

The impact of strategic purchasing on supply chain performance of the bottled water industry in Turkey

Oktaý Coban

Institute of Social Sciences, Ph.D. Program in Business Administration, Okan University, Istanbul / Turkey

Email: oktaycoban@yahoo.com , okcoban@stu.okan.edu.tr

Abstract

Efficient and effective supply chain management (SCM) aims to provide high quality products and excellent customer service and is a significant component in obtaining a competitive advantage. Supply chain management has advanced to contain strategic partnership arrangements with suppliers and service providers throughout the supply chain. Every action in the supply chain is important, and downfall at any action - be it of strategy, documentation or performance - can negatively affect business objectives. Plenty of companies now acknowledge that a powerful and solid supply chain is one of the most crucial elements in attaining increased profitability and shareholder value. Effective supply chain management has the ability to manage costs and enhance the compliance with company standards and key performance indicators (KPI). This research examines the relationship between strategic purchasing and supply chain performance (in terms of vendor performance, material quality, and inventory level) of the bottled water industry in Turkey. The results indicate that strategic purchasing is positively related to overall company performance.

Keywords: Strategic purchasing, Bottled water industry, Supply chain performance, Turkey

1. Introduction

In today's highly challenging business environment, supply chain performance with regards to strategic purchasing plays a key role in overall company performance (Carr and Pearson, 1999; Chen et al., 2004; Swinder and Seshadri, 2001; Tan et al., 1998b). The nature of the competition today is not between firms, but rather between entire supply chains (Christopher, 2010). As a result of this, throughout the world, companies are faced with the challenge of improving their supply chains. Effective development and management of the supply chain network will cut the costs and enhance the customer value. This is a sustainable source of competitive advantage in today's volatile global marketplace, where demand is difficult to estimate and supply chains require to be more flexible as a consequence (Christopher, 2010). In fact, this is the critical point where strategic purchasing comes in. It is considered critical as it accounts for 50% of production costs (Ellram and Pearson, 1993; Chen et al., 2004). Moreover, in the bottled water industry, strategic purchasing takes a higher place as it accounts for more than 50% of the overall costs. The bottled water industry also faces a number of challenges. These include increasing transportation and packaging costs related to the higher price of petroleum. Higher oil prices have resulted in increased packaging costs (polyethylene terephthalate - PET plastic) and higher transportation costs and distribution costs. As a conclusion, in the bottled water business, if very well established and managed, strategic purchasing can provide much more leverage to company success rather than any other business.

In Turkey, as stated by Packaged Water Manufacturers Association (SUDER, 2012), when looking at figures for the last 5 years of the bottled water industry, it is observed 5% annual growth in HOD (home and office delivery) market, 34% growth in retail PET water market, 20% growth in non-household consumption of PET water in 2007. In 2007, 8.11 billion liters of bottled water sold in the market. HOD water accounted 74% of, and other types accounted 26% of total sales in volume. Total turnover of the sector reached about 2.5 billion TL. In 2008, volume of water market in Turkey reached 8.7 billion liters. This volume growth consists of 6.3 billion liters of HOD sales with an increase of 4% and 2.4 billion liters of PET sales with an increase of 15%. Total turnover of the sector reached about 3 billion TL. According to Turkish Statistical Institute (TurkStat) data (2012), total exported bottled water was 103,918 tons and the total turnover was \$19,000,000 in 2008. In 2009, volume of water market in Turkey reached 9 billion liters. This volume growth consists of 6.25 billion liters of HOD sales and 2.75 billion liters of PET sales with an increase of 13%. HOD water accounted 69% of, and other types accounted 31% of total sales in volume. Total turnover of the sector reached about 3.1 billion TL. According to Turkish Statistical Institute (TurkStat) data (2012), total exported bottled water was 123,364 tons and the total turnover was \$19,663,246 in 2009. In 2010, the bottled

