



THE EFFECT OF GREEN SUPPLY CHAIN MANAGEMENT PRACTICES ON ORGANIZATIONAL COMPETITIVE ADVANTAGE: IN CASE OF DASHEN BREWERY SHARE COMPANY, GONDAR, ETHIOPIA

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Abstract: *The purpose of this study is to investigate the effect of green supply chain management practice on competitive advantage in case of Dashen Brewery S.C Gondar Branch by taking the following independent variables such as Green Marketing, Green purchasing, Reverse Logistics and Green Distribution and the dimensions to measure the dependent variable are cost, product innovation, flexibility and delivery. In order to attain the objectives of the study, explanatory research design and quantitative and qualitative analysis were entertained Both inferential and descriptive analysis methods were used i.e. percentage, means, standard deviation, correlation, multiple regression and narrative analysis was used from the finding all the variables which are used to measure the independent variable has a positive and significant relationship and effect on competitive advantage except green distribution practice because it has insignificant effect, finally the researcher concluded that green supply chain management has a positive effect on competitive advantage of Dasnen brewery Share Company and the researcher recommended that the company should do more on green distribution practice and on green marketing because it has a great effect on competitive advantage compared to other green supply chain management practice. It is recommended that brewery firms that want to compete effectively in an industry should be able to use their social initiatives strategically to achieve competitive advantage at least in the long- run.*

Key words: Green supply chain Management, competitive advantage, Green Environment, Dashen brewery Share Company.

I. BACKGROUND OF THE STUDY

Over the years in the world, GSCM has attracted the attention of academics and practitioners focusing on reducing waste and preserving the quality of product-life and natural resources. Green supply chain management (GSCM) is an emerging field motivated by the need for environmental consciousness (Srivastava, 2007) Stranding out of the conventional supply chain view, GSCM was sparked by the “quality revolution” in the 1980s and the supply chain revolution in the 1990s. Eco efficiency, which seeks to minimize ecological damage while maximizing production efficiency, and remanufacturing, has become key assets to achieve best practices (Ashley, 1993). Customer demands and governmental pressures continue to push business to be more and more sustainable. Consequently, governmental legislations and public mandates for environmental accountability have brought up these issues on the drawing board of many strategic planners, bringing several green concepts into place (Guide & Srivastava, 1998).

Competitive advantage as defined by Porter, (1990) the ability of firms responding to conditions in their market place by modifying their competencies (internal capabilities and linkage with supplier and associates) the way in which they position themselves in relation to their competitors. Hitche and Moffat (1993) argue that each of these components are interact related and ultimately contributes to company’s competitive advantage hence creating economic value rather than being something that is used within strategy, where they see competitive advantage as the objective of strategy. Competition in today’s business environment forces organizations to enhance their productivity and competitive advantage. In addition, companies must aware that competition today is not merely between organizations, but it involves the entire supply chain. Therefore, GSCM has been recognized as one of the critical factors that could help companies not only as a source of cost reduction but also as a source to gain

competitive advantage by greening the environment (Deshpande, 2012).

Lee (1994) undertook an audit of practices on brewery industries sites in Africa, to assess the use of Environmental Management System (EMS), approaches towards energy conservation, and the use of harmful or non-recyclable materials. That a high level of awareness of, and commitment of brewery industries are need to protect the environment. Those inefficiencies in the usage of materials were common, leading to high wastage levels, even on sites run by brewery industries implementing ISO 9002 in which materials management is enshrined.

In this regard the environmental policy of Ethiopia related to greening the environment was approved on April 2, 1997 by the Council of Ministers. The Environmental Policy of Ethiopia has embraced the concept of sustainable development including Brewery Companies.

II. STATEMENT OF THE PROBLEM

Carter and Easton (2011) Green Supply Chain practice have often been operationalized in the literature without explicitly taking organizational competitive advantage into account. Similarly, in industrial practice what is “green” has often been viewed as a responsibility, which did not necessarily lead to positive financial outcomes. Moreover, over the past decade, Green Supply Chain Management (GSCM) has emerged as an important factor of the environmental and supply chain strategies for a number of companies around the global.

According to Peteraf and Barney (2003) enterprise has a competitive advantage if it is able to create more economic value than the marginal (breakeven) competitor in its product market. Peteraf and Barney (2003) argue that their definition is consistent with the usage of competitive advantage by resource-based view of Barney (1986) and by the market-led perspective of Porter (1985). Nevertheless, its precise meaning heavily depends upon a clear definition of the concept of ‘economic value’. Peteraf and Barney (2003) define economic value as the value ‘created by an enterprise in the course of providing a good or service (that) is the difference between the

perceived benefits gained by the purchasers of the good and the economic cost to the enterprise.

