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GREEN SUPPLY CHAIN MANAGEMENT AT CULLINARY SMALL BUSINESS: SOME NOTES TO CONSIDER

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Abstract: As the consumer becomes more aware of environmental issues and global warming, consumers will be asking more questions about the food they are consuming. Some regions noted that cullinary business dominated most of the existing micro, small and medium enterprises. This research aim to describe the practice of the green supply chain management among cullinary micro, small and medium enterprises in the city of Palembang. A descriptive survey was conducted at 39 cullinary SMEs at Palembang, South Sumatera with 272 participants. The participants were selected from the various SMEs using purposive random sampling. The participants of the study were business owner, manager and employee of the SMEs. The results of the study show that SMEs have not practices the environmental friendly system either in production, manufacturing and distribution of food products. Majority of participants argue that the raw material in building GSCM is expensive and high cost.

Keywords: Green Supply Chain Management, SMEs, Environmental Management, Cullinary Industry

INTRODUCTION

The increasing of industrial development and consumer concern for the environment issue of have forced the industry to adjust to the concepts of green industries in each of its business processes, which later developed into Green Supply Chain Management (GSCM). In this circumstances, GSCM requires many companies to continuously improve their company's production performance by meeting environmental regulations. The company has a variety of reasons to implement Green supply chain management, ranging from merely reactive policies to proactive approaches to gain competitive advantage by increasing their competitiveness through improving their environmental performance. The impact is that the company can increase the brand image for concern for the environment.

GSCM is an integration of environmental thinking into supply chain management, including product design, source materials and selection, manufacturing processes, final product delivery to consumers and end-of-life product management after the utilization period (Srivastava, 2007; Toke, 2010). Subsequently, Dheeraj (2012) express that GSCM is an innovation in the implementation of supply chain strategies that are based in an environmental context that includes activities such as reduction, recycle, reuse and substitution of materials. So that it can be concluded that the concept of GSCM is based on an environmental perspective, namely how to reduce waste and environmental impacts caused by supply chain activities of industrial companies. This concept is an important long-term non-financial aspect related to the environment that must be considered by the company in maintaining good relations for the sustainability of its supply chain activities in the future.

Considering the important benefit of GSCM, the application of this concept not only intended for large-scale companies. GSCM practices are also important for small scale business. Small scale business divided into micro, small and medeium enterprises, then known as Small Medium Entreprises (SMEs). As one of economic driver, play a role in economic growth and employment, SMEs should adopted GSCM practices in their business processes. By running environmentally friendly business system, they are not only more concerned about environmental sustainability but also maintain the performance of SMEs in producing products or services that are needed by the community in an increasingly tight competition situation.

Culinary SMEs as a business actor that produces food and beverage products unwittingly becomes one of the contributors to the causes of environmental damage. Among all The Association of Souteast Asian Nations (ASEAN) countries, Indonesia has the largest foodservice market. The foodservice industry in Indonesia comprises the value sales reached US\$36.8 billion in 2014, which was about US\$14 billion higher than the second top country in the ASEAN market (Agri-Food Canada,2016). The environmental concern caused by this SMEs occur from efforts to obtain raw materials, production processes, and waste produced either at the time of production or afterwards.

This paper analyzes the GSCM practices among cullinary SMEs at Palembang city in Indonesia. As a city famous for its various typical food, the identification of the cullinary SMEs at this city is needed. Moreover, this paper intended to be comprehensive survey of the practice, level of practice and driving force the GSCM at their business processed.

LITERATURE REVIEW

The term of Supply Chain Management was introduced for the first time in 1980 (Chen and Pualarj, 2004). The current definition concerning supply chain management stated by Naslund and Williamson (2010) in which described as the management of networking relationship in a company and also between organizational interdependence and a business unit which consist of material supplier, procurement, production facility, logictics, marketing and other related system that facilitated forward and reverse of material flow, services, finance and the information from producers to consumers. These activity will create value added, maximizes profit through efficiency and enhance customer satisfaction.

Recently, with the increasing concern and interest about environment, most of industry also consider environmental pollutants either alongside their production process and also in SCM operational process. All solution of this issue are better to be compound into a comprehensive supply chain procedure (Fallah and Mohajeri, 2014).

