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GEBZE INSTITUTE  
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STELLENBOSCH  
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# 5<sup>th</sup> INTERNATIONAL STRATEGIC MANAGEMENT CONFERENCE

**“Striking the Right Balance Between Existing Strategy and  
New Opportunities with Special Emphasis on Turbulent Markets”**



**Proceedings of 5<sup>th</sup> International  
Strategic Management Conference**

**July 02 – 04, 2009  
Stellenbosch, South Africa**

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STRATEGIC MANAGEMENT  
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# THE IMPACT OF GREEN SUPPLY CHAIN MANAGEMENT PRACTICES ON BUSINESS PERFORMANCE: THE CASE OF CHEMICAL INDUSTRY

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## ABSTRACT

*Since there is a multidimensional expansion of the literature in the area of corporate environmental management, the main objective of this paper is to analyze the relationship between the practices of green supply chain management and business performance. In other words, the paper focuses on the relationship between five Green Supply Chain Management (GSCM) practices -including internal environmental management, green purchasing, cooperation with customers, eco-design and investment recovery- and business performance. The findings of the research highlighted that green purchasing had significant and positive relationships with economic and operational performance, there was significant and positive relationship between eco-design and economic performance. Furthermore, investment recovery had significant and positive relationships with environmental and operational performance. Subsequently, the research also noted that the practices of green supply chain management had an effect on business performance.*

*Keywords: Strategic Performance Management, Green Supply Chain Management, Environmental Management, Chemical Industry*

## INTRODUCTION

The necessity for change has emerged as a vital importance with the industry revolution beginning in the midst of the 19<sup>th</sup> century. There has been rapid increase in consumption rates by reason of the world population, education and income level of individuals, their improving life standards, through the technological progress making the mass production possible, and the community's tendency to consumption. In response to rising consumption, natural resources used as inputs in manufacturing have been exploited unlimitedly. Humankind controlling the natural resources and directing them has put pressure on environment because of their necessities never lasting. On the one hand, people use the resources needed for the nature to renew itself, on the other hand they dump waste product on environment. In other words, they have both contaminated and destroyed the nature; furthermore, they have got the instruments that are essential for the nature in cleaning and in reshaping. Eventually, the unconscious activities of people have resulted in deterioration of the nature (Lazso, 2003: 54).

People's interests for environmental issues such as pollution, climate change, ozone depletion, changes in flora and fauna (Shrivastava, 1995: 122) have expanded as it never happened before because of the fact that these issues restrict the living areas of people. In parallel with these interests, in the academic standards it has been observed that the researches trying to diminish the impacts of the organizations on environment have increased in numbers (Berry and Rondinelli, 1998; Hart, 1995; Walker, Sisto and McBain, 2008).

Production-consumption centered economic activities lie in the basis of the ecological deterioration (Seymen, 2005: 104); that's why, the parties of the economy have reached a settlement over considering the

environmental values to perform the economic activities. Among the consumers, the numbers of individuals conscious of the environment who endeavor to protect the environment with pollution minimization and to enable the preservation of the biological varieties (Mostafa, 2007: 220) have risen constantly (Ay and Yılmaz, 2004: 20). In conjunction with the consumer's tendency, the businesses have to be sensitive to the environment on functions such as supply, design, manufacturing, and marketing.

Environmentally-conscious management defined as aiming the optimum balance between the economic and ecological performance of the businesses, and as a process combining the whole management functions with the protection of the environment (Akdoğan and Aykan, 2008: 123) presents new resources to the businesses for competitive advantage (Gupta, 1995: 36). Environmentally-conscious management changes not only the organization's objectives, values, products and production systems, but also the organization itself, its surrounding and job processes (Shrivastava, 1995: 131). In early environmental management frameworks, the scope of environmentally-conscious management had responsibility for ensuring environmental excellence in logistics, product development, process design, marketing and waste management. Today, this has changed. As in the quality revolution of the 1980s and the supply chain revolution of the 1990s, it has become clear that the best practices call for integration of environmental management with ongoing operations (Srivastava, 2007: 53).

Thanks to the practices of environmentally conscious management, while maintaining the negative impacts of the businesses on environment at the minimum level, they make an effort to save costs, to raise the product quality, and develop the competitive strength at the global level (Porter and Linde, 1995: 121). Environmentally conscious management requires a philosophical conversion and includes all functions of the businesses. One of these functions, supply is vital for environmentally-conscious management as it directs all the components used as inputs in the manufacturing process of the business, manufacturing process and outputs formed in the manufacturing outcome.