It was investigated whether Green Supply Chain Management Practice have a relevant effect on competitive advantage with the following variables (such as Green purchasing (GP), Green marketing (GM), Reverse Logistics (RL) and Green Distribution (GD) and competitive advantage dimensions such as Price/cost, Quality, Delivery, product innovation and flexibility. Hence, taking into account the researcher was investigate the effect of green supply chain management on organizational competitive advantage, an empirical investigation is sought to address the following research objectives;

III. OBJECTIVE OF THE STUDY

The main objective of this study is to investigate the effect of green supply chain management practice on organizational competitive advantage of Dashen Berwery S.C at Gondar Branch.

Specific Objectives of the study are:

1. To investigate the effect of green purchasing on organization competitive advantage.
2. To examine the effect of green marketing on organization competitive advantage.
3. To investigate the effect of reverse logistics on organization competitive advantage.
4. To investigate the effect of green distribution on organization competitive advantage.

IV. RELATED LITERATURE REVIEW

4.1 Theoretical frameworks

Green supply chain management (GSCM) is an emerging field motivated by the need for environmental consciousness (Srivastava, 2007). Stranding out of the conventional supply chain view, GSCM was sparked by the “quality revolution” in the 1980s and the supply chain revolution in the 1990s. Over the years, GSCM has attracted the attention of academics and practitioners, focusing on reducing waste and preserving the quality of product-life and natural resources. Eco efficiency, which seeks to minimize ecological damage while maximizing production efficiency, and remanufacturing, have become key assets to achieve best practices (Ashley, 1993).

4.2 Green Supply Chain Management Practices

According to Vachon & Klassen (2006) GSCP would include externally oriented practices only i.e. environment-related activities involving at least another organization in addition to the focal company. In turn, these can be divided into environmental monitoring (supplier requirement for compliance with a voluntary code of practice or public standard) and environmental collaboration (development of co-operative activities to address environmental issues in the supply chain).

According to Tate et al. (2010) depending on the type of industry as well as size and geographic location, different companies are likely to put more emphasis on, specific green areas and activities. However, only limited research has been conducted so far on the links between the internal and external GSCP adopted by organizations (Gonzales et al., 2008).

4.3 Green Purchasing theory

Lee (2008) stated that the adoption of green purchasing is one of the commonly accepted dimensions of GSCM practice, According to a buying organization with a green supply chain initiative will pay attention to green practices of their suppliers, especially the small and medium-sized enterprises. In order to ensure that suppliers meet their environmental objectives, the buying firm may deploy collaboration-based activities that include training, environmental information sharing and joint research. Other organizations may adopt a less collaborative approach by simply demanding that their suppliers adopt environmental systems such as ISO 14001.

4.4 Green Marketing theory

Troumbis (1991) explored that a majority of people believe that green marketing refers solely to the promotion or advertising of products with environmental characteristics. Terms like Phosphate Free, Recyclable, Refillable, Ozone Friendly, and Environmental friendly are some of the things consumers most often associate with green marketing. While these terms are green marketing claims, in general green marketing is a much broader concept, one that can be applied to consumer goods, industrial goods and even services. Yet (2012) defined green marketing is not a simple task, indeed the terminology used in this

area has varied, it includes: Green Marketing, Environmental Marketing and Ecological Marketing. While green marketing came into prominence in the late 1980s and early 1990s, it was first discussed much earlier.

4.5 Reverse Logistics theory

Stock (1998) Reverse logistics is for all operations related to the reuse of products and materials. It is "the process of moving goods from their typical final destination for the purpose of capturing value, or proper disposal. Remanufacturing and refurbishing activities also may be included in the definition of reverse logistics." Growing green concerns and advancement of green supply chain management concepts and practices make it all the more relevant. The number of publications on the topic of reverse logistics has increased significantly over the past two decades. According to Murphy & Poist (2003) Successful adoption and implementation of RL depends on several intra organizational factors, including commitment to environmental preservation, ethical standards, and the existence of supporters or policy makers with a commitment for the adoption of environmentally friendly policies.

4.6 Green Distribution theories

According to Ninlawan et al. (2010) Green distribution consists of green packaging. Packaging features such as size and materials used, influence distribution because of their effect on the transportation features of the product. Green packaging involves downsized packaging and use of green packaging materials. They also point out the need to cooperate with vendors to standardize packaging, encourage and adopt returnable packaging methods, promote recycling and reuse of packaging materials. This study incorporated both reverse logistics aspects and distributional aspects in green distribution.