SCM recognized can reflect organizational capabilities to carry out both of effective marketing activities and competitive position of an organization. Nonetheless, making green the supply chain is a new concept, which reflected the buying power of a consumer to demand better environmental performance than superior supplier at the supply chain. It means consumers have facilitator's role for the supplier and will help them to turn out become environmentally friendly organizations (Shahriarpour and Alam, 2017).

Zhu and Sarkis (2004) defined Green Supply Chain Management as management that ranges from green purchasing to supply chains integrated from suppliers, to factories, to customers and reverse logistics, which "close the loop". In line with Zhu and Sarkis, Srivastava (2007) stated that GSCM is consider as an integration of environmental thinking into supply chain management, including product design, material sources and selection, manufacturing processes, shipping final product to consumers and end-of-life product management after a period its use.

RESEARCH METHODS

A descriptive survey was conducted at 39 culinary SMEs at Palembang, South Sumatera with 271 participants. The participants were selected from the various SMEs using purposive random sampling. The participants of the study were business owner, manager and employee of the SMEs. Specifically, the participants of this study consist of 73 owner (27%), 68 manager (25%) and 130 SMEs employee (48%). The data analyzed using descriptive statistics.

FINDINGS AND DISCUSSION

Overall, in this study there were more female respondents than male respondents where 52% of the respondents were women and 48% of respondents were men. If the respondent grouped according to the age category, most of them were in the group of 25-30 years, which was almost 40 percent of the total respondents. In that range of age groups, male respondents were more than female respondents and it is reaching up almost 45% to the whole.

Based on the respondent's educational background, it is known that in this group the majority of respondents had a junior high school education background. Of the total respondents interviewed, 70 percent of the respondents were employees of small businesses and most of them were men and had junior high school education background. This indicates that the small-scale business in the culinary industry sector is still categorized as an informal sector, where the absorption labor in this sector does not have to have certain background or skills so that the education qualifications are still categorized as low.

In terms of small business ownership, cross-analyzed with gender variables, overall it is known that it does not show significant differences between male small business owners and female small business owners. In this case, female business owners show their existence is

slightly higher when compared to men. This indicates that small businesses in Palembang City absorb entrepreneurship as well as a higher female workforce. From the questionnaire also found out that most of SMEs has routine supplier in their production process (94.8%). This phenomenon is in line with the study conducted by IFC (2016), where women in Indonesia tend to have small businesses, namely 52% of Indonesian women own micro businesses, 50% of small businesses and 34% have medium-sized businesses. In this case, during the 2013 to 2015 period, women who have small businesses have a 9% contribution to national GDP.

But the dominance of women in micro and medium small businesses indicates that there is a positive contribution to the advancement of the quality of life of women in the aspects of education and health with wider opportunities for women to participate in the development. The role of women in economic and private activities not only plays a role in strengthening the economic resilience of families and communities but also can reduce economic fluctuations and contribute to efforts to reduce poverty and ensure sustainable economic growth. For this reason, Indonesia is expected to contribute to providing wider opportunities for women's entrepreneurship.

Table 1. Characteristics of Respondent

Category		Gender		Total
		Male	Female	
AGE	< 25 years	0.0%	7.1%	3.7%
	25 - 30 years	44.6%	34.0%	39.1%
	31 - 35 years	26.2%	2.8%	14.0%
	46 - 50 years	28.5%	36.2%	32.5%
	51 - 55 years	0.8%	19.9%	10.7%
Education	Not graduating from school	0.8%	7.8%	4.4%
	Elementary	0.0%	12.1%	6.3%
	Junior	67.7%	49.6%	58.3%
	Senior	0.0%	7.1%	3.7%
	undergraduates	31.5%	23.4%	27.3%
Marital Status	Single	28.5%	36.2%	32.5%
	Married	71.5%	56.7%	63.8%
	Others	0.0%	7.1%	3.7%

Reference : Author

Table 2. Scale of Business and Respondent Status

Category		Gender		Total
		Male	Female	
Scale of Business	Micro	39.2%	15.6%	26.9%
	Small	16.9%	32.6%	25.1%
	Medium	43.8%	51.8%	48.0%
Status	Owner	14.6%	14.2%	14.4%
	Manager	14.6%	16.3%	15.5%
	Employee	70.8%	69.5%	70.1%

Reference: Author

Most respondents who are enterprise owners have a medium business classification. Based on the length of the establishment, the medium scale of enterprise revealed that they

had operated between 4 and 8 years. For micro businesses, the majority of respondents run their businesses for less than 4 years and they are still at the market seeking stage. The interesting finding on this study is that in the classification of small businesses. In this circumstances, the respondents run their business on average more than 9 years and still survive in this phase. This indicates that the respondent already has a fixed market share but they have difficulties in developing the business due to capital constraints.