**Green supply chain management** has emerged as an important new archetype for enterprises to achieve profit and market share objectives by reducing environmental risk and impact (Hu and Hsu, 2006: 853). Green supply chain management is defined as "integrating environmental thinking into supply chain management, including product design, material sourcing and selection, manufacturing processes, delivery of the final product to the consumers as well as end-of-life management of the product after its useful life" (Srivastava, 2007: 54-55). The growing importance of green supply chain management is driven mainly by the escalating deterioration of the environment, e.g. diminishing raw material sources, overflowing waste sites and increasing levels of pollution.

Given that there is a multidimensional expansion of the literature in the area of corporate environmental management (Zhu, Sarkis and Lai, 2008a: 263), this paper focuses on five GSCM practices including internal environmental management, green purchasing, cooperation with customers, eco-design and investment recovery. Internal environmental management is a key to improving enterprises' performance (Zhu, Sarkis and Geng, 2005: 453). Environmental management encompasses diverse initiatives to reduce or minimize the adverse environmental impacts of an organization's operations. These efforts aim to improve environmental performance, reduce costs, enhance corporate image, reduce risks of non-compliance and improve marketing advantage (Rao and Holt, 2005: 906). Green purchasing is defined as purchasing's involvement in supply chain management activities in order to facilitate recycling, reuse, and resource reduction (Carter, Ellram and Ready, 1998: 29). Cooperation with customers states the businesses interaction with the conscious customers in the process of design, manufacturing and packaging. Eco-design refers to address product functionality while simultaneously minimizing life-cycle environmental impacts. The success of eco-design requires internal cross-functional cooperation within the company and the external cooperation with other partners throughout the supply chain (Zhu, Sarkis and Lai, 2008b: 3-4). Without green purchasing and customer cooperation practices, product take-back and other product reintroduction markets may not become as developed. Investment recovery covers leaning of the business processes and selling off the disused items such as overstock, waste.

Business Performance, which reflects the perspective of strategic management, is a subset of the overall concept of organizational effectiveness (Venkatraman and Ramanujam, 1986: 803) and can be defined as the achievement of organizational goals related to profitability and growth in sales and markets share, as well as the accomplishment of general firm strategic objectives (Hult, Hurley and Knight, 2004: 430-431). Business performance can be measured using the environmental, economic and operational indicators (Zhu, Sarkis and Lai, 2008a: 271-272).

It is generally perceived that green supply chain management promotes efficiency and synergy among business partners and their lead corporations, and helps to enhance environmental performance, minimize waste and achieve cost savings. This synergy is expected to enhance the corporate image, competitive

advantage (Rao and Holt, 2005: 899). In the literature, it is also emphasized that the practices of green supply chain management have an impact on the business performance and the competitive strength. Chow et al. (2008), found that supply chain practices had direct impact on organization performance in Taiwan. Vachon and Klassen (2008) found a positive link between environmental collaboration among organizations in the supply chain and both manufacturing and flexibility performance. Rao and Holt (2005) noted that green supply chain led to increased competitiveness and better economic performance. Zhu and Sarkis (2004) found a positive relationship between green supply chain practices implementation and environmental and economic performance as well.

In the light of the explanations above, the research question is the following: Do the practices of green supply chain management have an impact on improving the business performance? At this framework here, the aim of the research is to find out whether there is a significant relationship between the practices of green supply chain management and the business performance as well as the efficacy level of green supply chain management practices on the business performance.

## METHODOLOGY

### Sample

The sampling of the research is presented by the businesses operating in the sector of plastic, paint and chemistry in the industrial zone of Konya, Turkey. Having the great industry potential, the research is limited with the city of Konya. 60 firms registered to the Chamber of Konya Industry which have operations in the sector of plastic, paint and chemistry took place in this research. 60 questionnaires were distributed. 56 questionnaires were returned. This represented an overall response rate of 93.3%.

### Measurement

A semi-structured survey has been utilized as a data-gathering technique. The scales developed by Zhu, Sarkis and Lai (2008a) has been used in order to measure green supply chain management practices and the impacts of the practices on the business performance. A questionnaire consists of three sections.

The first section includes internal environmental management, green purchasing, cooperation with customers, eco-design and investment recovery by using a five-point Likert-type Scale (1= not considering it, 2= planning to consider, 3= considering it currently, 4= initiating implementation, 5= implementing successfully) with 20 measurement items to measure green supply chain management practices of the businesses. Cronbach's alpha were as follows: 0.87 for internal environmental management, 0.80 for green purchasing, 0.90 for cooperation with customers, 0.84 for eco-design and 0.83 for investment recovery.

