3%) are between one to five years in their position. 13.5% were between six to ten years in their current position while, 28.9% have spent more than 10 years in their current position. More so, the largest percentage (43.3%)

of the respondents has spent between one to five years in their current company. 28.8% have been with their companies for more than 10 years. 15.4% have spent between six to ten years in their companies while those percentages of the respondents with less than one year in their company is 12.5%. The indication of this result is that the respondents are the appropriate personnel and in the right position to understand the issue of environmental stewardship in their respective companies.

3. Findings and Discussion

Social well-being in this paper was measured from the dimension of the community well-being, manufacturing customers’ well-being and employee well-being. The result of the descriptive analysis as presented in Table 2 shows that social well-being practices is been observed by the Malaysian manufacturing industry which is reflected in the mean standard deviation values of 3.82 and 0.650 respectfully.

Table 2. Descriptive Analysis of the Constructs

Constructs	Maximum	Minimum	Mean	Standard Deviation
Manufacturing Social Well-Being	5	1	3.82	.641
Manufacturing Customers’	5	1	4.09	.685
Manufacturing Employees’	5	2	4.05	.672
Community	5	1	3.30	1.226

Additionally, the result of the employee well-being in Malaysian manufacturing shows that the its implemented with mean value = 4.05 and a standard deviation value = 0.672. Also, mean standard deviation values of 4.09 and 0.685 respectfully indicate that customer well-being has been maintained actively within Malaysian manufacturing companies. Meanwhile the mean value of 3.30 and the standard deviation value of 1.226 reveals that the implementation of community well-being practices within Malaysian manufacturing firms are established. However, as shown by the result of the standard deviation, it is deduced that the community well-being practices has not been evenly practiced by all manufacturing companies in Malaysia.

Furthermore, this study identified social well-being index sustainable manufacturing practices that are not applicable within Malaysian Manufacturing companies. One out of the 104 investigated companies stated that encouraging employees to give suggestion towards sustainable improvement, reduction of injuries, occupational diseases, lost days, and absenteeism, education, training, counselling, prevention, and employee empowerment to limit the risk of work place injuries, human rights training for security personnel and employee performance and career development review are not applicable in their company. However, it was discovered that skills management program and lines stoppages due to safety concern are not applicable in 2 among the 104 investigated companies.

Concerning the customers’ social well-being, reduction of customers’ complaints and the provision of the information services required by the customers are not applicable in 1 out of the 104 manufacturing companies. Likewise, customers’ safety impacts and products’ healthy life cycle are not applicable in 2 among the 104 companies. Relating to the social well-being of the manufacturing

community at large, 9 companies indicated their non-application of public service management. 8 out of the 104 manufacturing companies indicated non participation in public policy development, while 4 manufacturing companies shown no consideration for community service responsibility program. These findings were summarized in Table 3 which identified non-applicable social well-being among Malaysia manufacturing firms sustainable practices.

Table 3. Non-applicable Social Well-being of Sustainable Manufacturing Practices

Items	Frequency	Percentage
EMPLOYEE		
Encourage employees to give suggestions towards sustainable improvement	1	1
Encourage line stops due to safety concerns	2	1.9
Reduction of injuries, occupational diseases, lost days, and absenteeism	1	1
Education, training, counselling, prevention, and employee empowerment to limit the risk of injuries at work place	1	1
Human Rights skill training for security personnel	1	1
Skills management programs	2	1.9
Employee performance and career development review	1	1
CUSTOMER		
Product life cycle assessment for health and safety impacts	2	1.9
Reduce customer complaint	1	1
Provide product and service information required by customers	1	1
COMMUNITY (Manufacturing Community)		
Participation in Public Policy Development	8	7.7
Public Service Management	9	8.7
Community Service Responsibility (CSR) programs	4	3.8

The rationale behind the emergence of the non-applicability of the indices of sustainable manufacturing practices within Malaysians manufacturing companies can be associated with the industries' perception. According to Omar and Samuel (2011) the implementation of initiatives of sustainable manufacturing based on company proactive nature are usually in stages whereas environmental practices are majorly implemented based on ethical obligation to satisfy the stringent requirement of governing regulations. The resultant of this is the need to put necessary resources in place due to negative reaction from high manufacturing standards and regulations, however, this has not been identified as a better alternatives to achieve higher operational performance (Molina-Azorin *et al.*, 2009). Jabbour and Santos (2006) assert that this stage of implementation only witnesses the incorporation of certain objectives of the company by the management. Although the sustainability factors might have been utilized by the firms in some certain aspects of their manufacturing and production, however it is yet to be seen as an important implementable factor within manufacturing companies divisions (Adebambo *et al.*, 2014).

4. Recommendation and Conclusion

Based on Table 2 and 3 it can be inferred that the level and impact of manufacturing society well-being firms is relatively high however, there is need for further improvement to attain the desired

sustainable international practice worldwide. In order to attain this standard, this study identified 10 important factors that should be taken into consideration by Malaysia manufacturing firms. These factors include:

- i. Non-renewable materials sourcing increased
- ii. Recycled/reuse content increment
- iii. Water purity
- iv. Energy reduction
- v. Renewable proportion of energy
- vi. Residuals reduction
- vii. Air emission reduction
- viii. Restricted harmful substances release
- ix. Reduction in natural land consumption
- x. Community relation

Thus, this study argues that for manufacturing society well-being to be impactful on sustainability practice, there is need to lessen the finite resources of manufacturing firms in order to ensure the global safe operation space and cultivate the culture of doing more and better with less. This can be achieved through inclusive and green economic development, by reducing the material, energy and pollution intensity of current economic activities, while maintaining and sustainably increasing the productivity of manufacturing firms' production.

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