Table 3. Small Business Establishment

	Lama Usaha			Total
	< 4 tahun	4-8 tahun	>9 tahun	
Micro	33.6%	19.8%	18.8%	26.9%
Small	25.9%	22.9%	28.1%	25.1%
Medium	40.6%	57.3%	53.1%	48.0%

Reference: Author

Based on the results of data processing, almost all participants who are culinary SMEs have regular suppliers and are carried out periodically (95%). Because the business classification of respondents is almost a small business, the number of suppliers owned is also small. In this case almost all SMEs have one supplier in the production process. While in routine purchasing activities, buyers in this case are the owners or managers of SMEs often become decision makers or at least give approval. Then most SME managers or owners choose these suppliers based on the quality of the raw materials they have (56%) and fairly competitive prices (44%).

Based on the supply system used by SMEs, it is known that small-scale and small-scale businesses tends not to use supply systems regularly. In this case the supply system or raw material is supplied when the food supply to be sold will run out. A routine supply system used by SMEs with medium scale. In this circumstances, medium scale SMEs already have suppliers who routinely supply quality raw materials at competitive prices. In addition, in selecting suppliers, SMEs choose suppliers based on a close partnership method. Based on this system, SMEs can maintain the quality of the products produced (Heriyanto, 2014). In other words, the supply chain used by SMEs is still conventional in the sense that it partners closely with its suppliers and does not yet have a department that is integrated and clearly integrated due to the high operational cost to build the system.

Table 4. Supply System Of SMEs

Scale Of Business	Regular Supplier		Total
	Yes	No	
Micro	14.0%	21.4%	14.4%
Small	15.6%	14.3%	15.5%
Medium	70.4%	64.3%	70.1%

Reference: Author

The first part in measuring the application of GSCM, participants asked about their consideration for application of GSCM. From the data, it is found out most participant do not consider about the application of GSCM. At the micro level, 75% participants do not consider of the application whereas the rest of it (25%) plan to consider it. An interesting result comes from the interviewing and data processing that SMEs with small scale business scale tends not to consider applying GSCM to the production and business processes.

In this case, it is also showed that the participant mainly the owner did not have an access to build cross functional cooperation to improve the environment. On the other hand, participant also has difficulties in using eco-product label in their product. This happens due to highly price of eco label packaging. Even though Carlson (2009) considers that eco-packaging must have benefits for the consumer, be safe and healthy for the individual and the community throughout its life cycle, be market-efficient and cost-effective; be obtained, produced, transported, and recycled via sources of renewable energy, as well as maximizing the use of renewable or recyclable materials; utilize clean production technologies and best practices; can be designed to optimize the materials and energy used, and can be effectively recovered and reused in numerous production cycles.

Packaging is an necessary and important aspect for sales (Rokka and Uusitalo, 2008). In last few years, packaging has been declared to be a cause of high level of pollution and then the need for eco-friendly packaging is in a continuous growth (Seo, Ahn, Jeong and Moon, 2016). As the studies revealed that consider that products packaged in eco-packaging are considered more valuable to the consumer Ottman (1993) . However, there are a number of organic products on the market, and few studies have been treated with the attitude of consumers towards such products. Therefore, more attention needs to be paid to consumer preference for environmentally-packaged products.

The main difficulty experienced by SMEs in applying GSCM was the difficulty of identifying suppliers who already had ISO 14000 certification. In this case the small scale of the business of suppliers in SMEs was limited, where the classification of suppliers was also small and even mostly from individuals not business entities. Furthermore, SMEs does not impose total environmental-based quality management because there are good factors in how the system must be run in SMEs and it is include the complication of giving design specification which cover environmental requirements for goods purchased.

