Drivers and Barriers facing adoption of Green Supply Chain Management in Egyptian Food and Beverage Industry

Hassan, M.[1], ElBeheiry, M.M.[2], Hussein, K.N.[3]

College of International Transport and Logistics, Arab Academy for Science Technology and Maritime Transport

[1]Assistant Professor, concultant84@yahoo.com
[2]Assistant Professor,mohammed.elbeheiry@gmail.com
[3]Teacher assistant, khalednasrhussein@gmail.com

Abstract

Green Supply Chain Management (GSCM) has become an initial key factor for corporate sustainability. Many researches had investigated its practices adoption drivers and barriers globally. Cost reduction, brand image development and gaining a competitive advantage were the main drivers which encouraged corporate to adopt GSCM practices. Lack of resources, supplier resistance to change and lack of awareness were found to be the main concern behind adopting GSCM practices. Unfortunately, in spite of the importance of GSCM there is a paucity of researches which investigated drivers and barriers facing GSCM practices adoption in Egyptian industrial sectors. This research is intending to identify drivers and barriers of GSCM practices adoption in Egyptian Food and Beverage Industry (EFBI). Undertaking qualitative approach, 16 EFBI companies represented by 31 participants have been investigated through a questionnaire and a focus group. The research depended on descriptive analysis to conclude results. Analysis of questionnaire was based on company size and local versus international orientation. Research analysis indicated that organization values is the main driver for adopting GSCM practices in EFBI while lack of resources and lack of governmental support represented the main barriers facing adoption of GSCM practices in EFBI. This research settled primary road signs for corporate seeking GSCM practices adoption in EFBI and researchers who show interest in sorely investigating GSCM practices adoption in Egyptian Food and Beverage Industry.

Introduction

The idea of production optimization by obtaining the greatest value with the best possible reduced cost was the framework of the last two decades. Yet, the future is focusing on Sustainable Supply Chain Management (SSCM)(Linton et al., 2007). Interactions between sustainability and supply chain management are the framework of the future. Optimization of environmental factors has become important to apply to the entire supply chain during production, consumption, customer service and post-disposal temper of the product (Linton et al., 2007).

The concept of sustainability first appeared in 1970s, but actually flourished in 1987 when WCED (The World Commission on Environment and Development) released the Brundtland Report which was titled 'Our Common Future' in Oxford, United Kingdom. In 1998, Jamieson D. and Fricker A. used the definition of sustainability which was introduced in the Brundtland Report *"Sustainability is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs"*.

This paper is undertaking the view point of sustainability as it was introduced by Elkington, J. (1998) who mentioned sustainability dimensions as the three bottom lines of the 21st century. Elkington, J. (1998) defined sustainability as the intersection between three main dimensions; social, environmental and economic performance.
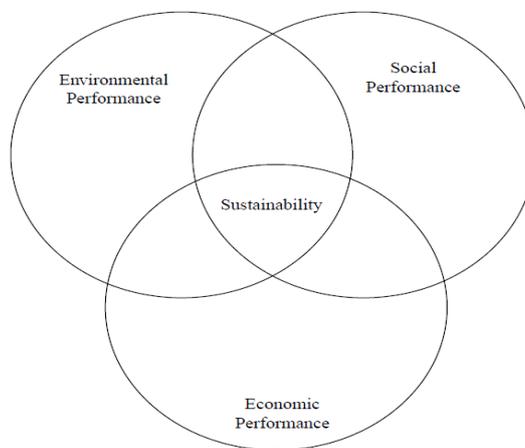

Figure 1.1 – "Sustainability" by Carter et al., 2008

From (figure 1.1) it could be noticed that creating a Sustainable Supply Chain Management calls for the integration between the three spheres together.