water industry has continued to grow at the same level of acceleration. In 2010, volume of water market in Turkey reached 9.3 billion liters. This volume growth consists of 6.25 billion liters of HOD sales and 3.05 billion liters of PET sales with an increase of 11%. HOD water accounted 67% of, and other types accounted 33% of total sales in volume. Total turnover of the sector reached about 3.3 billion TL. In 2011, Turkish water market volume reached 9.8 billion liters and the total turnover reached 3.45 billion TL. In 2012, Turkish water market volume is expected to reach about 10.3 billion liters and the total turnover is expected to reach about 3.6 billion TL. Given the packaged water industry's industrial capacity utilization rate of 40%, in case of increase in consumption of packaged water in Turkey, the sector is able to easily meet this need with its existing capacity. In 2009, average annual per capita water consumption consists of 38 liters PET, and 88 liters HOD with the total of 126 liters. Compared to average annual per capita water consumption levels of 189 liters in Italy, 165 liters in Germany, 189 liters in Spain, packaged water consumption level in Turkey is getting closer to EU levels. In 2010, the average annual per capita consumption consists of 42 liters PET, and 86 liters HOD with the total of 128 liters. In 2011, the average annual per capita consumption consists of 46 liters PET, and 89 liters HOD with the total of 135 liters. In 2012, average annual per capita consumption of 50 liters PET, and 92 liters HOD with the total of 142 liters is expected.

After describing the general structure and the size of the bottled water sector in Turkey in figures, the author would like to clarify the scope and the objectives of the study. Although in the literature various researches were conducted about supply chain performance, strategic purchasing and its impact on firm performance, therefore, in this study, the impact of strategic purchasing practices on supply chain performance will be investigated and analyzed only limited/specific to the bottled water industry in Turkey. In more detail, the main purpose is to evaluate specific supply chain performance measures (vendor performance, inventory level, and material quality) with regards to strategic purchasing activities in the bottled water industry in Turkey.

2. Literature review and hypotheses

Historically, purchasing was evaluated as a passive activity in the business environment (Ammer, 1989; Fearon, 1989). During 80s, purchasing started to be employed in the corporate strategic planning process (Carlisle and Parker, 1989; Spekman and Hill, 1980). Throughout 90s, significant attention to the strategic purchasing has been demonstrated by academics and business environment (Freeman and Cavinato, 1990; Watts et al., 1992; Gadde and Hakansson, 1993; Lamming, 1993; Ellram and Carr, 1994).

According to Carr and Smeltzer (1997), strategic purchasing involves the process of planning, implementing, evaluating, and controlling strategic and operating purchasing decisions for managing all activities of the purchasing function toward opportunities consistent with the firm's capabilities to meet its long-term objectives.

The key strategic matters and options that deal with the purchasing function are the make or buy decision, supplier technology, the type of supplier relationship desired, external market factors, and how purchasing function is able to support the company's competitive strategy. The literature clearly states that purchasing strategy should be part of the overall corporate strategy (Porter, 1985; Ellram and Carr, 1994). Purchasing plays a strategic role when comprised in strategic planning and implementation at the same level as other functional areas. This appears when the significance of purchasing is acknowledged, generally approved, and implemented by top management (Ellram and Carr, 1994).

When purchasing is recognized as a strategic function, it is accepted as a key decision maker and participant in the company's strategic planning processes. The purchasing function's activities and strategies are then especially fitted to support the corporation's overall strategies. Furthermore, purchasing will join into the strategy formulation and offer different ways that the purchasing function is able to provide support and develop the firm's strategic success (Ellram and Carr, 1994). Based on the literature, the indicators that used to measure the construct "Strategic Purchasing" are (1) purchasing is included in the firm's strategic planning process; (2) purchasing performance is measured in terms of its contributions to the firm's success; (3) the purchasing function has a good knowledge of the firm's strategic goals and has a formally written long-range plan; and (4) purchasing professionals' development focuses on elements of the competitive strategy; (5) top management considers purchasing to be a vital part of the corporate strategy; (6) purchasing's focus is on longer-term issues that involve risk and uncertainty (Carr and Smeltzer, 1997; Cavinato, 1999; Carter and Narasimhan, 1993, Reck and Long, 1988).