4.7 Competitive advantage

The pursuit of competitive advantage is an idea very much at the heart of the strategic management literature (Barney, 2007). Understanding the sources of sustained competitive advantage has become a major area of study in strategic management. The resource-based view stipulates that the fundamental sources and drivers of competitive advantage and superior performance

are chiefly associated with the attributes of resources and capabilities, which are valuable and costly-to-copy. Several other studies support the importance of this resource-based view (Gottschalg & Zollo, 2007). When this strategy is well-formulated and implemented, it can significantly affect a firm's level of competitive advantage. The resource-based view provides an avenue for organizations actions to plan and execute their organizational strategy by examining the role of their internal resources and capabilities in achieving competitive advantage (Sheehan & Foss, 2007).

Competitive advantage dimensions

Dimensions of competitive advantages include price / cost, quality, reliability of delivery, product innovation and time of delivery to market (Lee et al., 2006). Competitive advantage of the organization can be measured by price / cost, quality, reliability of delivery, product innovation and time of delivery (Lee et al., 2006). Sustainable competitive advantage is the basis of survival in a competitive environment, but the main important factors are market and supply of products (Naik, 2012). These companies want to take advantage of green supply chain processes and improve organizational Competitive advantage.

4.8 Relationship of Green supply chain management practice and competitive advantage

The contemporary GSCM practices by the companies are widely diffused, for environmental performance improvement and gaining competitive advantages in the business (Testa and Iraldo, 2010). In globalization, GSCM is a complimentary with other management practice. However, sustainability, social progress, Competitive advantage, globalization, economic-dynamism and environmental performance go hand in hand (Balkyte and Tvaronavičiene, 2010). GSCM practices have been found to be positively related to competitive advantage (price, quality, delivery dependability, product innovation, and time to market) in prior literature (Li et al., 2006). Franck (2013) GSCM practices are a source of a competitive advantage through price/cost, quality, reliability of delivery, time to market and product innovation.

4.9 Conceptual framework of the study

The study was conceptually framed by incorporating certain justified variables such as green purchasing, reverse logistics, green marketing and green distribution because such GSCM variables mostly have an influence on organizations competitive advantage instead of other GSCM variables which are embedded on below conceptual framework in the course of the subsequent parts as adopted from Salah and Diab et al. (2014).

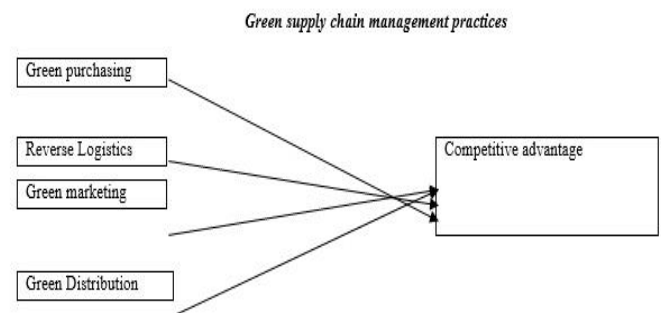


Figure 1 Conceptual model adopted from Salah and Diab et al. (2014).

IV. RESEARCH METHODOLOGY

The study was adopted explanatory research design. The study was conducted on Dashen Brewery S.C Gondar branch. The population of this study was the employee of the company. The researcher selected (80) sample from the whole employees consisting of 561 by following sample size determination method of Malhotra (2007). Sample were distributed to respondents through judgmental sampling. The study used primary data for data collection and secondary with related studies, books and different web sites for literature review and definitions. Data was analyzed using descriptive and inferential statistical techniques, where under inferential statistics multiple regressions was used to determine the effect of a set of independent variables (logistic activities) on dependent variable (organizational performance) and under descriptive statistics mean, and standard deviations was used. Coefficient of correlation was analyzed using the Statistical Package for Social Sciences (SPSS) version 20 package. Finally the results were reported using tables. The researcher used multiple regression models to link the independent variables to the dependent variable.

