



Influence from the business environment on environmental purchasing — Drivers and hinders of purchasing green transportation services

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ABSTRACT

Awareness of the business environment in which a company operates is important for its success in purchasing. Consideration to the natural environment is increasingly important for long-term success of purchasing. A mail survey is used to investigate the character of different factors that can influence the environmental purchasing of transportation services. Factor analysis suggests that the factors can, to a large extent, be grouped according to actors involved. The largest factors regard the internal management, image, resources of the firm, customer demands, carriers and governmental means of control. Most factors work as drivers. Some differences have been identified when comparing the surrounding environment of the environmental purchasing of transportation services and the surrounding environment commonly described in the more general purchasing and environmental management literature. The uniqueness of this study can be found in the large number of contingency factors considered, the focus on purchase of transportation services, as well as in the Swedish context in which the study has been conducted.

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1. Introduction

As the strategic importance of the purchasing function has increased, an additional strategic aspect of purchasing has been discussed, that of contributing to a decreased impact on the natural environment (Green et al., 1996; Zsidsin and Siferd, 2001). A growing number of businesses and researchers have recognised economic advantages in environmental practices. Markley and Davis (2007) propose several competitive advantages, such as stakeholder ratings and profitability, which can be achieved through the creation of sustainable supply chains. The responsibility can improve the raising of capital, since several investors today promote ethically and socially responsible organisations, as well as influence the business's reputation, goodwill and trademarks (Schiebel and Pochtrager, 2003). The results from Carter et al. (2000) shows that environmental purchasing has a positive effect on a firm's performance regarding net income and cost of goods sold.

Environmental purchasing is often discussed as an effective way of improving industries' environmental performance. Purchasing could actually be a more powerful change agent than any other corporate function (Zsidsin and Hendrick, 1998; Preuss, 2001).

Consideration to the natural environment is of extra importance in the purchase of transportation services as transport is

one of the greatest contributors to a large number of environmental threats and problems. To achieve society's goals for sustainable development, transportation services must become more environmentally friendly (IPCC, 2007). Transportation has lagged behind other areas when it comes to reducing greenhouse gas emissions. If the emissions from the transport sector had been reduced to the same extent as for society as a whole, the total EU-27 greenhouse gas emissions for the period 1990–2005 would have fallen by 14% instead of 7.9% (EEA, 2008). Shippers have a great responsibility for the natural environment when purchasing transportation services.

The success of a company's purchasing is significantly dependent upon the business environment in which it is operating. The business environment, described in a number of contingency factors, provides the framework for the purchasing. Operations and the implementation of changes in the purchasing performance require an awareness of these factors (Scheuing, 1989). Few attempts have been made to describe the contingency factors that can influence the greening of purchase as far as transportation services are concerned. However, several researchers present factors that can influence purchasing practice (Gadde and Håkansson, 1998; Preuss, 2001; Van Weele, 2002), environmental management and purchasing (Carter and Ellram, 1998; McIntyre et al., 1998), as well as the purchase of transportation services (Schary and Skjøtt-Larsen, 2001).

This study aims to address the lack of knowledge regarding the characteristics of the different contingency factors influencing

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environmental purchasing of transportation services. An awareness of the characteristics of these factors is of great importance in order to successfully understand and increase the environmental consideration in the purchasing performance of transportation services. Four aspects regarding the characteristics of the factors are addressed in this study by posing the following research questions:

- RQ 1: In what way can the factors be grouped together?
 RQ 2: To what extent do the factors influence the environmental purchasing of transportation services?
 RQ 3: Do these factors work as hindrances, drivers and/or enablers?
 RQ 4: (How) do the factors regarding environmental purchasing of transportation services differ from the business environment of other forms of purchasing or environmental management?

