

## Reverse logistics, stakeholders' influence, organizational slack, and managers' posture

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### Abstract

Reverse logistics (RL) has strategic importance. However, little is known concerning what motivates firms to adopt RL systems. Drawing on stakeholder theory formulations, organizational slack, and the manager's strategic stance concept, this article develops a model that proposes external, internal, and individual factors that affect the implementation of RL programs. Our framework considers three major explicative variables: the attributes of the stakeholder (power, legitimacy and urgency), organizational slack for RL programs, and the manager's strategic posture. The study draws on a sample of 118 Spanish companies and uses a probit model to determine the influence of these factors on the probability of firms to implement RL systems. The study finds that customers, employees, and the government salience in terms of RL activities and manager's progressive posture have a significant influence on the final decision of implanting RL programs. Conversely, the study finds that shareholder salience negatively impacts the decision.

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### 1. Introduction

Many studies in logistics assume that the supply chain flow begins with the incorporation of raw materials into the transformation process, and ends with the delivery of the product to the final consumer. However, Ginter and Starling (1978) report that a reverse channel of distribution could be central in business activities. Some studies confirm this assertion. The protagonist role of the consumer (Homburg et al., 2000), the increasing public consciousness and regulations on environmental issues (Henriques and Sadorsky, 1996), and the change in the strategic focus of firms (Madsen and Ulhoi, 2001) considerably encourage activities such as the return, recondition, refurbish and recycle of products and packaging. All these activities

constitute the most common procedures of Reverse Logistics (RL) (Rogers and Tibben-Lembke, 1999; Stock, 1992).

RL gains importance in economic terms. For instance, the value of returned products to the retail sector of the United States exceeded 100 billion US dollars in recent years (Stock et al., 2002). From a strategic point of view, many firms have begun to consider these programs as potential to gain and maintain competitive advantage, leading to proactive initiatives (Marien, 1998). However, the determinants of these initiatives remain largely unexplored by the academic community. Drawing on diverse but complimentary theoretical formulations, we propose that RL programs result from a combination of external, organizational, and individual factors. Because the activities of RL involve multiple relationships between different stakeholders (e.g. suppliers, customers) and the firm, we emphasize the role different stakeholders have on the RL systems implementation. Furthermore, we analyze both the role of organizational slack and the executive's strategic stance as potential determinants of RL programs. Empirically we assess the impact of these factors on the probability of firms to adopt RL systems. The results suggest that stakeholder pressures and a

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proactive stance of managers increase the odds that companies will implement RL programs. However, the weight and the significance of different measures of organizational slack were not always found to be a relevant factor in this decision.

Research and analysis provide three important contributions to the existing literature. First, the study empirically examines the determinants of implementation by providing clarification of the RL decision making process. Second, the chosen approach combines stakeholder theory with the concepts of organizational slack and manager's strategic posture by offering a solid theoretical framework on which future research can be developed. Finally, the article offers a European perspective on RL in extending the existing empirical research.

To illustrate the study the discussion begins by examining the concept of RL through a review of previous research and by presenting general motivation for RL. In support the article outlines a model and proposes three working hypotheses, which a study tests on a sample of 118 Spanish firms from the automotive component industry. The article concludes with a discussion of the theoretical and practical significance of the study, its limitations, and a proposed agenda for future research.

## 2. Background on reverse logistics

### 2.1. The concept

Perhaps because of its rapid trajectory of significance the concept of RL has not been homogeneously defined (Fernandez, 2003). We can identify definitions that exclusively consider economic or environmental aspects of RL; and other explanations that capture both aspects simultaneously (Kroon and Vrijens, 1995; Rogers et al., 1999; Thierry et al., 1995). There are also definitions that stress specific traits of the processes of RL; such as related activities, the materials involved, and points in the supply chain. For instance, Carter and Ellram (1998) emphasized the environmental aspect of RL and defined it as the “process whereby companies can become more environmentally efficient through recycling, reusing, and reducing the amount of materials used” (p. 85). Alternatively, Rogers and Tibben-Lembke (1999) highlighted the economic aspects of RL. They argued that RL is “the process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value of proper disposal” (p. 2). Integrating the economic and environmental viewpoints, Thierry, Salomon, Nunnen, and Wassenhove (1995) coined the term of “Product Recovery Management”, which stresses the recovery of economic and ecological value of discarded materials, products and components. More recently, Guide and Van Wassenhove (2003) expanded the notion of the traditional Supply Chain by defining the Closed-Loop Supply Chain concept, which integrates both the forward and reverse supply chains.

For the purpose of this present article, we opt for a more general conception of RL. In this sense, the European Working Group on Reverse Logistics defines RL as “the process of

planning, implementing and controlling flows of raw materials, in process inventory, and finished goods, from the point of use back to a point of recovery or point of proper disposal” (REVLOG, 2004). This definition implicitly depicts the relationships between the firm and other participants in the supply and value chain. For instance, the flow of raw materials is related to suppliers and the stream of finished goods clearly involves customers and distributors. Hence, activities related to RL imply complex relationships between individual firms and multiple stakeholders.

### 2.2. Literature and strands of research

The literature on RL is diverse and heterogeneous. In its origins, this body of research was mainly undertaken in explorative terms. The evidence was mostly anecdotal and diffused through professional publications (Carter and Ellram, 1998; Knemeyer et al., 2002). In the academic arena, it was not until recent years that RL became an issue of importance. However, with the exception of a few studies (e.g., Carter and Ellram, 1998; Daugherty et al., 2001, 2002), most of the work done intends to either develop mathematical models, focus on case studies, or simply outline broad overviews of implementation.

Dowlatshahi (2000) defines five categories of the literature on RL: (i) studies wherein the authors attempted to provide the basic concepts and a general summary of RL (e.g. de Brito and Dekker, 2004; Kopicki et al., 1993; Rogers and Tibben-Lembke, 1999; Stock, 1992, 1998); (ii) scholarly works addressing quantitative approaches (Fleischmann et al., 1997; Fleischmann et al., 2000; Minner, 2001). The techniques and models used in these types of articles have enhanced different aspects of the RL systems; such as extending product life cycle or remanufacturing operations; (iii) papers dealing with more specific logistical issues such as distribution, warehousing, and transportation (e.g. Jahre, 1995; Pohlen and Farris, 1992); (iv) examinations of company profiles illustrating that some manufacturing technologies have a critical role in the performance of RL systems (e.g. Thierry et al., 1995); and (v) research into applications of RL in goods produced, for instance, of plastics, papers, metals, and other materials (e.g. Kroon and Vrijens, 1995).

Although some of these authors provide a strong base to develop RL programs and their subsequent policies, an analysis of the factors that affect the decision process of implementation remains, at best, limited. Additionally, little theory-based research has focused specifically on RL (Daugherty et al., 2001).

### 2.3. Motivations for reverse logistics

Earlier literature depicted three main driving forces for the use of RL: economic, corporate citizenship, and legislation (de Brito et al., 2004). Economic forces indicate that RL activities such as remanufacturing, reuse of materials, and product refurbishing have the potential to improve profitability through cost minimization, access to new consumer segments, and increased revenues (see Stock et al., 2002). In this context, Guide and Van Wassenhove (2001) cited the company Recellular,

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