This research is mainly related to "Environmental Performance" sphere of SSCM taking into consideration the other essential dimensions of SSCM. Environmental Supply Chain Management (ESCM) or as referred to previously in many research papers as Green Supply Chain Management (GSCM) (Olugu et al. 2011) is defined as *"...the set of supply chain management policies held, actions taken, and relationships formed in response to concerns related to the natural environment with regard to the environment the design, acquisition, production, distribution, use, reuse and disposal of the firm's goods and services"*. (Zsidisin & Siferd, 2001). On the other hand, managers need to know the economic payback of adopting such policies, aside from the environmental aspects.

In a developing country such as Egypt, the attention is mainly focused on cost reduction. Seldom, if any, consideration is given to environmental impacts of business operations; GSCM practices. This lack of awareness explains the gap in the literature about the application of GSCM in Egypt. Our main contribution is to identify the major drivers and barriers facing GSCM practices adoption in The Egyptian Food and Beverage Industry (EFBI) and disclose its effect on GSCM practices adoption.

Research will depend on two main sources of data. First, primary sources which will consist of focus group and a survey which will build the core part of the research to enhance the practical vision of the study. Second, secondary sources, consist of findings and conclusions of literatures and studies. The importance of such data is to build the complementary part for the focus group results and findings. The methodology mainly will be based on qualitative data.

Survey responses are collected from representatives from the public and private Egyptian Food and Beverage industrial sector to answer its questions. Specifically ISO 14001 certified companies and companies which apply SCM concept, as well as franchised global companies in Egypt are our target sample as it is necessary to view the all perspectives of application of GSCM in Egypt .The survey results and findings will be categorized into three parts to be analyzed from different standpoints within the scope of EFBI and the chosen focus group. Categories of the analysis will include general perspective of the research, company size perspectives which considers the number of employees as a proxy for company size and third category will be based on the perspective of local versus international companies.

2 Literature Review

Due to the aspect that research in the field of GSCM is recently penetrated by researchers, literature about driver and barriers facing GSCM practices adoption in developing countries is excessively limited. In this literature, global perspective of GSCM drivers and barriers will be recognized through previous research papers, books and governmental reports. Literature review includes previous researches from China, Germany, United States of America, Turkey, Italy, South Korea, Kenya, Japan, New Zealand and Sweden.

2.1 GSCM Drivers

Zhu et al., 2004 founded that there are some main drivers behind applying GSCM in Chinese manufacturing industry, such as straightforward cost reduction to facilitate the

development of co-operative relationships with suppliers and encouraging life-cycle. On the other side, despite that there is an increasing environmental awareness; there is a slow implementation of GSCM across enterprises, and it is approved through the study that turning the awareness and pressures into practices and performance will take some time in Chinese manufacturing industry.

Zhu and Sarkis (2006) have investigated the occurrence of thirteen pressures and drivers for automobile industry and other industries in China. Results indicated that pressures and drivers for automobile industry in China are the greatest among other Chinese industries. Regulatory compliance is indicated as one from the main pressures on Chinese automobile industries due to China's entry to WTO. Results showed that automobile industry in China have a good opportunity in gaining a competitive advantage and being an environmentally aware industry which is considered in itself as a driver to green its automobile supply chain.

Testa and Irlado (2010) have proved that there is a positive relationship between adopting GSCM practices and enhanced reputation and brand image of an organization. A sample of 4188 facility manager was investigated in seven OECD (Organization for Economic Co-operation and Development) countries. Although the results were positive from the perspective of enhancing reputation and brand image of an organization, it didn't imply that seeking for efficiency is the driver for adopting GSCM practices.

Using Interpretive Structure Modeling (ISM) through an Indian case study, Ali and Diabat (2011) have investigated eleven drivers to implement GSCM practices. Top drivers mentioned in the research were green design, integrated quality environmental management into the planning and operation process, reducing energy consumption, and reusing and recycling materials and packing drivers.

Large and Thomsen (2011) research results suggest that the degree of green supplier assessment and the level of green collaboration exhibit direct influence on environmental performance. Whereas commitment influences assessment directly, the impact of commitment on collaboration is mediated by the capabilities of the purchasing department. These results were based on 725 questionnaire sent and analyzed through using SEM (Sequential Equation Modeling).