Tabel 5. The Provisions of Article 6 Law Number 20 Yaer 2008 Concerning Micro, Small and Medium Entreprises

Micro	have a net worth of at most Rp. 50 million Rupiah (not including land and building of business premises); or have annual sales of at most Rp. 300 million Rupiah.
Small	has a net worth of more than Rp. 50 million Rupiah up to Rp. 500 million Rupiah (not including land and business premises); or has annual sales results of more than Rp. 300 million Rupiah up to a maximum of Rp. 2.5 billion Rupiah.
Medium	has a net worth of more than Rp. 500 million Rupiah up to a maximum of Rp. 10 billion Rupiah (not including land and building of business premises); or

	has annual sales results of more than Rp. 2.5 billion Rupiah up to a maximum of Rp. 50 billion Rupiah.
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At the level of GSCM practices currently among participants, it is found that currently most of the participant just apply a little level of GSCM practices. At the level of medium enterprise, the practices of GSCM has been done at some degree level. On this circumstances, the participant constrained at the point of procurement of environmentally friendly in raw material. In this case the owners have not been able to manage solid or liquid waste released from the results of the production process. Solid waste in this case results from the printing process, mixing the dough. While liquid waste is produced from the process of washing, boiling and printing. The liquid waste produced in the SMEs production process is quite high and if it is directly discharged into a water body, it will reduce the carrying capacity of the environment.

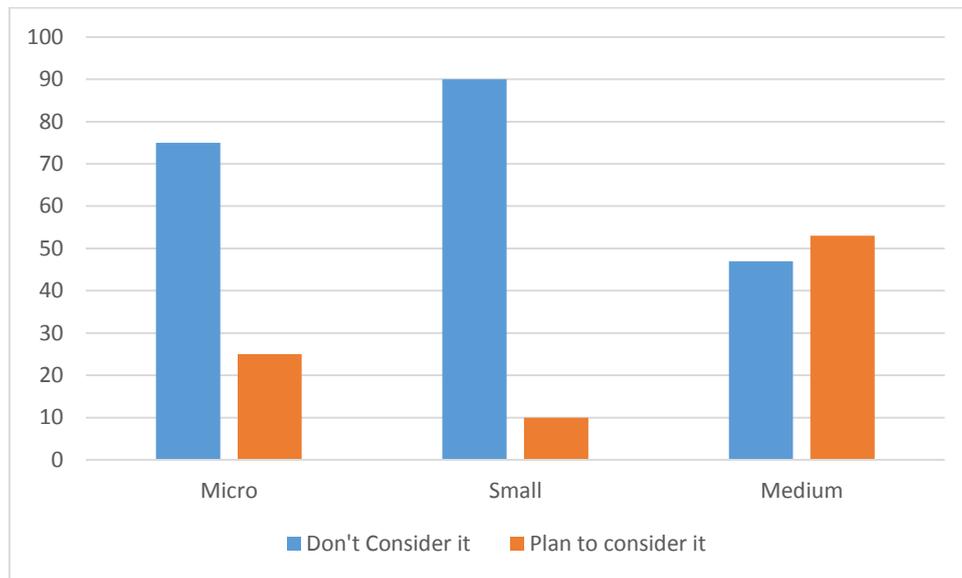


Figure1. Application of GSCM

Based on the perception of the participants, the driving force of GSCM practice among micro, small and medium business consider not important. To micro business, organic raw material consider expensive and hard to find. Furthermore, micro business orientation is only meeting the daily needs of life and not for corporate green image. This result is made worse by what concluded at small scale participants. In this case, they did not think the driving force of GSCM practise as a whole. This result reflect the low awareness of small business of the need to address their business procesess with GSCM. This happen due to the diversity and complexity of SMEs’ activities both within and across different activity sectors, affecting the type and degree of environmental problems in a particular sector or group of businesses as well as the way in which this sector should be regulated. Moreover, The substantial number of operators and the related lack of information available to the regulator about their levels of compliance or the factors that affect their compliance. And also the potentially limited capacity (lack of resources, time and expertise) of small businesses to absorb regulatory requirements and to comply with them.