Traditional purchasing is actually motivated by the goal of decreasing costs of purchase and enhancing short-term profit. This approach, in accordance with the history, concludes in supplier proliferation, transactional rather than relationship behavior, and a clear focus on price reduction. In contrast, strategic purchasing concentrates on how the purchasing of goods and services, including outsourcing of entire processes, can result better long-term shareholder value. Strategic purchasing is a very distinct approach which consists of decreasing the supplier base, collaborative negotiation with suppliers, quality communication with suppliers, and improving long-term relationships with the best suppliers. All these behaviors are in connection with better company performance (Choi and Hartley, 1996; Carr and Pearson, 1999; Swinder and Seshadri, 2001). Strategic purchasing stimulates communication, which is extremely important to obtaining effective and efficient integration in every part of supply chain (Kraljic, 1983; Cox, 1996; Carr and Pearson 1999; Carr and Smeltzer, 1999). As defined by The Supply Chain Council (2002), the supply chain encompasses every effort involved in producing and delivering a final product, from the supplier's supplier to the customer's customer. According to Beamon (1998), at its peak level, a supply chain consists of two basic, integrated processes: (1) the Production Planning and Inventory Control Process, and (2) the Distribution and Logistics Process. In the literature, supply chain performance is evaluated regarding cost, quality, timeliness and customer responsiveness (Beamon, 1999a). Numerous studies have been conducted in order to highlight supply chain performance measurement methods (Altiok and Ranjan, 1995; Beamon 1998; Beamon 1999b; Lee and Billington, 1993; Lee and Billington, 1992; Cohen and Lee, 1998; Pyke and Cohen, 1994; Gunasekaran et al., 2004). As described in the literature context, the supply chain performance measures could be both qualitative and quantitative. Qualitative supply chain performance measures include customer satisfaction, supplier performance, flexibility, effective risk management, and information and material flow integration, accordingly. Quantitative supply chain performance measures could be divided into two groups; (1) the targets directly based on cost or profit which comprise cost minimization, sales maximization, profit maximization, inventory investment minimization, ROI (return on investment) maximization; (2) the targets based on customer responsiveness which include fill rate maximization, product lateness minimization, customer response time minimization, lead time minimization, and function duplication minimization, respectively (Beamon, 1998). In the literature, there are also other measurement approaches to assess supply chain performance, including the balanced scorecard, the supply chain council's SCOR model, the logistics scoreboard, activity-based costing (ABC), economic value analysis (EVA), and balanced scorecards (Lapide, 2012).

As stated by Beamon (1998, p. 282); “*The Production Planning and Inventory Control Process* encompasses the manufacturing and storage sub-processes, and their interface(s). More specifically, production planning describes the design and management of the entire manufacturing process (including raw material scheduling and acquisition, manufacturing process design and scheduling, and material handling design and control). Inventory control describes the design and management of the storage policies and procedures for raw materials, work-in-process inventories, and usually, final products. *The Distribution and Logistics Process* determines how products are retrieved and transported from the warehouse to retailers. These products may be transported to retailers directly, or may first be moved to distribution facilities, which, in turn, transport products to the retailers. This process includes the management of inventory retrieval, transportation, and final product delivery.”

In order to establish an integrated supply chain, these processes must collaborate with each other. The management of the way of both processes that interact with each other simply defines how the supply chain works and clearly represents how to achieve required performance targets (Beamon, 1998).

Empirical research shows that companies with strategic purchasing can have long-term, cooperative business relationships and effective communication, and gain much more responsiveness to the needs of their suppliers (Carr and Smeltzer, 1999; Carr and Pearson, 1999). When purchasing people actively make strategic supplier decisions, they are worried that the determined suppliers not fall into contentment. Generally, measuring supplier performance has been a really difficult task. Supplier performance measurement is the process of measuring, analyzing, managing, and monitoring vendor performance for the targets of decreasing costs, reducing risk, and providing continuous improvements in value and operations. Solid and dependable measurements can support companies focus on resources, determine performance problems, establish strategies for supply chain improvements, and identify the total cost of ownership (TCO) of supply relationships, products, and entire supply chains. More than 70% of

enterprises examined view measurement of supplier performance as “very important” or “critical” to their companies’ overall operations. However, only about half of enterprises have instituted formal procedures for measuring supplier performance. Therefore, the large majority of enterprises measure the performance of less than half their supply base. In fact, the typical supplier performance measurement program targets less than a third of the total supply base (Carr and Pearson, 2002; Minahan and Vigoroso, 2002).

Nevertheless, empirical research shows that, from the customer’s point of view, supplier performance measurement obviously works. The Supplier Performance Measurement Benchmarking Report, which is published by Aberdeen Group in 2002, identified that supplier performance improves 26.6% when measured. Significant dollar savings take place in the areas of quality, price, on-time delivery, lower lead times, contract compliance, and responsiveness (Minahan and Vigoroso, 2002; Carr and Pearson, 2002). Strategic purchasing is regarded as a crucial activity for to provide and obtain close relationships with a limited number of suppliers, and therefore render effective use of the firm’s supply base (Cousins, 1999). Firms that implement intimate, cooperative relationships with their suppliers have declared significant revenue accretion and cost savings (Landeros and Monczka, 1989; Cooper and Ellram, 1993). Thus,

H1: Strategic purchasing activities (in the bottled water industry in Turkey) improve (has positive effects on) vendor performance.