Different from previous research, Andic et al. (2012) have mentioned new drivers to adopt GSCM practices in Turkey. The research has considered social responsibilities and

commercial prestige as two of the main GSCM drivers in the country other than enhancing economic advantages such as economy of production, increasing competitive advantage and increasing profit. Andic et al. (2012) added that in general, environmental activities support organization with negotiation power with potential customers.

2.2 GSCM Barriers

In 2011, Luthra et al. developed a research aiming at developing a structural model of the barriers to implement GSCM in Indian automobile industry. With the help of MICMAC analysis and a structural model of barriers to implement GSCM in Indian automobile industry, Luthra et al. (2011) have initiated their research. Market Competition and uncertainty; lack of implementing green practices; cost implications; unawareness of customers have been identified as top level barriers and lack of government support systems the most important bottom level barrier.

Sarkis (2011) provided a very unique identification of GSCM considering its boundaries and flows. Sarkis previewed GSCM boundaries from nine different perspectives which added a unique value to the research. These nine boundaries were analyzed through different levels ranging from individual (sub-micro) to global cross-industry supply chain (supra-macro) boundaries. From Sarkis point of view, GSCM nine boundaries are organizational, proximal, informational, political, temporal, legal, cultural, economic and technological. Recently, Abbasi and Nilsson (2012) identified challenges facing sustainable supply chain and they included costs, complexity, operational, mindset and culture changes and uncertainties as the main barrier.

2.3 GSCM Drivers and Barriers

In order to explore what will drive Hong Kong SMEs to adopt GSCM environmental practices; Studer et al. (2005) had initiated a research to investigate incentives and barriers of adopting voluntary green practices by local SMEs. More than 392 SMEs in Hong Kong were investigated through a survey. Studer et al. found that legislation and stakeholders are the two main drivers for SMEs to adopt environmental practices in Hong Kong. Other than the latter drivers, SMEs in Hong Kong would rarely adopt green practices. On the other side, due to the organizations' lack of awareness by the importance of such changes, in-flexible interaction to the concepts of green is highly witnessed. The reasons for that might be back to the lack of

organizational role in leading such incentives and initiatives to be undertaken as a best practice and to be followed by SMEs

Rao and Holt (2005) indicated that GSCM practices adoption might lead to gaining competitive advantages. The research paper which gained an excessive popularity due to its originality and value of creating the first empirical evaluation of the link between GSCM practices adoption and increased competitiveness and improved performance. Despite the small sample size taken from the South-East Asia countries, the research was considered valid due to the core value of its empirical evaluation. Through a structural equation modeling, results indicated that GSCM practices adoption lead to increasing competitiveness and boosting the economic performance. Roa and Holt (2005) mentioned that there are some barriers that face GSCM practices such as green purchasing application. These barriers include but are not limited to high cost of environmental programs, uneconomical recycling and reusing. There are also some other elements mentioned in the paper that should be considered, such as lack of management commitment and lack of supplier's awareness.

A question was asked by Walker et al. (2008) investigating drivers which encourage public and private sector organizations to adopt environmental practices in their activities. Through seven case studies cited from both public and private companies, drivers have been categorized into six categories. As addressed by the author, drivers included but were not limited to cost reduction, organization values, pressure by customers and regulatory compliance. Walker et al. (2008) has included in his paper internal and external barriers to adopt GSCM. These barriers categories have included costs, lack of resources as internal barriers. Exposing poor environmental performance, lack of information, poor competition, procurement legislation and supplier's reluctance to change have been considered as external barriers. Lack of governmental is one of major barriers facing GSCM practices in many industries (Walker, 2008; Desheng and Dan, 2008; Lee 2008).

Other than his approval to what have been discussed before by Rao and Holt (2005), Hoskin (2011) have mentioned in his research that adopting green practices lead to customer demand satisfaction. His paper considered one of the most important drivers to adopt GSCM practices which is pressure by large customers. Empirically it was implied that pressure by large customers pushed New Zealand companies to adopt GSCM practices as conforming to customer's voice. As external driver, Hoskin (2011) mentioned that government legislation is one of the major drivers affecting GSCM practices adoption in the country. He mentioned

also that the major barrier which might hinder institutions from applying GSCM practices is cost. Hoskin (2011) also added that lack of resources is a very important barrier for environmental improvement in New Zealand SMEs; hence need some sort of governmental support. Governmental support and incentives might not be a financial support however it might take another form such as technical advice, information and training programs.