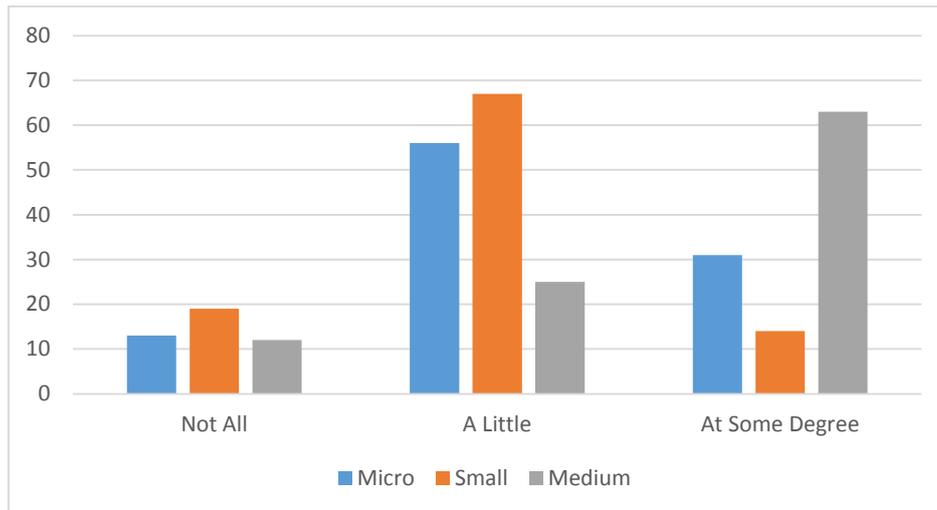


Figure2. Level Practice of GSCM Currently

One of the factors asked by respondents is the driving factor in applying green business-oriented business processes to the role of financial institutions in providing financial assistance to small businesses that run green business processes. The results of the interviews indicate that these small businesses do not have access to finance for environmentally friendly business processes. This is due to the absence of credit or financing schemes from financial and banking institutions that are intended specifically for businesses that are knowledgeable about the environment. The need for SMEs to finance both working capital and investment is now covered by various loan and financing schemes that have been owned by banking institutions, such as micro business loans, doubtful micro business loans, people's business loans or other commercial loans.

On the other hand, to preserve the environment, the government has issued law No. 32/2009 on environmental protection and management which regulates the obligation for industries to protect nature and the environment. Based on this law, since 2010 Bank Indonesia has encouraged commercial banks to incorporate environmental issues into risk management practices. Although the policy of providing loans for business processes and small businesses that are environmentally friendly has been determined by the government, until now the financing scheme has not been realized. This is because the provision of financing schemes for small businesses that are environmentally friendly requires various preparations both from external and internal sides.

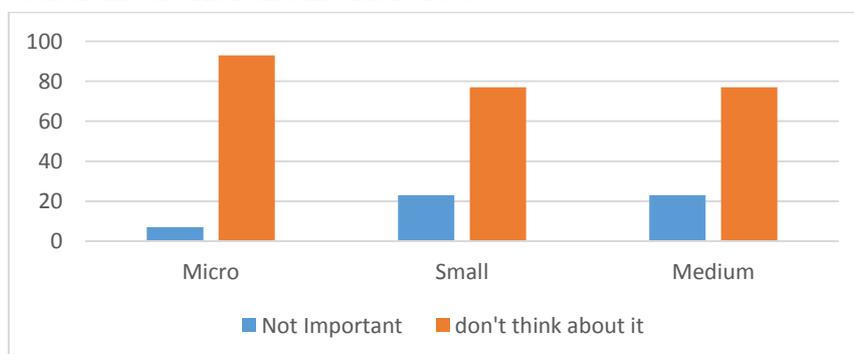


Figure 3. Driving Force GSCM Practices

CONCLUSIONS AND SUGGESTIONS

The present study examined the perceptions of SMEs towards practices of GSCM in their business process. The demographic result show that most of the respondent were female. This indicates that the involvement of women in the business world, especially small and medium enterprises (SMEs) is considered quite significant. With the involvement of women in SMEs not only has an impact on the socio-economic improvement of millions of households in Indonesia and significant job creation, it also has the potential to increase state revenues.

The findings of the study shows that the SMEs have not practices the environmental friendly system either in production, manufacturing and distribution of food products. Majority of participants argue that the raw material in building GSCM is expensive and high cost.

The result show that most participant do not consider about the application of GSCM. Most of them do not consider using certification for environmental management in their business processes. There is a lack of information, capacity and the process of managing certification that is long and the cost of certification in the field of environmental management certification. Thus, assistance from local governments is needed in helping SMEs to obtain environmental management certification. The assistance can be in the form of matching funds or relevant socialization and training.

