Relationship Marketing and Reverse Logistic Programs Efficiency

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Abstract

In this paper, we examine the determinants for the success of reverse logistics (RL) programs. Based on a supplier-customer relationship framework, we argue that trust and relational commitment – two fundamental aspects of relational marketing –are essential in defining the performance of RL programs. Furthermore, we analyze the role of resources and their impact on the achievement of successful RL systems. Applying partial least squares (PLS), we test our contention using data of 43 Spanish firms in the automotive component manufacturers industry.

Keywords: Relationship marketing, trust, commitment, reverse logistic, environmental marketing

Introduction

The relevance of Relationship Marketing and its advantages in the supply chain management context have been claimed by prominent scholars (Andaleeb,1995, 1996; Morgan and Hunt, 1994). Despite tremendous interest in Relationship Marketing, little conceptual development or empirical research has analysed the supplier-buyer relationships in channels and its consequence for the product-life cycle management. The increasing role of the consumer, the growing environmental regulation and the change in the strategic focus of the firms have considerably incremented activities such as the return, recondition, refurbish and recycle of products and packing. All these activities constitute the most common procedures in Reverse Logistics (RL) (Rogers and Tibben-Lembke, 1999).

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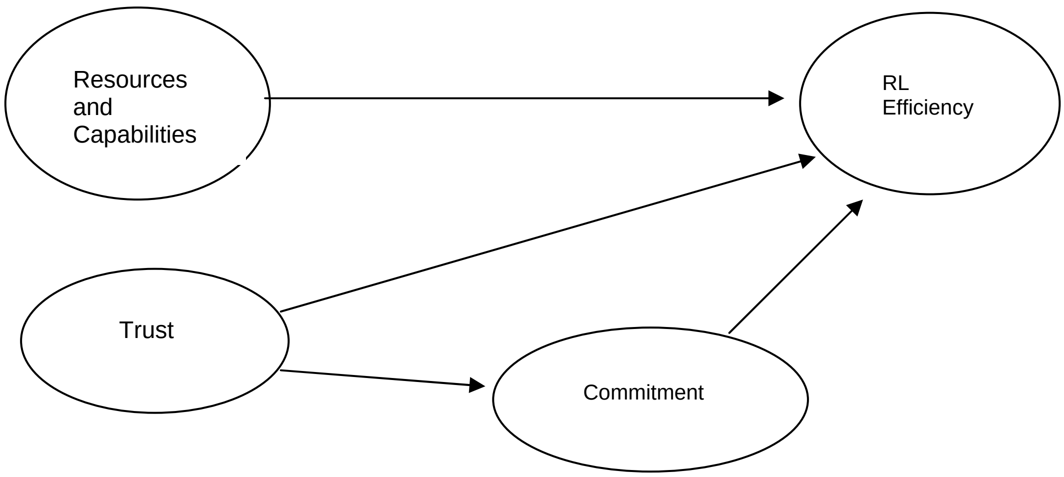
The consideration of RL in product life cycle planning is now a management priority. RL has been growing both economically and strategically. Recently numerous firms have begun to consider these programs as viable alternatives to gain or maintain a competitive advantage (Sarkis, 2003).

However, despite its importance, most RL programs have been reactive as consequence of the government regulations (Daugherty, Myers, and Richey, 2002). These issues lead to an interesting question: What are the elements that influence the firm to adopt and implement RL activities, and what determines their success? We attempt to give answer to the previous questions from an unconventional standpoint. We propose a theoretical-based model that captures notions from Resource-Based-View, and the Relational Marketing Approach from a RL perspective. We argue that aspects such trust and commitment development (Gounaris, 2005), and resources and capabilities have a key influence on the RL systems performance.

The link between organizational trust and organizational commitment is well established in the literature (see Geyskens, Steenkamp and Kumar, 1999, for an interesting meta-analysis). Basically, trust implies a sense of confidence and security in a relationship and, therefore, a greater willingness to preserve the relationship for the long term (Morgan and Hunt, 1994). According to Geyskens, Steenkamp and Kumar (1999, p. 233) "When a channel member trusts its partner, it will feel secure by way of an implicit belief that the actions of the partner will result in positive outcomes or not result in negative outcomes. This evaluation should lead to high satisfaction (Andaleeb, 1996). In the longer run, relationships characterized by trust are so highly valued that the aspiration of the parties will be to commit themselves to such relationships (Morgan and Hunt, 1994)".

