

EFFECTS OF GREEN PURCHASING STRATEGIES IN BUSINESS PRODUCTIVITY

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ABSTRACT

In recent years, the growing concerns about the quality of the ecosystem, producers and enterprises that have led to increased interest in environmentalism and green consumers to have environmental consciousness have had to develop their green purchasing strategies. Green purchasing policies of the enterprises can play a role in increasing the efficiency of the product by decreasing the total life cycle costs, increasing the brand value, supporting the sustainability and providing a competitive advantage. In this context, green purchasing policies should be taken into account and they should review the purchasing strategies with traditionally neglected environmental impacts. In this context, the effect of the development of green purchasing strategies, which are important in terms of operational efficiency as well as environmental impact, on operational efficiency has been examined. In this frame, green products, green buying strategies and benefits, and the effects on the operational efficiency as well as environmental factors that can reshape supplier selection decisions and the role of strategic green purchases in reducing waste are discussed. Consequently, suggestions on legislative compliance, pollution prevention and resource recovery will improve operational efficiency of green purchasing strategies.

Key Words: Green Product, Green Purchasing, Business Productivity.

1. INTRODUCTION

In recent years, the tendency of companies to green purchase has increased. This is also thought to have an increasing effect on business productivity. In spite of this, a small number of firms are applying comprehensive green purchasing programs. It is claimed that companies see complex, expensive and time consuming (Rex, 2005), especially for small and medium-sized enterprises with limited time and budget (Berkel, Kampen & Kortman, 1999). It is thought that it is important to determine green purchasing strategies for reasons such as increasing consumer confidence, increasing employee satisfaction and sense of belonging, and positively affecting business productivity.

When the researches about green purchasing are examined, Eltayeb and Zailani (2009) have specified the strategic strategies of green purchasing strategies and twenty one strategic steps. Lee, He-Yau and Chang-Fu (2009) studied the selection and selection of the ongoing purchasing process related to environmental problems and proposed a model for evaluating green purchasing on this issue. Zhu and Gemg (2004) have identified the main factors in green supply chain management. Björklund (2011) examined the importance of green principles for product selection in green products. Annika, Berit and Charlotta (2009) evaluated the problems and green opportunities in the current applications in construction contracts. Khidir and Zailani (2010) evaluated the business advantages in the manufacturing sector in terms of regulations, customer pressures, social responsibility and expected green purchase. They reached out the result that customer pressures were effective in green purchasing and regulations.

Green strategies offer businesses a number of social benefits. Among these, profitability can be considered as increasing efficiency, consumer credibility, credibility, brand value, positive loyalty of employees and positive impacts of shareholders, making it easier to compensate for possible errors, increasing credit facilities and taking advantage of incentives by providing control advantage (Ar and Tokol, 2010). The purchase of green products has been expressed as return to businesses as a profit (Ar and Tokol, 2010). Carter et al. (1996) determined that green purchasing, re-use of products that have the ability to link the product by giving it the opportunity to reduce resources to

increase productivity, the purchasing department's supply chain management by participating in each activity to determine the green products will be useful.

1.1. Green Product

Product includes; packaging, design, color, brand, after-sales services, the seller's image containing the abstract and concrete series of qualities. When the word green is used to reflect the environmentally friendly awareness and / or status, it is used to define a manufacturing approach that is aware of the impact of the production / product on the environment and resources and incorporates this effect into the overall activity planning and control which is included to the production approach (Üstünişik, 2014). When it is considered as green purchasing, it refers to the process of buying products with green characteristics by considering certain criteria. Gök and Türk (2011) described the green product as a product that enters recycling processes for the purpose of decomposing or reusing non-hazardous materials when it comes to end of the life process.

Factors that make the green product depend on the specific product or product category by the person who uses it, and where, how often and for what it is used (Biner, 2014). If it is needed to be explained the concept of green product with the 4S formula in the literature; It can be determined as green products by means of environmentally friendly products in accordance with the desire and needs of the consumers (satisfaction), let the (sustainability) continued, not give harm to environment and to all living beings with a globally accepted perspective (social acceptance) and do not put the health of consumers into danger (safety) (Güsan, Aktaş & Güvendik, 2016).