The second section deals with the business performance outcomes in terms of three dimensions- environmental, economic and operational performance- by using a five-point Likert-type Scale (1= not at all, 2= a little bit, 3= to some degree, 4= relatively significant, 5= significant) with 17 measurement items. Cronbach's alpha were as follows: 0.75 for environmental performance, 0.76 for economic performance and 0.73 for operational performance. In the third section, the questions are related to the type and nature of business.

**Independent variable:** Green supply chain management practices (internal environmental management, green purchasing, cooperation with customers, eco-design and investment recovery)

**Dependent variable:** Business performance outcomes (environmental, economic and operational performance).

**The model and hypothesis of the research are as follows:**

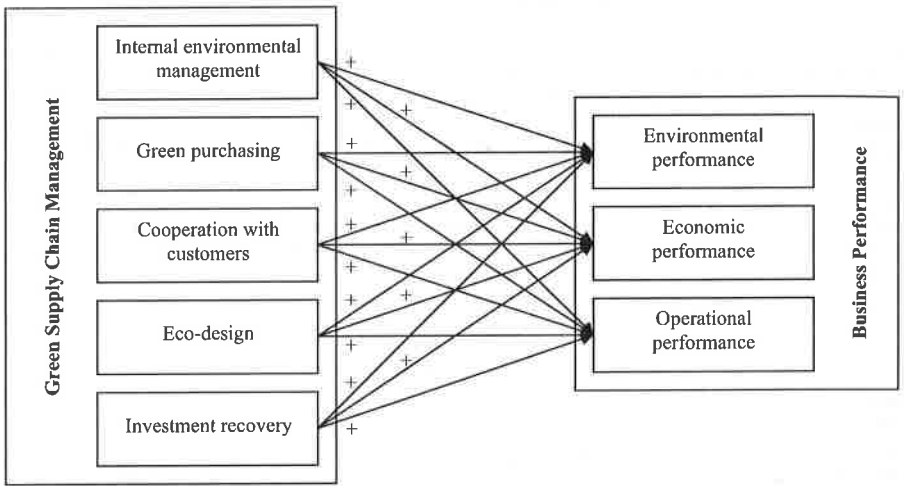


Figure 1. Research Model

- H<sub>1</sub>:** There is a positive relationship between the internal environmental management which is one of the practices of green supply chain management and environmental performance of the business.
- H<sub>2</sub>:** There is a positive relationship between the green purchasing which is one of the practices of green supply chain management and environmental performance of the business.
- H<sub>3</sub>:** There is a positive relationship between the cooperation with customers which is one of the practices of green supply chain management and environmental performance of the business.
- H<sub>4</sub>:** There is a positive relationship between the eco-design which is one of the practices of green supply chain management and environmental performance of the business.
- H<sub>5</sub>:** There is a positive relationship between the investment recovery which is one of the practices of green supply chain management and environmental performance of the business.
- H<sub>6</sub>:** There is a positive relationship between the internal environmental management which is one of the practices of green supply chain management and economic performance of the business.
- H<sub>7</sub>:** There is a positive relationship between the green purchasing which is one of the practices of green supply chain management and economic performance of the business.
- H<sub>8</sub>:** There is a positive relationship between the cooperation with customers which is one of the practices of green supply chain management and economic performance of the business.
- H<sub>9</sub>:** There is a positive relationship between the eco-design which is one of the practices of green supply chain management and economic performance of the business.
- H<sub>10</sub>:** There is a positive relationship between the investment recovery which is one of the practices of green supply chain management and economic performance of the business.
- H<sub>11</sub>:** There is a positive relationship between the internal environmental management which is one of the practices of green supply chain management and operational performance of the business.
- H<sub>12</sub>:** There is a positive relationship between the green purchasing which is one of the practices of green supply chain management and operational performance of the business.
- H<sub>13</sub>:** There is a positive relationship between the cooperation with customers which is one of the practices of green supply chain management and operational performance of the business.
- H<sub>14</sub>:** There is a positive relationship between the eco-design which is one of the practices of green supply chain management and operational performance of the business.
- H<sub>15</sub>:** There is a positive relationship between the investment recovery which is one of the practices of green supply chain management and operational performance of the business.

The hypotheses of the research were tested via the correlation analysis. In addition, the regression analysis was put into practice so as to determine the efficacy level of the green supply chain management practices (determination coefficient= $R^2$ ) on the business performance outcomes.