There is a significant number of purchasing strategies that could be used by a company. These strategies can consist of but are not limited to sourcing, negotiation and decision, developing and also maintaining effective and efficient relationships with suppliers, improving vendors, guarding the cost structure of the firm and reducing costs (Kiser, 1976; Tan et al., 1998a). If very well established, these strategies can have significant positive effects on the performance of supply chain by decreasing costs, increasing quality, minimizing average inventory levels, ensuring on-time deliveries, and improving customer responsiveness (Swinder and Seshadri, 2001; Tan et al., 1998b; Ellram and Liu, 2002; Chen et al., 2004; Carr and Pearson, 2002). Thus,

H2: Strategic purchasing activities (in the bottled water industry in Turkey) reduce inventory levels.

H3: Strategic purchasing activities (in the bottled water industry in Turkey) increase (improve) material quality.

3. Methodology

The indicators used to measure the constructs are established on the comprehensive review of related literature. The study was conducted in 2012 and followed a quantitative research methodology. Data were obtained directly from the individuals who are in charge of managing purchasing function of the bottled water companies by using a self-administered questionnaire which consists of ten questions. The constructs were measured on a five-point Likert scale with items ranging from strongly disagree (1) to strongly agree (5). According to Turkish Ministry of Health license records and statistics (2012), there are currently 264 registered bottled water producers in Turkey and these companies were contacted via email and/or telephone, and requested to participate in the survey. Information about 186 (out of 264) brands were not available by no means, which are all small-scale local bottled water manufacturers with a total market share less than 9%. From the remaining 78 brands, 32 usable questionnaires were collected, presenting a response rate of 41%. Afterwards, the collected data was entered in Statistical Package for Social Sciences (SPSS) and finally regression analysis was conducted.

4. Results

In order to determine the impact of strategic purchasing activities on supply chain performance, regression analysis was performed. Table 1, 2, and 3 represents the results of regression analysis that was carried out. There were positive and significant relationships between the variables; strategic purchasing activities and vendor performance ($r = 0.603$, $p\text{-value} < 0.05$), strategic purchasing activities and material quality ($r = 0.939$, $p\text{-value} < 0.05$) supporting hypothesis H1 and H3. H1: Strategic purchasing activities (in the bottled water industry in Turkey) improve (has positive effects on) vendor performance; H3: Strategic purchasing activities (in the bottled water industry in Turkey)

increase (improve) material quality. There was negative and significant relationship between the variables; strategic purchasing activities and inventory level ($r = -0.472$, $p\text{-value} < 0.05$), this result supports hypothesis H2. H2: Strategic purchasing activities (in the bottled water industry in Turkey) reduce inventory levels. The hypotheses linking strategic purchasing to the three measures of supply chain performance (vendor performance, inventory level, and material quality) were all statistically significant and in the expected directions.

TABLE 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,817 ^a	,667	,645	,60864

a. Predictors: (Constant), Material Quality, Inventory Level, Vendor Performance

TABLE 2: ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32,701	3	10,900	29,425	,000 ^a
	Residual	16,299	44	,370		
	Total	49,000	47			

a. Predictors: (Constant), Material Quality, Inventory Level, Vendor Performance

b. Dependent Variable: Strategic Purchasing Activities

TABLE 3: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-,183	,501		-,365	,717
	Vendor Performance	,603	,106	,515	5,708	,000
	Inventory Level	-,472	,140	-,485	-3,379	,002
	Material Quality	,939	,170	,801	5,509	,000

a. Dependent Variable: Strategic Purchasing Activities

According to the obtained results (table 1, 2, 3), the overall model (regression equation) is identified as follows:

$$Y = -0.183 + 0.603X_1 - 0.472X_2 + 0.939X_3$$

Strategic purchasing has a positive impact on vendor performance implying that a unit increase in strategic purchasing activities increases vendor performance by 0.603 units. Strategic purchasing has a negative impact on inventory level stating that a unit increase in strategic purchasing activities decreases inventory level by 0.472 units. Strategic purchasing has a positive impact on material quality expressing that a unit increase in strategic purchasing activities increases material quality by 0.939 units.

Finally, the overall model is significant, and the implications represent that an improvement in strategic purchasing obviously creates a positive effect on vendor performance, a decline in inventory level, and an increase in material quality, respectively.