In the RL context, we claim that a relationship-oriented perspective is relevant, where trust and commitment constructs are key factors for an effective implementation (Daugherty, Richey, Hudgens, Autry, 2003). Moreover, RL systems require know how, technology development, and skillful workers.
In addition, we argue that two areas of the firm are of special importance under this setting: operation management and marketing. Both, together and individually, may have a crucial impact on the results of RL activities. Their role and influence are also addressed in this paper.
On the basis of the literature revision, we propose and test the following causal model

Causality Scheme



Method and Sample

We conducted our research with firms from the Spanish auxiliary automobile industry. The roll of the relationship commitment and the trust in the reverse logistics performance (Daugherty, Richey, Hudgens, and Autry, 2003) have been the aspects successfully analyzed in this sector in other countries. These studies provide evidence of the sector being suitable for our analysis.

Our starting point was the 1150 biggest firms (in terms of sales) of the Spanish auxiliary automobile industry. From this population, we drew a random sample of 200 companies.

To gather the information regarding the different theoretical constructs, a questionnaire and the financial statements were the instruments used. From the sample of 200 firms, 158 reported all answers. Our final sample consisted in 43 firms having a formal Reverse Logistic Program.
We applied PLS structural equation modelling to estimate the fit of our proposed model.

Research Findings

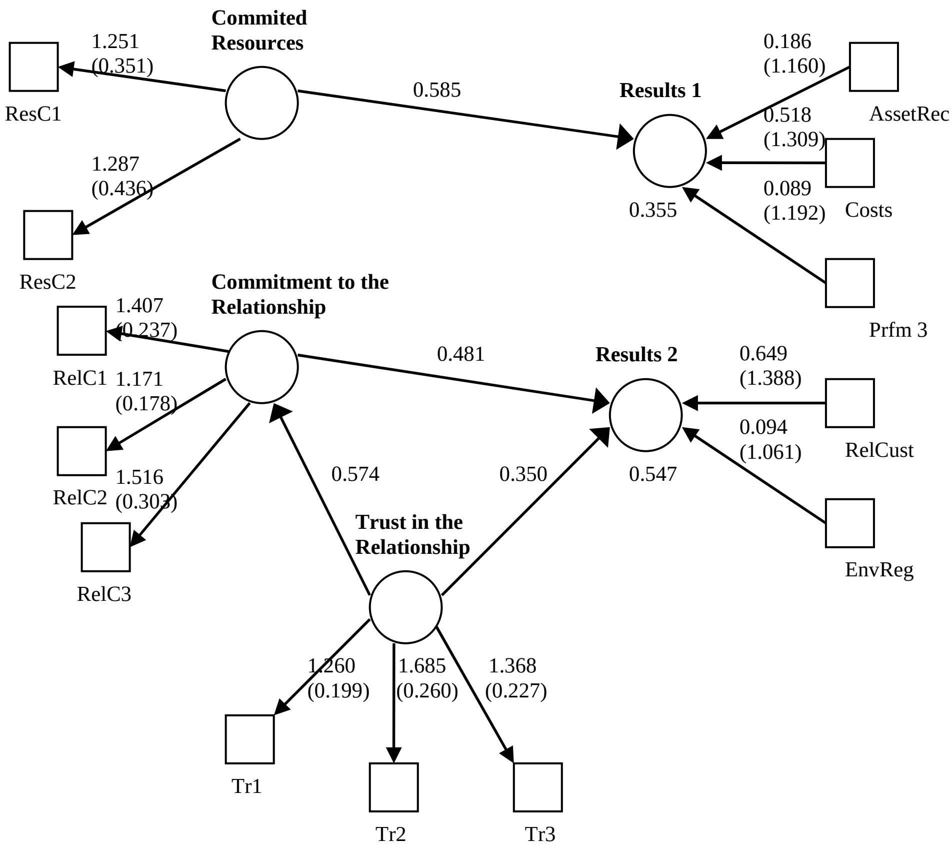
The "Resource commitment", "Relational commitment" and "Trust" variables are latent variables (LVs) with reflexive indicators and "Results" is a latent variable with formative indicators. In order to evaluate the internal consistency of the indicators and their degree of reliability we calculate the reliability indicators for LVs with reflexive indicators. All the constructs have acceptable levels of reliability (Nunnally, 1978). Given the characteristics of the sample and the variables, when making the estimations of the measurement model and of the relationships between the proposed variables, it was decided to use the structural equations with latent variables technique using partial least squares (PLS). With regard to the size of the required sample, the suggested minimum of thirty for this case has been exceeded in accordance with recommendations by Chin, Marcolin and Newsted (1996). To contrast convergent and discriminant validity, the correlations between the LVs and the square root of the AVE (average variance extracted) were used. The results indicate a good degree of convergent validity (Chin, 2001) and discriminant validity.