3 Research Methodology

3.1 Research Framework

As mentioned above, our main contribution to the previous literature is to list drivers and barriers facing GSCM practices adoption in EFBI. This specific design of the research will furnish an opportunity for the future researchers to have a sense of market familiarization with the drivers and barriers of adopting GSCM practices in EFBI based on a realistic results and findings supported by a sound technique. The group of factors (drivers and barriers) discussed in the research were previously investigated and proved to be directly related to the application of GSCM practices globally on different industrial and service sectors. (see Walker, 2008)

The previous researches about drivers and barriers to GSCM practices were diversified in methodologies based on the difference in research questions. This research will undertake qualitative methodology using a survey to achieve and investigate the research problem. The nature of the research question/problem as well as the relatively small sample size makes qualitative approach the most suitable to the type of the research. In other words, qualitative approach's flexibility and its applicability on exploratory researches were the main reasons behind adopting such approach in our research.

Our qualitative approach was based on two techniques: focus group and a survey which we believed to be the most effective to answer the research question(s). The rationale behind choosing focus group method was to make sure that the global variables; (drivers and barriers facing other countries than Egypt, are valid in the EFBI. On the other hand, choosing survey method was based on different reasons; it was believed that survey is a more flexible method than others due to its ease of data gathering using electronic tools such as e-mails. It also has advantage in measuring data which will lead to effective results. The research is undertaking the technique of directly asking participants, so it was more effective to use survey method seeking effective answers to the research question(s). Unbiased and cost-efficient are major

Reasons for choosing survey method. Our focus group consists of five active participants of top managerial level in supply chains from different companies in EFBI sector. The role of the group is mainly to approve that GSCM Drivers and Barriers mentioned in previous literature are applicable to EFBI as investigated in our research.

Participants' views about GSCM drivers and barriers differed from one another. This can be explained by the difference in the nature of their organizations' culture and policies. Despite the differences in opinions, the overall conclusion indicated that 60% of GSCM drivers and barriers investigated in the literature apply to EFBI and can be examined to see which shows high significance.

Participants expressed their pessimism regarding the application of GSCM practices in Egypt currently. They agreed that Egypt suffers major problems such as infrastructure problems, information sharing problem, culture and awareness problem, failure of Egyptian Government in managing successful environmental policies and the instability of the economic and political situations in Egypt. These problems, according to participants, impose serious barriers against investigating the application of GSCM in Egypt at present time. However, they agreed that GSCM Drivers and Barriers mentioned in the research managed to include and to investigate the majority of variables and GSCM from different perspectives; supplier, the focal company and the customer perspectives.

The survey was divided into three sections; the first section consisted of basic personal questions and 4 introductory questions to test for the green orientation of the participant. Then, drivers and barriers were separated in two different sections, 17 questions each, to avoid any inconsistent answers from participants. These two sections are related directly to the main question of the research, trying to identify the most significant drivers and barriers affecting participating in GSCM initiatives or projects. Forms of questions varied between open ended questions, scale questions (Likert-scale), choose from a list and ranking questions. An advanced web-based survey solution called Survey Monkey ® was used to setup and start the survey process. In addition to using the web a field visit was initiated to a meeting related to SCC (Supply Chain Council) in AUC (American University in Cairo). Only 18 out of 30 surveys were received from participants after the end of the meeting. After refinement, 10 surveys only were successfully completed. In conclusion, a total of 82 surveys were undertaken by appropriate participants and only 26 completed surveys were examined in this research.

Table 3.1–Survey responses in numbers/percentage of the needed sample size.