While producers help the economy by producing more in order to meet the needs of the society (Çetinkaya & Özceylan, 2017), it can create a competitive advantage by increasing the productivity by reducing the environmental negative effects by the methods such as resource saving, waste disposal, input substitution of green manufacturing (Üstünişik, 2014). Besides, they can further manage unexpected situations, increase their revenues and reduce operational expenses. Eventually, they create brand value by strengthening their reputation and create customer loyalty (Can Kırgız, 2014). A survey on the green purchasing performance of US firms shows that firms with large purchase volumes are more involved in green purchasing programs, and that larger companies have more suppliers in their green products due to "more bargaining power" (Min & Galle, 2001).

1.2. Green Label (Eco-Labeling) and Certifications

One of the vital elements in the purchase of green products is the certification of the production of green products in accordance with the standards. Green labeling is a method of documenting the green characteristics of companies in society. The institutions are evaluated according to the environmental, green criteria determined by international or local organizations and as a result of this evaluation they take labels according to their environmental compatibility. The International Organization for Standardization (ISO), 14000 Documents Series, has been prepared to realize this standardization. (Emgin & Türk, 2004) Eco labels and certifications are of great importance in terms of their detectability and discernibility from other products, as well as being awarded to products that are considered to be less harmful to the environment compared to competing products (Can Kırgız, 2014).

1.3. Green Purchasing (GP)

Purchasing management in businesses enhances over time. Purchasing management has changed its focus throughout history. The internal integration of cross-functional purchasing from coordinated acquisitions between different business units; Supply chain management has a change in the value chain orientation and the factory has reached the lowest unit price (Weele, 2002). The conclusive goal for the acquisition function is to get the right product in the right place, in the right place, from the right source, in the right amount. The first green purchasing initiatives occurred in the 1980s and 1990s (Dowlatshahi, 2000; Fet, Aspen & Ellingsen, 2013).

Green purchasing refers to a responsible purchasing process that takes into account environmental and social consequences. (Chien & Shin, 2007) .Green economy is defined as a concept that significantly reduces environmental risks and ecological shortages, resulting in increased welfare and social equality (Üstünişik, 2014). Green Purchasing (GP), the European Commission's "For a Better Environment Public Purchase" named title and it is the process among the purchase of material, service construction works with the same basic function, during the life cycle when compared to the same things with less environmental effect, service and construction things (European Commission, 2011).

Green purchasing aims to achieve high levels of quality in order to provide economic benefits while continuously reducing the environment and socially destructive impacts (Preuss, 2000). According to the Green Council organization (Green Council, 2015), purchasing green, identifying products (example: goods and services) has a significant positive impact on selection and purchase. The environmental effects are positive compared to other products and the purchasing process highlights costs and environmental characteristics. All aspects of green purchasing strategies, from product design, development and production to product, include the performance of a product at all stages of the life cycle, and the end-use of the remainder of the product (example: recovery, recycling, reuse and / or waste disposal) expresses social and environmental responsibility.

GP can be the main driving force for innovation in green products and services by providing real incentives to the industry, especially in sectors such as public purchasing and public transportation, where public purchasing is high the innovation has a forcing power (European Commission, 2011). With these incentives, the resource efficiency of the purchase of green products and the reduction of the amount of waste will decrease the costs further, the enterprises are highly involved in that the green product development will create a competitive advantage, whereas it was observed that the consumers are hesitant to prefer green products and pay higher prices for them they did not agree (Üstünişik, 2014).

Green purchasing includes activities that can be reused or recycled by considering the environmental effects through the supply chain (Chien & Shin, 2007). As in every field in the world, the intensity and conditions of competition in industry are changing. Improving productivity, making innovations, differentiating, branding has become a prerequisite for survival. The concept of green economy is based on the long-term and co-thinking of the concepts of economic growth and the protection of the environment. The beginning point of the green economy is the understanding of sustainable development (Üstünişik, 2014). Some examples of contracts that can be preferred for green purchase are as in the following (European Commission, 2011):

- Energy efficient computers
- Office furniture that are made of sustainable timber
- Low energy consumer constructions
- Recycled paper
- Cleaning services that use eco-friendly cleaning products
- Vehicles working with electricity or wit low emission
- Electricity that is produced from renewable energy resources