There are many ways the contingency factors could be grouped together. One example is to group them according to the type of influence, e.g. environmental knowledge, attitudes, priorities, relationships and information exchange, equipment, etc. Most of the literature do, however, *categorise the contingency factors* based on their origin (e.g. Scheuing, 1989; Gadde and Håkansson, 1998), in more detail: influence from customers, suppliers, owners, employees and authorities. One example is the finding from Walker et al. (2008) which identifies what seems to be an in balance between the numbers of company internal and external factors. The way to categorise the factors influencing the environmental purchasing of transportation services is addressed in the first research question (RQ 1). It is of great importance to focus the company's resources on the factors that have a great influence on the purchase instead of those with little or no impact. The identification of the factors with great influence on the environmental purchasing of transportation services is addressed in RQ 2. Another important aspect regarding the characteristics of the contingency factors is the type of influence the factors have. Contingency factors can work as drivers pushing green performance or as hindrances, obstructing the performance. Furthermore, some factors can be a necessity for environmental consideration. In this study these factors are called enablers. This aspect is addressed in RQ 3. The factors influencing environmental purchasing of transportation services can differ widely from those influencing e.g. other forms of purchasing or environmental management. One example is that the focus of most "green purchasing" literature is on the purchase of physical products rather than services. Due to the nature of services, the policies and procedures that guide the purchase of manufactured goods are often not helpful when purchasing services (Fearon et al., 1993), and obstacles arise when people try to understand and manage the content and value of the service (Baily et al., 1998). It is likely that it is not only policies and practices that distinguish the purchase of green products from the purchase of services, but also the business environment in which the purchase takes place. How the factors influencing environmental purchasing of transportation services differ from those influencing other forms of purchasing, such as the purchase of products, or environmental management is addressed in RQ 4.

2. Literature review

The literature review aims to identify contingency factors that can be of relevance in environmental purchasing of transportation services. Before addressing the business environment one must first know what environmental purchasing of transportation services is. The starting point in the literature review is therefore to define this.

2.1. Environmental purchasing of transportation services

2.1.1. Environmental purchasing

Despite the fact that environmental purchasing is an established concept within the purchasing field, common definitions do not exist. One general definition commonly referred to is: "the practice of public authorities or private companies taking supplier environmental product and process performance into account when purchasing products and service." (Mulder, 1998). A more holistic definition, and the one applied in this study is presented by Zsidisin and Siferd (2001): "Environmental purchasing (EP) for an individual firm is the set of purchasing policies held, actions taken, and relationships formed in response to concerns associated with the natural environment. These concerns relate to the acquisition of raw materials, including supplier selection, evaluation and development; suppliers' operations; in-bound distribution; packaging; recycling; reuse; resource reduction; and final disposal of the firm's products."

2.1.2. Green transportation

One service that it is of extra importance in the greening of business is transportation, due to its great impact on the natural environment. Despite the fact that the environmental impact from transportation is great, few definitions for green transportation services are found. One definition is: "Transport service that does not endanger public health or ecosystems, in both a short and long perspective, and (1) cause emissions and waste within the planet's ability to absorb them, (2) uses renewable resources at or below their rates of generation, (3) uses non-renewable resources at or below the rates of development of renewable substitutes, (4) minimise the impact on the use of land and the generation of noise and (5) the users of the system pay their total amount of the social costs of the activity" (Dudow, 1998). However, few (if any) transportation services today meet the requirements stipulated in the definition above. Furthermore, the concept is often used in a context where different transport alternatives are compared. It is therefore much more fruitful to provide the concept of "green transportation services" with an alternative definition which is also useful in practice: "Transportation service that has a lesser or reduced negative impact on human health and the natural environment when compared with competing transportation services that serve the same purpose."

Examples of practices which take green consideration into account when transportation services are purchased could include investigating potential suppliers' environmental status, informing and educating suppliers in environmental matters, and to include the environmental aspect in the written contract (Björklund, 2005).

2.2. The business environment

Several contingency factors were identified in the literature. These factors are described as influencing purchasing practices, transportation services, environmental performance, and/or green supply chain management. Contingency factors are presented in different theoretical fields such as stakeholder theory, resource based view and industrial network theory. Factors related to the resources of the firm are described in e.g. the resource based view and factors related to employees and owners are suggested by e.g. the stakeholder theory. A presentation of the factors identified in the literature review follows. A summary of the factors identified is also presented in Table 1. The categorisation used below is based on the way the factors are commonly presented and grouped in literature.

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