Mode of information gathering	E-mails	SCC Meeting	Total in numbers/Percentage of the needed sample size		Filtered Surveys after refinement in numbers/percentage of the needed sample size	
	52	30	82	160%	26	51%

As Experienced Industrial Supply Chain Management experts in Egypt are very few as well as ISO 14001 certified companies, the sample for the survey targets whoever is available in what is called "opportunity sampling" technique. Yet, a filtering process was made to avoid including any inexperienced participant in supply chain management field in Egyptian Food and Beverage Industry. Using different electronic databases and social communication websites, the population of Egyptians, working or experienced, in supply chain management in food and beverage industry in Egypt was found to be almost 200 participants. To have significant results supporting the 90% confidence level with a population of 200 participants, sample size needs to be of 51participants. The survey was sent to a number of participants above than the needed sample size. It was taken into account that there would be a number of invalid e-mails, uncompleted surveys, and participants who would be uninterested. Unfortunately, due to the problem of sharing information in Egypt, the survey didn't succeed to gather all the needed sample size. Although this problem was considered as estimated limitation (see, Chapter 1), responses gathered were of a total of 26 responses.

The research uses Likert-scale to analyze responses for scaled questions of the survey. Likert-scale involves five types of weights. For this research, Very Strong=5, Strong=4, Moderate=3, Weak=2, Very Weak=1.Every question has a response average, higher response average indicates a higher support rate from participants. The research has passed by many levels of validity and reliability before being distributed among participants.

As mentioned by Joppe (2000), validity might be categorized into many types. Due to the research objectives to answer its questions, the research's survey undertakes the content validity type. Content validity is defined as pertaining to the degree to which the instrument fully assesses or measures the construct of interest. This has been applied to our survey by generally reviewing the questions to ensure that survey's questions are comprehensively

capturing the needed information that would help answer the research main question .More importantly, by ensuring that the survey's questions are appropriate for the sample size chosen through reviewing the language of the research and its form to meet the participant's way of thinking.

Another measurement of assessment has been applied to the survey as well which is reliability as defined by Joppe (2000): *"...The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable*

There are four general classes of reliability estimates used to assess the consistency of results across items within a test. This research analysis will be based on internal consistency reliability. Internal consistency reliability is eventually the more effective and supportive methodology to research questions and information to be analyzed. Internal consistency reliability is mainly divided into different sub-types; the most important type is the "Cronbach Alpha (α)" which will help in measuring its reliability degree.

"Alpha was developed by Lee Cronbach in 1951 to provide a measure of the internal consistency of a test or scale; it is expressed as a number between 0 and 1. Internal consistency describes the extent to which all the items in a test measure the same concept or construct and hence it is connected to the inter-relatedness of the items within the test. Internal consistency should be determined before a test can be employed for research or examination purposes to ensure validity." Tavakol and Dennick (2011)

$$CC\ alpha = \left[1 - \frac{\Sigma(\%\,pos)(\%neg)}{Var}\right]\left[\frac{K}{K-1}\right] \tag{1}$$

Where

- $\%\,pos$ = Total response average of a question divided by %100 of Response Average
- $\%neg$ = 1− $\%\,pos$
- K = Number of questions tested

Response Average is calculated as the total number of Response Rates of a question divided by the total number of participants; 26. So that, the survey full Response Average score equals the Very Strong average rate times the total number of participants = 5*26 = 130.Through applying the responses on the equation, survey's Cronbach Alpha was equal to 0.97 out of 1. As mentioned before, Cronbach Alpha (α) is expressed between 0 and 1. As results get closer to 1 this means they are stronger and more reliable. Thus our Cronbach Alpha (α) supported the survey results to be reliable.

4   Research Analyses

Investigation of this research takes place through two main phases; GSCM Drivers and GSCM Barriers. Each phase include three categories; general perspective analysis, company size analysis and local versus international companies analysis. Due to our keen to have a validated results, it was included some questions in the survey to indicate the extent of green thinking of participants.