1.4. Green Purchasing Strategies

In 2050, sustainability will no longer be an option and become a necessity. Increasing energy and raw material prices will be reflected in the prices of non-sustainable products and services and these products will lose their competitiveness. Purchasers who have acquired sustainable consumption habits prefer the options that will ensure their basic needs are met, as well as the quality of life, healthy and no life-cycle options (Özcühadar & Öncel, 2017). Green purchasing is an important

strategy for enterprises to reduce wastes and increase and improve efficiency (Yang & Zhang, 2012). Green purchasing strategies mean purchasing policies, frameworks, systems, or basic principles that direct purchasing activities to sustainability. There are many green purchasing strategies implemented by companies and summarized as in the following (Sarkis, 2006):

- a. Product content requirements: It is for products with the desired green properties.
- b. Product content restrictions: This is for products that do not contain environmentally undesirable properties.
- c. Labeling and displaying product content: Requires the disclosure of environmental or safety features of product contents.
- d. Supplier surveys: Request information from suppliers for information on environmental issues.
- e. Supplier environmental management system: The need for an Environmental Management System supplier in accordance with accepted international standards (eg ISO 14001).
- f. Supplier compliance control: To supervise suppliers to determine levels of compliance with environmental requirements.
- g. Supplier environmental management system control: Controlling of suppliers on both compliance status and environmental management system.
- h. Purchasers determine their own compliance standards: The enhancement of their own standards or environmental compliance to cover suppliers.
- i. Product responsibility: They take responsibility for managing the environmental impact of products throughout the product life cycle.
- j. Training and collaboration: Purchasers train suppliers about environmental issues and strategies, and help suppliers solve environmental problems.
- k. Industrial Ecology: Working with suppliers and customers to develop a totally integrated system for recycling and reuse of materials within an industrial ecology framework.

A company's environmental efforts are not successful without integrating the company's acquisition of environmental objectives (Walton, Handfield & Melnyk, 1998). Yet, Green purchasing practices often require a certain plan and a set of strategies that are not simple practices. There are multiple environmental criteria within this context. There are often difficulties in maintaining the functioning of these criteria with meaningful, practical and measurable variables (Jabbour & Jabbour, 2009; Lloyd, 1994). GP requires an effective corporation among different units and employees in an institution. Besides, high level of support is generally seen as a crucial factor determining the success of implementation of GP (European Commission, 2011).

The GP policy should be compatible with existing policies and strategies and should be developed jointly with main shareholders such as users, suppliers and managers. Once a policy has been formed, a plan should be made for the requirements of the application, including specific tasks, responsibilities and program. Information on the policy and implementation plan should be given to a broader environment as possible, in particular to those most affected. Green product purchasing practices can be summarized as in the following (European Commission, 2011).

1.4.1. Creation of Working Group: The implementation of the GP requires the participation and cooperation of different units and employees within the organization. Construction, energy or IT professionals will most likely be involved in the process. In many authorities, purchasing responsibilities are distributed to the management. In developing a GP policy, creating a working group consisting of representatives of different departments, determining priorities and objectives and evaluating training needs, empowering the loyalty of the people involved and meeting the needs

(European Commission, 2011). Zhu and Geng (2002) evaluates green purchases as follows; Each corporate department participates in decision-making for decision-making purposes to effectively use time, improve work performance, reduce material cost and cost in this scope, to reduce resources and improve the corporate reputation. Martha and Pat (2010) noted that the purchasing department should focus heavily on the waste business, taking into account the total cost in the value-oriented elimination process, grabbing attention to the potential objective of green purchasing. This type of strategy can often pioneer to more cost savings.

1.4.2. Determination of priorities and targets of GP: Traditionally, purchasing involves only the purchase, supplier selection, contract arrangement, or need determination workflow for order delivery and delivery (Weele, 2002). The inclusion of the GP in the purchasing practices requires a step-by-step approach as expected. One of these approaches is to select a narrow range of products and services that will firstly focus on the issue (European Commission, 2011).

1.4.3. Training and Guiding: For the successful application of GP, employees must have appropriate practical skills and knowledge and have access to information (European Commission, 2011). The GP policy should be compatible with existing policies and strategies and should be developed jointly with key shareholders such as users, suppliers and managers. Once a policy has been created, a plan should be made for the requirements of the application, including specific tasks, responsibilities and program. Information on the policy and implementation plan should be given to a broader environment as possible, in particular to those that will be most affected. (European Commission, 2011).