V. RESULTS AND DISCUSSIONS

Table 1: Descriptive Statistics of Independent Variables

Variables	N	Mean	Std. Deviation
GPP	71	3.4423	.87107
RLP	71	3.3662	.62700
GDP	71	3.4620	.75183
GMP	71	3.5035	.76004
CA	71	3.4704	.62181

Table 2: Correlation Analysis between GSCM Practices and Competitive Advantage

		GPP	RLP	GDP	GMP	CA
GPP	Pearson Correlation Sig. (2-tailed)	1				
RLP	Pearson Correlation Sig. (2-tailed)	.379** .001	1			
GDP	Pearson Correlation Sig. (2-tailed)	.837** .000	.348** .003	1		
GMP	Pearson Correlation Sig. (2-tailed)	.600** .000	.510** .000	.445** .000	1	
CA	Pearson Correlation Sig. (2-tailed)	.841** .000	.711** .000	.709** .000	.846** .000	1

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785 ^a	.770	.769	.231001

Predictors: (Constant), GMP, GDP, RLP, GPP

Table 4: Coefficient of Variables

Model		Un standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	1 (constants)	.023	.085		.272	.787
	GPP	.308	.031	.431	9.881	.000
	RLP	.322	.025	.325	13.041	.000
	GDP	.049	.032	.059	1.498	.139
	GMP	.324	.024	.396	13.658	.000

a. Dependent Variable: CA

From the above table 2, we can conclude that there is a positive and strong significant relationship between green purchasing practice and competitive advantage ($r=0.841$, $p=0.00$). And also there is a positive and strong correlation between green marketing practice and competitive advantage with correlation coefficient ($r=0.846$ and $p=0.00$). There is a positive and significant correlation between reverse logistics and competitive advantage with person coloration coefficient of ($r=0.771$ and $p=0.00$). There is also a positive correlation between green distribution and competitive advantage with person correlation ($r=0.709$ and $p=0.00$). Generally the above table and discussions implied that there is a positive, strong and moderate association between each green supply chain management practices and competitive advantage.

Variables in multiple linear regression model were tested using multiple regression analysis. The normal distribution condition, linearity and multicollinearity test for the dependent and independent variable were assessed before regression analysis. The “R square referred to as the coefficient of determination, which is the share of the variance in the based variable that can be defined by the independent variables which have the value of 77% that the independent variables explain of the variability of the dependent variable which is organizational competitive advantage.

VI. CONCLUSIONS

The findings in line with mean result of the practices show that the Green marketing has the highest mean score (3.5), followed by green distribution (3.46), reverse logistics (lowest 3.36) and green purchasing (3.44). The study revealed that Dashen brewery Share Company Gondar branch has good green marketing practice. Despite all these green supply chain management practices only Green marketing, reverse logistics and green purchasing were able to significantly affect competitive advantage of Dashen brewery Share Company Gondar branch but green distribution have a positive insignificant effect on competitive advantage. Generally all the of GSCM practices were positively and significantly affect the competitive advantage of Dashen brewery Share Company Gondar branch except green distribution because green distribution has insignificant effect on the company competitive advantage.

VII. LIMITATION OF THE STUDY AND SUGGESTIONS FOR FUTURE STUDIES

The major limitation of the study has low generalizability due to its case area is limited only on Dashen Brewery S.C Gondar Branch. As it was not assessed for other branches of the organization as well as other governmental and none governmental organizations in Ethiopia, so, it is difficult to generalize the finding at national and international level.

The second limitation of this study was conceptually limited only on the following green supply chain variables and competitive advantage indicators such as Green purchasing, Green marketing, Reverse Logistics and Green distribution and competitive advantage measurements such as cost, quality, delivery, innovation and flexibility. So, the study is not incorporated with other variables and competitive advantage dimensions. Thirdly the study also has methodological limitation because, under these study only close ended questionnaires and data collection techniques were employed and the researcher did not use other data collection techniques such as FGD, Panel, etc. So, it may have an influence on the data obtained because close ended questionnaires are mostly limited alternatives which may limit responses. The reason for using these methods of data collection is respondents would not have enough time to respond open ended questionnaires.

The study results suggest that green supply chain management practice has a strong impact on competitive advantage of companies. The study is focused on analyzing the effect of green supply chain management practice on competitive advantage. This is particularly important for companies who strategically focus on building business model that are difficult to imitate and to attain long run competitive advantage. It would be interesting to carry out the study in other economic sector, for instance Banks, Hotels, pharmaceutical industries, textile industries, laser industries etc. future researchers are suggested to explore the effect of green supply chain management practice on companies' performance and competitive advantage by incorporating other green supply chain management practices like eco-design, investment recovery, green manufacturing etc. and

further research should also be conducted to investigate other factories (23.1%) that affect competitive advantage of companies because 76.9% were analyzed by the research.

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