4.1 Green thinking questions/tendency to "Go Green"

In this part there are four questions indicating the extent of green thinking of participants or their tendency to go green. 1st question was investigating the case by which the participant is an economic electricity user. 2nd question was measuring participants' ability to perform an environmental action toward recycling. 3rd question was measuring participants' ability to pay more money to organize consumption of water. 4th and final question was investigating the case by which the participants are an economic user of fuel.

Results for this part of the survey confirmed a high validity to the research. It has indicated that a high percentage of participants are tending to "Go Green" in their daily personal actions toward environment. 65% of participants are switching off electricity before leaving their places, while 85% of participants are able to categories their garbage to make it easier to be recycled. 96% of participants are able to replace their traditional faucets with automated ones to save water, while 50% of participants never turn-off their engines at traffic jams.

4.2 Phase One – GSCM Drivers

4.2.1   First Category – General Perspective Analysis

This category of analysis indicated that organization values got the highest response average (4.4). Improving performance, improving quality and brand image got the second highest response average (4.1). 'Desire to reduce cost' drop at the third highest response average, while the other five GSCM Drivers got less importance from participants' point of views.

General perspective analysis for the GSCM Drivers indicates that the most undertaken driver for GSCM practices adoption is organization values. This reflects the importance of organization values as a driver for GSCM practices adoption for the vast majority of participants. Organization values have a positive relationship with GSCM practices adoption (Walker et al. 2008). Results also indicate positive relationship between the values of the company's founder and GSCM practices adoption. Participants indicated that the most organization values which might increase the ability of the organization to adopt GSCM practices are 'discipline' and 'freedom for initiative employees'. This reflect the importance of encouraging employees to be more creative to enhance efficiency of the company in additional to monitoring and control actions undertaken by upper managerial levels.

4.2.2   Second Category – Company Size Perspective Analysis

4.2.2.1 Companies with less than or equal 500 employees

Companies with number of employee less than or equal to 500 have supported five GSCM Drivers at the same top importance. Desire to reduce cost, competitive advantage, regulatory compliance, organization values and brand image got the same response average (4). Results can draw that companies with small size extremely interested in decreasing their cost with gaining a competitive advantage and following governmental regulations and that will be the reason behind adopting GSCM practices from their perspective.

4.2.2.2 Companies with less than or equal 1000 employees

Participants working in companies with number of employee less than or equal to 1000 have supported that the top GSCM Driver is organization values. They supported that improving performance as second importance and finally brand image, improving quality and pressure by customers to adopt green practices comes at the third level of importance.

Although the close difference in the response average between drivers and each other, organization values have achieved its peak response average at this category (4.5/Very Strong).

4.2.2.3 Companies with more than or equal 1000 employees

Participants who belong to companies with number of employee more than or equal to 1000 were interested in organization values as a primary GSCM Driver. On the second level, participants supported improving performance and quality. Finally, participants showed a less interest to brand image, desire to reduce cost, environmental risk minimization and ISO 14001. Results of this part indicate that participants showed a reverse interest to other categories of company sizes supporting a minimum importance to competitive advantage and pressure by customers as GSCM Drivers.

4.2.3 Third Category – Local versus International Companies
4.2.3.1 Local Companies

Results showed that local companies are interested mostly in organization values as a top GSCM Driver. Brand Image scored to be at the second important GSCM Driver. In the third level, local companies didn't focus on a specific GSCM Driver and they decided to include each of competitive advantage, improving performance, improving quality and pressure by customers in the attention cycle. Unlike expected, local companies didn't mention that ISO 14001, environmental risk minimization and regulatory compliance are prominent GSCM Drivers in EFBI.

4.2.3.2 International Companies

International companies also considered organizational values as the top main GSCM Driver in EFBI. On the other hand, they have chosen improving performance as the second main driver to adopt GSCM practices. International companies followed the same technique of local companies and didn't focus on one driver to describe its least importance. They included desire to reduce cost, improving quality and brand image as the least top important GSCM driver relative to EFBI.