1.4.4. Criterion Resources of GP: The term "GP criterion" includes technical specifications and contract performance items that may help to ensure that contracts are green as well as benchmarks for selection and tender award. The determination of the resources on the GP criteria is an important step in the implementation of the GP (European Commission, 2011). The purchasing function controls the goods and services that entered into the company, and therefore determines the amount of environmental and social capital that commercial activities consume. "Reverse logistics" offers a new way of purchasing from reuse and recycling. Purchasing activities are also vital to convey a company's own standards to its suppliers. If the green purchase is not integrated, efficiency cannot be mentioned (Preuss, 2000). Most of the companies use green purchasing management as an effective approach to improve efficiency, perform procedures, and organize practices.

1.4.5 Monitoring and Consideration of GP: Evaluating progress towards targets requires an effective monitoring system. This system should keep a record of contracts and / or contracts that use the GP criteria. The ideal one is that the system used should provide information on the environmental impacts of given purchasing decisions (European Commission, 2011).

1.5. Benefits of Green Purchasing Strategies

Customers are more susceptible to the environmental products they buy. In the face of the diversity of competition, it was necessary for enterprises to start green transformation and switch to green applications from purchasing to supply chain management (Min and Galle, 1997). Theoretically, the reduction of environmental damages in the purchase of green products and direct cost reduction of companies, they can increase their profitability in terms of their close cooperation relations and more holistic decision-making opportunities and the opportunities they offer to consumers (Sarkis, 2006). The greening of economies is seen as the new engine of growth and it is thought that this transition will be useful for long-term competitiveness as well as social welfare (Üstünişik, 2014). Purchasing less energy-consuming and water-saving products can help to significantly reduce service bills. Reduction of harmful substances in products may decrease disposal costs (European Commission, 2011).

Businesses will be better equipped in the face of changing environmental challenges with their green purchasing strategies; and greenhouse gas emissions, energy efficiency, and other

environmental policies (European Commission, 2011). Green purchasing provides environmental and socially environmentally friendly products and services in a company, while promotes the development of awareness and investments in this direction. Green purchasing contributes to small and large-scale companies, supplying materials, offering healthy and returnable products to users, creating environmental and social capital, product life cycle, creating a green supply environment and sustainability.

According to economic theory, competition contributes to efficiency in economic activities and increases the welfare of consumers and society. Competition can let businesses to benefit from their resources (Üstünişik, 2014). In this context, they develop their competitiveness with green purchasing processes by developing raw materials with green products and reducing the number of raw materials through the collection of waste materials, recovery, reuse, recycling and reprocessing of old products and packaging (Min and Galle 1997). Reduction in production costs allows consumers to access these products at lower prices.

Zhiyi He (2004), according to the results of the customer trust to gain according to the conditions of acquiring the green product, so that a competitive advantage is achieved, almost 2/3 of customers are determined to prefer these products. According to Ottar and Luitzen (2009) in the context of environmentally-friendly product green purchasing strategies in the context of the other companies preferred by the company will have positive reflections, customers prefer environmentally friendly products are stated to provide a competitive advantage.

It is undoubtedly the enhancement of an important practical green management in terms of operational efficiency and brand value. Goh Chee and Suhaiza (2010) carried out a research on green supply chain initiatives and it was determined that in the adoption of supply chain initiative the biggest block are prejudices, lack of information and resource problems.

1.6. Provide saving from water and energy use

The situation in reducing energy consumption without reducing energy efficiency, standard of living, service and production quality and quantity, and using less energy in less time (TBMM, 2008). The cost of energy and water consumption during use, usually a commodity, construction It is an important part of the life cycle costs and environmental impacts of the job or service. Reducing this consumption is clearly both financially and environmentally good (European Commission, 2011). In a green economy, the increase in income and employment will be provided with public and private investments, which reduce carbon emissions and pollution, accelerate energy and resource efficiency, and prevent the loss of biodiversity and ecosystem services (Üstünişik, 2014).

1.7. Providing saving from maintenance and changing costs

In some cases, the greenest alternative is the maximum of the period from replacement up to minimum maintenance. For example, the use of granulated slag in concrete can prolong the life of buildings and also reduce the amount of pollution that requires maintenance. This may reduce the overall life cycle cost compared with other types of concrete (European Commission, 2011).