Organizing packaging and labels and being environmentally is also an obstacle for SMEs to consider GSCM in its business processes. The price of additional packaging and labels is too high and will impose operational costs on small business production. In addition, consumer demand and awareness of environmentally friendly products and packaging is still low. For this reason, both from the consumer side, good information about green products and processes must be provided, including the influence of packaging for the environment, waste of resources and coverage of packaging suitable for small businesses.

Eventually, adapting the GSCM and going green is largely a voluntary action dependent upon the vision and conviction of one or a few individuals. The lack of resources often leads to SMEs being risk-averse and less willing to invest in new technologies, partly because of the uncertainly about the payback period. Those SMEs that are willing to invest in more energy-efficient and environmentally friendly processes require reliable partners in financing their investments and the right regulatory framework. However, they often face obstacles in getting access to finance, with banks being reluctant to fund such investments and lacking the specialised staff needed to evaluate SME projects. There are several financial mechanisms available to private companies, particularly SMEs, willing to go beyond compliance and invest in green technologies, including grants, low-interest loans and tax privileges. The loan policy can also be used to provide both positive and negative incentives to businesses. Banks may require an environmental checklist for loan approval, so that businesses that can demonstrate their adherence to green practices can benefit from favourable loan conditions (those are usually offered only by public financial institutions). On the contrary, businesses with a recent record of environmental violations would see their loan applications denied.

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REFERENCE

- Agriculture and Agri-Food Canada, 2015–16, Departmental Performance Report, The Honourable Lawrence MacAulay, P.C., M.P., Minister of Agriculture and Agri-Food, http://www.agr.gc.ca/resources/prod/doc/pdf/dpr-rmr_2015-16_en.pdf
- Carlson, K. *Green Your Work*; Adam Business: Avon, MA, USA, 2009.
- Chen, I.J. and Paulraj, A. (2004.) Towards a Theory of Supply Chain Management: The Constructs and Measurements. *Journal of Operations Management*, 22, 119.
- Dheeraj, N. & Vishal, N. (2012). An Overview of Green Supply Chain Management in India *Research Journal of Recent Sciences* 1(6)77-82
- Heriyanto, 2013. *Aplikasi Rantai Pasok Pada Usaha Kecil Menengah Di Kota Palembang*. Seminar Nasional dan Call for Paper Universitas Kristen Maranatha, Bandung-Indonesia, 2013.
- Law Number 32 of 2009 concerning Environmental Protection and Management
- L.K.Toke, R.C. Gupta, Milind Dandekar, 2010, *Critical Research and practices*, International conference on Industrial Engineering and operations management, Dhaka, Bangladesh, January 9
- Mohajeri, A. and Fallah, M. (2014). "Closed-loop supply chain models with considering the environmental impact", *The Scientific World Journal*, Vol. 2014 Article ID 852529, 23 pages.
- Naslund, D., and S. Williamson. (2010). "What is Management in Supply Chain Management? – A Critical Review of Definitions, Frameworks and Terminology." *Journal of Management Policy and Practice* 11 (4): 11–28.
- Rokka, J.; Uusitalo, L. (2008). Preference for green packaging in consumer product choices—do consumers care? *Int. J. Consum. Stud.*, 32, 516–525.
- Seo, S.; Ahn, H.-K.; Jeong, J.; Moon. (2016). J. Consumers' attitude toward sustainable food Products: Ingredients vs. packaging. *Sustainability*, 8, 1073.
- Shahriarpour, M., Tabriz, Akbar Alam. (2017). "The Importance of Green Supply Chain Management and Its Role in Marketing Management" . *International Journal of Economics and Financial Issues*, Vol 7, No 3
- Srivastava, S. (2007). Green supply-chain management: A state-of-the-art literature review. *International Journal of Management Reviews*, 9(1), 53-80.
- Ottman, J. *Green Marketing: Challenges and Opportunities New Marketing Age* Lincolnwood; NTC Business Books: Lincolnwood, IL, USA, 1993.
- Zhu Q., & Sarkis J., (2004). "Relationships between operational practices and performance among early adopters of green supply chain management Practices in Chinese manufacturing enterprises" *Journal of Operations Management* 22 (2004) 265–289