## DATA ANALYSIS AND RESULTS

In the research, 48.2% of the businesses have been serving in the plastic sector, 28.6% in the paint sector and 23.2% in the chemistry sector. 48.2% of the businesses have been serving in national marketing, 44.6% in international marketing and 7.1% in regional marketing. 85.7% of the businesses were administered by the business owners, 60.7% of them employed less than 49 employees.

Table 1 shows the means, standard deviations, variables in the study associated with the subset of the business performance that are environmental performance, economic performance, and operational performance, the subdivisions of the practices of green supply chain management including internal environmental management, green purchasing, cooperation with customers, eco-design, investment recovery.

**Table 1. Means, standard deviations, coefficient alphas and correlations for study variables.**

VARIABLES	Mean	Std. Dev.	1	2	3	4	5	6	7	8
1. Internal environmental man.	3.15	0.96	(.87)							
2. Green purchasing	3.23	0.90	.12	(.80)						
3. Cooperation with customers	3.39	1.13	.13	.16	(.90)					
4. Eco-design	3.73	1.20	.03	.19	.19	(.84)				
5. Investment recovery	3.04	0.91	.36**	.20	.04	.28*	(.83)			
6. Environmental performance	3.80	0.71	-.09	.23	.19	.11	.28*	(.75)		
7. Economic performance	3.93	0.65	-.01	.28*	.05	.31*	.24	.31*	(.76)	
8. Operational performance	3.94	0.59	.18	.29*	.16	.23	.32*	.23	.29*	(.73)

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).

As shown in Table 1, as a result of Pearson correlation analysis green purchasing had significant and positive relationships with economic performance ( $r=0.28$ ,  $p<0.05$ ) and operational performance ( $r=0.29$ ,  $p<0.05$ ). These results supported  $H_7$  and  $H_{12}$ . There was significant and positive relationship between eco-design and economic performance ( $r=0.31$ ,  $p<0.05$ ). According to this result,  $H_9$  was accepted. Likewise, investment recovery had significant and positive relationships with environmental performance ( $r=0.28$ ,  $p<0.05$ ) and operational performance ( $r=0.32$ ,  $p<0.05$ ). According to these findings,  $H_5$  and  $H_{15}$  were supported. In this frame, these results were consistent with the study results of Rao and Holt (2005) and Zhu and Sarkis (2004). Not any significant relationships were found among other variables. In this respect,  $H_1$ ,  $H_2$ ,  $H_3$ ,  $H_4$ ,  $H_6$ ,  $H_8$ ,  $H_{10}$ ,  $H_{11}$ ,  $H_{13}$  and  $H_{14}$  were turned down.

The regression analysis was carried out to determine the efficacy level of the practices of green supply chain management on the business performance.

**Table 2. Results of regression analysis.**

Independent Variable	R <sup>2</sup>	Adjusted R <sup>2</sup>	F	Beta	S. E.	t value	Sig.
GSCM	.190	.175	12.629	.435	.429	3.554	.001

$p<0.05$ ; Dependent variable: Business performance

As for the analysis results (Table 2); the practices of green supply chain management had an effect on business performance. This finding was similar with the study results of Chow et al. (2008). Besides, determination coefficient (adjusted  $R^2$ ) 0.175 was estimated and it indicated that 17.5% of the business performance change was dependent on the practices of green supply chain management. The positive value of Beta coefficient ( $\beta=0.435$ ), ascertained positive relationship between variables. In other words, it is possible to express that the more the practices of green supply chain management increases, the more business performance increases.

To be environmentally-conscious in the phase of designing, supply, manufacturing and marketing are the necessary needs in terms of sustainable development. The recommendations of the search can be categorized in the following headings:

- Environmental consciousness can both exist as a significant indicator of the social responsibilities and regarded as the result of the regulations and market conditions though. Thus, environmentally-

conscious businesses can contribute to the other business to enhance their reputation in relation to social responsibility behavior taking place in the chain of supply.

- Even though the implementations of environmentally conscious management caused a rise in the cost initially, later they have produced a lot of positive results for businesses, society and environment within the middle and long terms. In all their affairs, businesses should act sensitive towards the environment in the way of modern management conception.
- The conception of environmentally-conscious management is a complete phenomenon. Making only one of the business functions environmentally conscious is not sufficient to get benefit. All functions, from designing to supply and manufacturing to marketing should be made environmentally conscious.
- The businesses, implementing environmentally-conscious management have become disadvantageous against their rival businesses. The regulations and controls must be realized to protect those businesses, acting in the favor of social responsibilities and to make the others act in the favor of this conception.
- Environmental consciousness is a social even a global issue. The success of this philosophy depends on existence of all sides, adopting the issue and forming the economic system. It should be well explained that they would gain great benefits in the middle and long terms after they have had some struggles in the short term.