4.3 Phase Two – GSCM Barriers

4.3.1 First Category – General Perspective Analysis

Participants have chosen two main barriers to reflect their vision about barriers of GSCM in EFBI. Participant's responses exceeded the "Strong" rate at the lack of resources and lack of governmental support barriers. From general perspective, both of these barriers are the main and they have to be on top of all other barriers. Secondary level of barrier importance has included only one barrier which is 'lack of understanding how to implement GSCM practices'. On the third level of importance, responses indicate that there are three GSCM Barriers; buyer pressure for lower prices, supplier resistance to change and lack of awareness.

4.3.2 Second Category – Company Size Perspective Analysis
4.3.2.1 Companies with less than or equal 500 employees

Participants who are belong to companies with number of employee less than or equal to 500 have considered three main GSCM Barriers. Participant's interest includes lack of governmental support, lack of information technology and lack of resources. Participants believe that green practices expense and lack of understanding how to implement GSCM practices are located at the secondary level important GSCM Barriers. Participant's point of view of the third important GSCM Barriers includes three barriers; lack of awareness, buyer pressure for lower prices and supplier resistance to change.

4.3.2.2 Companies with less than or equal 1000 employees

Participant who belongs to companies with number of employee less than or equal to 100 have greatly considered lack of resources as a main GSCM Barrier and was obvious when they categorized it on top of all other GSCM Barriers. Participants are also considered supplier resistance to change and their choices are quite the contrary of the previous company size's response on supplier resistance to change. On the other hand, participants have chosen lack of understanding how to implement GSCM practices and buyer pressure to lower prices to be at secondary level barrier. The third level of importance was a slight difference in rates with the previous importance level as participant's responses showed their interest in lack of governmental support and lack of awareness as a GSCM Barriers in EFBI.

4.3.2.3 Companies with more than or equal 1000 employees

In this category, lack of governmental support got the maximum rate (4.5) which is closer to 'Very Strong' response average. It is obvious that participants working in companies which share the same size are supporting lack of governmental support strongly. Lack of understanding how to implement GSCM Practices and lack of resources were considered by participant in the secondary importance level. On the other hand, lacks of awareness and buyer pressure for lower prices were allocated at the third importance level.

4.3.3   Third Category – Local versus International Companies
4.3.3.1 International Companies

International Companies consider lack of resources as the main GSCM Barrier than other barriers. They considered that it should be on top of all other barriers facing GSCM adoption in EFBI. International companies considered the lack of governmental support and supplier resistance to change are secondary level important. At third level of importance, international companies choose buyer pressure for lower prices to be included at that level. Participants founded that lack of awareness and lack of understanding how to implement GSCM Practices within the sphere of important GSCM Barriers but didn't reach a higher importance from their perspective.

4.3.3.2 Local Companies

From the point of view of local companies, lack of resources should be concluded as primary problem and barrier. It is not possible initiate any green practice along with lack of resources. Local Companies previewed lack of resources barrier as the main problem which has to be on top of all barriers facing local companies in EFBI. On the second level of importance, local companies have allocated two barriers; lack of governmental support and lack of understanding how to implement GSCM Practice which would be logically in EFBI due to lack of SC experience, trainings and governmental economic status in Egypt.

5   Conclusion

The purpose of this research was identifying the drivers and barriers facing adoption of GSCM practices in EFBI. Its main question was focused to investigate the research purpose.

The research objective was settled after reviewing the literature carefully to identify the gap of knowledge within the field of the study.

Literature review indicated that there is rare literature on what the research focusing on. It indicated that sustainability researches didn't enter into interest of Egyptian researchers so far. Clean production and recycling were the most highlighted topics during the last decade in Egypt, however literature review strongly indicated that sustainability research still suffer a governmental negligence until this moment.

This research focused on literatures which identified drivers and barriers facing GSCM practices adoption globally. It included literature undertaken by developed and developing countries which have been investigated in China, Germany, United States of America, Turkey, Italy, South Korea, Kenya, Japan, New Zealand and Sweden. Literature was reviewed carefully to identify the drivers and barriers facing GSCM globally. Literature review included different industries such as automobile manufacturing but it didn't included food and beverage industry.