1.8. Providing saving from disposal costs

A factor that is easily forgotten when purchasing a product or preparing a construction project is the cost of disposal. Disposal costs, sometimes after a long break, but ultimately have to be paid. Not taking these costs into account at the time of purchase leads to a business deal being turned into an expensive purchase. Disposal costs may vary from physical disassembly costs to safe disposal costs (European Commission, 2011). The search for solutions to environmental pressures associated with resource consumption based on global economic growth has led to the transition of the green economy from the environmental economy to the policy area (Üstünişik, 2014). It is also necessary

to eliminate the wastes generated during the production process and to produce solutions for the continuation of the production in a sustainable way (Çetinkaya & Özceylan, 2017).

1.9. Evaluation of outer environmental costs

In addition to the costs imposed by the tender council, it may be necessary to consider environmental externalities in some cases - the cost of certain environmental impacts such as climate change or acidification to society. It is called "whole life costing" (WLC), which takes environmental externalities into account (European Commission, 2011). Industrial companies face the requirements for better sustainability performance. Sustainability is essential to effectively and efficiently address environmental, social and economic concerns during the design cycle. In this way, the green market expands and green purchasing contributes to sustainable development (Fet, Aspen & Ellingsen, 2013).

1.10. Effects on Business Productivity

Consumption habits of consumers and post-consumption behaviors have become an important issue (Çetinkaya & Özceylan, 2017). Green manufacturing, resource savings, waste disposal, input substitution methods, such as reducing environmental negative impacts, increase productivity with innovation and a great competitive advantage is to show that the approach is an approach (Üstünişik, 2014). More companies then seem to be motivated to design, produce and provide environmentally friendly products and services (Dowlatshahi, 2000; Fet, Aspen & Ellingsen, 2013). It is because resource inputs are an important manufacturing cost for industries, increasing efficiency provides competitive advantage to industries. Greening industries plays an important role in expanding resources and expanding resources by promoting energy security, promoting health, security and new jobs, and reducing costs through increased productivity (Üstünişik, 2014).

2. RESULT AND SUGGESTIONS

In the research, the developing of green purchasing which is not only important for environment but also for its impact on the productivity of business was examined. In recent years, the growing concerns about the quality of the ecosystem, producers and enterprises that have led to increased interest in environmentalism and green consumers to have environmental consciousness have had to develop their green purchasing strategies. Green purchasing policies of the enterprises can play a role in increasing the efficiency of the product by decreasing the total life cycle costs, increasing the brand value, supporting the sustainability and providing a rivalry advantage.

Green purchasing, while providing environmentally friendly products and services in a company environmentally and socially, promotes the development of environmental awareness and investments of its suppliers in this direction. Green purchasing contributes to small and large-scale companies, supplying materials, offering healthy and returnable products to users, creating environmental and social capital, product life cycle, creating a green supply environment and sustainability.

The advantages of green purchasing strategies in terms of operational efficiency are that it provides a competitive advantage when categorized (Min & Galle 1997; Ottar & Luitzen, 2009; Üstünişik, 2014), which reduces costs (Ar & Tokol, 2010; European Commission, 2011; Sarkis, 2006), increased consumer confidence (Ar & Tokol, 2010; European Commission, 2011; Sarkis, 2006), has increased the brand value (Ar & Tokol, 2010; Can Kırgız, 2014; Üstünişik, 2014), recycling and old products and It is stated that the number of raw materials decreases with the processing of packaging (Chien & Shin, 2007; Min & Galle 1997). All these are factors that increase business productivity. Provide saving water and energy use, saving from maintenance and replacement costs and saving from disposal costs are positively reflected on productivity.

In spite of all these advantages, it has been determined that companies are particularly prejudiced in adopting the green supply chain initiative, especially when small and medium-sized enterprises are

slow to undertake green purchasing strategies (Rex, 2005) due to time and budget shortages. It may be thought that customer pressures are effective in purchasing and arranging green.

Green purchasing applications often require a certain plan and a set of strategies that are not simple practices. There are multiple environmental criteria in this context. There are often difficulties in maintaining the functioning of these criteria with meaningful, practical and measurable variables. It requires an effective cooperation between different units and employees in the organization. As a rule, the purchase of green products is limited by the restriction of environmental damages and the direct cost reduction of companies, closer cooperation relationships with suppliers and more they can increase their profitability in terms of their holistic decision-making opportunities and opportunities offered to consumers. Due to the increase in consumer confidence, increasing employee satisfaction and sense of belonging, it can be suggested it should be tried to improve green purchasing strategies for reasons such as the positive effect of business productivity.

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