## REFERENCES

- Akdoğan, A. A. and Akyan, E. (2008), Çevre duyarlı insan kaynakları yönetimi, 16. Ulusal Yönetim ve Organizasyon Kongresi Bildiriler Kitabı, İstanbul Kültür Üniversitesi, (16-18 May): 123-133.
- Ay, C. and Yılmaz, E. (2004), Yeşil pazarlama ve serel seramik A.Ş.'nin yeşil uygulamaları, *Sosyal Bilimler*, 2(2): 17-27.
- Berry, M. A. and Pondinelli, D. A. (1998), Proactive corporate environmental management: A new industrial revolution, *Academy of Management Executive*, 12(2): 38-50.
- Carter, C.R., Ellram, L.M. and Kathryn, L.M. (1998), Environmental purchasing: benchmarking our German counterparts, *International Journal of Purchasing & Materials Management*, 34(4): 28-38.
- Chow, S. Wing; Madu, N. Christian; Kuei, Chu-Hua; Lu, H. Min; Lin, Chinho and Tseng Houjung (2008), Supply chain management in the US and Taiwan: An empirical study, *Omega The International Journal of Management Science*, 36: 665-679.
- Gupta, M. C. (1995), Environmental management and its impact on the operations function, *International Journal of Operations & Production Management*, 15(8): 34-51.
- Hart, S. L. (1995), A natural-resource based view of the firm, *Academy of Management Review*, 20(4): 986-1014.
- Hu, A.H. and Hsu, C.W. (2006), Empirical study in the critical factors of supply chain management (GSCM) practice in the Taiwanese electrical and electronics industries, *IEEE International Conference on Management of Innovation and Technology*, 853-857.
- Hult, G.T.M., Hurley, R.F. and Knight, G.A. (2004), Innovativeness: Its antecedents and impact on business performance, *Industrial Marketing Management*, 33: 429-438.
- Laszlo, E. (2003), Makro değişim: Sürdürülebilir bir dünyaya dönüşümü yönetmek, Translator: Murat Abuş, Mopa Kültür Yayınları, İstanbul.
- Mostafa, M. M. (2007), Gender differences in Egyptian consumers' green purchase behavior: The effects of environmental knowledge, concern and attitude, *International Journal of Consumer Studies*, (31): 220-229.
- Porter, M. E. and Claas van der Linde. (1995), Green and competitive, *Harvard Business Review*, (September-October): 120-134.

- Rao, P. and Holt, D. (2005), Do green supply chains lead to competitiveness and economic performance?, *International Journal of Operations & Production Management*, 25(9): 898-916.
- Seymen, D. (2005), Dış ticaret-çevre ilişkilerinin dengelenmesi: Sürdürülebilir ticaret, teori ve Türkiye değerlendirmesi, *Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 7(3): 99-127.
- Shrivastava, P. (1995), Ecocentric management for a risk society, *Academy of Management Review*, 20(1): 118-137.
- Srivastava, S. K. (2007), Green supply chain management: A state of the art literature review, *International Journal of Management Reviews*, 9(1): 53-80.
- Vachon, S. and Klassen, R. D. (2008), Environmental management and manufacturing performance: The role of collaboration in the supply chain, *International Journal of Production Economics*, (111): 299-315.
- Venkatraman, N. and Ramanujam, V. (1986), Measurement of business performance in Strategy Research: A Comparison of Approaches, *Academy of Management Review*, 11(4): 801-814.
- Walker, H., Sisto, L. D. and McBain, D. (2008), Drives and barriers to environmental supply chain management practices: Lessons from the public and private sectors, *Journal of Purchasing & Supply Management*, (14): 69-85.
- Zhu, Q. and 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 (3): 265-289.
- Zhu, Q., Sarkis, J. and Geng, Y. (2005), Green supply chain management in China: pressures, practices and performance, *International Journal of Operations & Production Management*, 25(5): 449-468.
- Zhu, Q., Sarkis, J. and Lai, K. (2008a), Confirmation of a measurement model for green supply chain management practices implementation, *International Journal of Production Economics*, (111): 261-273.
- Zhu, Q., Sarkis, J. and Lai, K. (2008b), Green supply chain management implications for "closing the loop", *Transportation Research Part E*, 44: 1-18.
- Zhu, Q., Sarkis, J., Cordeiro, James J. and Lai, K. (2008), Firm-level correlates of emergent green supply chain management practices in the Chinese context, *The International Journal of Management Science*, (36): 577-591.