5. Conclusions

This research provides a clear insight into and a particular finding on the relationship between strategic purchasing practices and specific supply chain performance measures (vendor performance, inventory level, and material quality) in the bottled water industry in Turkey, which has not been investigated extensively before. The studies that were conducted by previous scholars had found and stated that strategic purchasing has positive effects on overall company performance. In this research, the findings are also in line with that statement, and identifying that in the bottled water industry in Turkey, the strategic purchasing activities have great and positive influence on company supply chain performance. Given that strategic purchasing practices are significant predictors of company supply chain performance, we may imply and suggest that the bottled water producers in Turkey should have an emphasis on improving and leveraging the purchasing functions into a more strategic direction so that they achieve their performance targets' and gain significant cost savings on key resources. As a final word, for further research, the study can be extended to a regional level, including not only Turkey but also some other neighboring countries. Considering the significance of the topics, more studies should be carried out specific to bottled water industry.

References

- Altioik, T., Ranjan R., 1995. Multi-stage, pull-type production/inventory systems. *IIE Transactions* 27, 190-200.
- Ammer, D., 1989. Top management's view of the purchasing function. *Journal of Purchasing and Materials Management* 25 (3), 16-21.
- Beamon, B.M., 1998. Supply chain design and analysis: models and methods. *International Journal of Production Economics* 55 (3), 275-292.
- Beamon, B.M., 1999a. Designing the green supply chain. *Logistics Information Management* 12 (4), 332-342.
- Beamon, B.M., 1999b. Measuring supply chain performance. *International Journal of Operations and Production Management* 19 (3), 275-292.
- Carlisle, J., Parker, R., 1989. *Beyond Negotiation, Redeeming Customer-Supplier Relationships*. Wiley, Chichester, UK.
- Carr, A.S., Pearson, J.N., 1999. Strategically managed buyer-seller relationships and performance outcomes. *Journal of Operations Management* 17 (5), 497-519.
- Carr, A.S., Pearson, J.N., 2002. The impact of purchasing and supplier involvement on strategic purchasing and its impact on firm's performance. *International Journal of Operations and Production Management* 22 (9), 1032-1053.
- Carr, A.S., Smeltzer, L.R., 1997. An empirically based operational definition of strategic purchasing. *European Journal of Purchasing and Supply Management* 3 (4), 199-207.
- Carr, A.S., Smeltzer, L.R., 1999. The relationship of strategic purchasing to supply chain management. *European Journal of Purchasing and Supply Management* 5, 43-51.

- Carter, J.R., Narasimhan, R., 1993. Purchasing and materials management's role in total quality management and customer satisfaction. Center of advanced purchasing studies/NAPM, Tempe, AZ.
- Cavinato, J.L., 1999. Fitting purchasing to the five stages of strategic management. *European Journal of Purchasing and Supply Management* 5, 75–83.
- Chen, I.J., Paulraj, A., Lado, A., 2004. Strategic purchasing, supply management and firm performance. *Journal of Operations Management* 22 (5), 505–523.
- Choi, T.Y., Hartley, J.L., 1996. An exploration of supplier selection practices across the supply chain. *Journal of Operations Management* 14 (4), 333–343.
- Christopher, M., 2010. *Logistics and supply chain management*. Financial Times/Prentice Hall 4th Edition.
- Cohen, M.A., Lee H.L., 1998. Strategic analysis of integrated production-distribution systems: Models and methods. *Operations Research* 36 (2), 216-228.
- Cooper, M.C., Ellram, L.M., 1993. Characteristics of supply-chain management and the implications for purchasing and logistics strategy. *International Journal of Logistics Management* 4 (2), 13–24.
- Cousins, P.D., 1999. Supply base rationalization: myth or reality? *European Journal of Purchasing and Supply Management* 5, 143–155.
- Cox, A., 1996. Relational competence and strategic procurement management. *European Journal of Purchasing and Supply Management* 2 (1), 57–70.
- Ellram, L.M., Carr, A.S., 1994. Strategic purchasing: a history and review of the literature. *International Journal of Purchasing and Materials Management* 30 (2), 10–18.
- Ellram, L.M., Liu, B., 2002. The financial impact of supply management. *Supply Chain Management Review* 6 (6), 30–37.
- Ellram, L.M., Pearson, J.N., 1993. The role of the purchasing function: Towards team participation. *International Journal of Purchasing and Materials Management*, Summer 93, 2-9.
- Fearon, H.E., 1989. Historical evolution of the purchasing function. *Journal of Purchasing and Materials Management*, Spring, 71–81.
- Freeman, V., Cavinato, J.L., 1990. Fitting purchasing to the strategic firm: frameworks, processes and values. *Journal of Purchasing and Materials Management* 26 (16), 15–20.
- Gadde, L.E., Hakansson, H., 1993. *Professional Purchasing*. Routledge, London.
- Gunasekaran A., Patel C., McGaughey R.E., 2004. A framework for supply chain performance measurement. *International Journal of Production Economics* 87 (3), 333–347.
- Kiser, G.E., 1976. Elements of purchasing strategy. *Journal of Purchasing and Materials Management* 12 (3), 3-7.
- Kraljic, P., 1983. Purchasing must become supply management. *Harvard Business Review* 61 (5), 109–117.
- Lamming, R.C., 1993. *Beyond Partnership: Strategies for Innovation and Lean Supply*. Prentice Hall, Hemel, Hempstead.