Using qualitative approach, the research has gained detailed information about drivers and barriers facing GSCM practices adopting in EFBI. To enhance the results of responses, questionnaire responses have been analyzed from company size and internationalization perspectives. Due to the experienced participants involved in the questionnaire and the concentration on certified ISO14001 companies, the research will be reliable and significant for future research within the field of the study.

Research analysis indicated that the main GSCM driver supported by participants was Organization Values. Companies previewed GSCM drivers from different perspectives due to their sizes and their internationalization degree. For instance, small companies mentioned that there are five drivers to GSCM practices adoption while large companies indicated that there are three main drivers for GSCM practices adoption in EFBI, Organization Values is one of them.

On the other hand, research analysis indicated that the main GSCM barrier is lack of resources and lack of governmental support. Companies also previewed GSCM barriers from different perspectives due to their size and internationalization degree. Although the difference in perspectives, the overall results indicated that the main barrier to GSCM

practices adoption is limited governmental support for environmental initiatives and lack of resources of entities such as financials and information about GSCM practices adoption techniques and tools.

Research found that the reason behind participants support to organization values is its vital role for attention to GSCM initiatives importance. Organization values is the base for the nature of the vision and mission of any corporate whatever its size or its internationalization degree. Research founded the importance of merging environmental perspectives into organization values to gain sustainability advantages in the future.

One of the findings of the research is the supportive attitude of participants against the need for governmental support due to the lack of resources. Governmental Support is not necessarily to be financial support; it might include other incentives for companies seeking GSCM practices adoption. It was obvious for research findings that lack of resources considered a major barrier for vast majority of companies. Whatever companies' sizes or internationalization degree, it suffers from lack of resources to initiate a GSCM practice adoption.

The research made three major contributions to the existing literature. First, the research indicated the major drivers for GSCM practices adoption in EFBI. Second, the research identified the major barriers facing GSCM practices adoption in EFBI which leading to companies' idle about GSCM practices adopting. Third, detailed and specific information about drivers and barriers of GSCM practices adoption in EFBI could be used in further researches as guidelines for practical adoption of GSCM practices.

The value adds of the research considered in the new findings in the EFBI from GSCM practices adoption perspective. All the reviewed literature didn't included any information about neither barriers nor drivers facing GSCM practices adoption in EFBI. The importance of the research is not limited on identifying the main drivers and barriers affecting companies' initiatives for a GSCM but it might be extended to positioning the problem of GSCM practices adoption for further research. Working on increasing information volume will allow Egypt to raise its people knowledge about importance of GSCM and necessity for identifying ways and tools for its development and enhancement.

There are limitations to this research that should be considered when interpreting the study results. Lack of information was the main limitation to this research due to scarce of information about environmental activities done before and its implications on corporate image and competitive advantage. Consideration of sharing information between governmental institutions leaded to very limited information about corporate with environmental organization values. Lack of experience by Supply Chain Management scientific concept background and the small number of certified ISO14001 companies leaded to a limited population to undertake the questionnaire.

One of limitation faced by this research is the lack of literature on the GSCM barriers and drivers in Egypt. It will be theoretically applicable for future research to undertake a similar environment to Egypt worldwide to investigate the problem. Further research might investigate drivers and barriers facing GSCM in Egypt from private and public perspectives and historical background of the company from environmental consideration perspective.

It is recommended for future research to include different industrial sectors to be examined and investigated. Different industrial sectors will result a different drivers and barriers facing GSCM in Egypt and it will support a larger sample size. If any future research will work on EFBI it is recommended to use this research's result to find a relation between drivers and barriers with corporate overall performance in Egypt. Such research will support the literature with more information about the importance of GSCM practices adoption.

Value of future research could be obtained through investigating the social sphere of sustainability in Egypt. The effect of considering social responsibility in companies' objective on companies' overall supply chain performance could lead to a clear frame of sustainability in Egypt. However, do sustainable supply chain will lead to a value add to the Egyptian economy, social and environment?

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