- Landeros, R., Monczka, R.M., 1989. Cooperative buyer–seller relationships and a firm’s competitive posture. *International Journal of Purchasing and Materials Management* 25, 9–18.
- Lapide, L., 2012. What about measuring supply chain performance? White paper, AMR Research.
- Lee, H.L., Billington, C., 1992. Managing supply chain inventory: pitfalls and opportunities. *Sloan Management Review* 33, 65-73.
- Lee, H.L., Billington, C., 1993. Material management in decentralized supply chains. *Operations Research* 41 (5), 835-847.
- Minahan, T.A., Vigoroso, M.W., 2002. The supplier performance measurement benchmarking report: Measuring supply chain success (The spending analysis benchmark report No. 02-12). Boston, MA: Aberdeen Group, Inc.
- Porter, M.E., 1985. *Competitive Advantage*. The Free Press, New York.
- Pyke, D.F., Cohen, M. A., 1994. Multiproduct integrated production-distribution systems. *European Journal of Operational Research* 74, 18–49.
- Reck, R.F., Long, B.G., 1988. Purchasing: a competitive weapon. *Journal of Purchasing and Materials Management* 24 (4), 3–6.
- Spekman, R.E., Hill, R., 1980. A strategy for effective procurement in the 1980s. *Journal of Materials Management* 16 (1), 1–3.
- SUDER (Packaged Water Manufacturers Association, Turkey), 2012. <http://www.suder.org.tr>, 07/04/2012.
- Swinder, J., Seshadri, S., 2001. The influence of purchasing strategies on performance. *The Journal of Business and Industrial Marketing* 16 (4), 294–306.
- Tan, K.C., Kannan, V.J., Handfield, R.B., 1998a. Supply chain management: supplier performance and firm performance. *International Journal of Purchasing and Materials Management* 34 (3), 2-9.
- Tan, K.C., Handfield, R.B., Krause, D.R., 1998b. Enhancing firm's performance through quality and supply base management: an empirical study. *International Journal of Production Research* 36 (10), 2813-2837.
- The Turkish Ministry of Health, 2012. <http://www.saglik.gov.tr/>, <http://www.sb.gov.tr/EN>, 07/04/2012.
- The Supply Chain Council, 2002. <http://supply-chain.org/>, 15/04/2012.
- Turkish Statistical Institute (TurkStat), 2012. <http://www.turkstat.gov.tr>, <http://www.tuik.gov.tr>, 08/04/2012.
- Watts, C.A., Kim, K.T., Hahn, C.K., 1992. Linking purchasing to corporate competitive strategy. *International Journal of Physical Distribution and Materials Management* 28 (4), 2-8.

Biographical note

Oktay Coban is a Ph.D. candidate at Okan University in Istanbul, Turkey. His research interests include supply chain management, sustainability, change management and leadership. He received a B.Sc. degree in Mathematical Economics/Econometrics with Magna Cum Laude honors from Cukurova University and a M.A. degree in Logistics Management with Summa Cum Laude honors from Izmir University of Economics. He is experienced in all aspects of supply chain operations and currently working as a Supply Chain Controller in the world’s leading nutrition, health and wellness company.

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:

<http://www.iiste.org>

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. **Prospective authors of IISTE journals can find the submission instruction on the following page:**

<http://www.iiste.org/Journals/>

The IISTE editorial team promises to review and publish all the qualified submissions in a fast manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