The contrasting of the model will be done in two parts. First, the proposed model is contrasted by individually evaluating the relationship with each of the five results. Then the whole model is analyzed, including a number of indicators in this LV. The initial analyses led us to propose two types of dependent LVs. That is, gathering the five indicators together in two groups that help to better explain the RL model. As such, there is a first LV, "Results 1", which includes indicators: "asset recovery", "cost control" and "increased performance". A second LV, "Results 2", includes indicators "compliance with environmental regulations" and "improved relationship with customers". This model allows the two main focuses of RL to be distinguished.

In Figure 1, the values that correspond to the structural relationships are the standardized parameters; the values of the relationships between measures are not standardized. The values over 1 represent the load adjustment, and the values under 1, the weight adjustment that the algorithm assigns to each indicator. These are used for the construction of indexes. They are in brackets for the reflexive LVs, whilst for the formative indicators the opposite is true.

In this model, all the structural relationships are significant to a degree of 0.05% (t values obtained through bootstrap simulations), and the Results dependent variable is explained to a total of 90%. The LV related to the economic part of RL is explained to 35%, whilst the LV related to relational marketing is explained to 55%.

FIGURE 1. Results of model estimation



CONCLUSIONS

Alvarez et al (2005) made some advances in the explanation of the factors that drive companies to implement RL programs in an earlier study which took the stakeholder theory into consideration. The conclusion was that the implementation of RL programs depends on the relevance of certain stakeholders, specifically, the power, legitimacy and urgency of customers, employees and government authorities, as well as the proactiveness of company directors. Pressure from shareholders, however, had the opposite effect.

Here our proposed model goes one step further and attempts to explain the success of RL programs by incorporating variables into the explanatory model that are fundamental aspects of relational marketing: trust and relational commitment (Morgan and Hunt, 1994, Geyskens, Steenkamp and Kumar, 1999, Daugherty et al 2003). By means of RL activities, companies can more effectively comply with environmental regulations, improve their relationships with their customers, recover assets, control costs and increase performance. The relational marketing variables contribute to the achievement of these objectives. The results obtained from initial analyses led us to propose two types of dependent, latent variables.

The five efficiency indicators and the results of the RL programs were therefore combined in two different groups. A first latent variable was identified that included the asset recovery, cost control and increased performance indicators and labeled “Results 1”, whilst a second variable, which we called “Results 2”, was also identified and included indicators on the degree to which RL programs are successful in their relative objectives of complying with environmental regulations and improving relationships with customers.

This model better encapsulates the two main focuses of RL and all the structural relationships are significant in the model. It also explains of the dependent variable results to a total of 90%. Meanwhile, the economic success of RL programs is explained to 35% by resource commitment. Trust has a direct impact on improving the relationship with the customer and complying with environmental regulations, and constitutes orientation towards all the other “stakeholders” who are not shareholders in the company. It also has an indirect impact through relational commitment. Trust and relational commitment explain 55% of the success of RL in improving relationships with customers and complying with regulations.

If this is the case, there is one more question that needs to be answered: why don’t Spanish firms implement more intensive RL programs with greater determination?

RL programs require large investments to be made. Our study shows that they have positive effects on the results, but it does not establish whether they allow the investment scales to be tipped favorably for the firm in the short term, nor does it show the length of time that is required for this to happen. Earlier studies suggest that reticence to implementing RL systems originates in shareholders (Alvarez et al, 2005), who, perhaps, do not see any short-term cost-effectiveness in these programs. The driving forces behind the programs come from customers, workers and the government. The greater deployment of RL therefore depends on the pressure that these groups exert.

Our results are in keeping with those of Stone, Joseph and Blodgett (2004), in the sense that the greater the environmental orientation (in our case, with regard to a specific practice), the better the results. They also coincide with results for RL obtained by Daugherty et al, 2003.

We have found empirical evidence in favor of all the hypotheses that were postulated, although the model with a better predictive capability is the one that distinguishes between two types of dependent variables. This point had not been taken into account when the hypotheses were formulated. The innovative character of this study together with a lack of earlier works did not allow us to draw up more detailed hypotheses on the effects model variables would have on the various results indicators when considered individually.

As far as achieving the objectives of cost control, performance and asset recovery are concerned, the conclusion is that an appropriate commitment of resources is necessary for a positive impact to be felt in the efficiency of RL programs. In other regards, the relational commitment and trust variables explain the degree to which the objectives of improved customer relationship and compliance with environmental regulations are achieved. The commitment of the supplier to continuing the relationship and the customer’s trust and perception of honesty and benevolence determine these programs’ success, allowing a better relationship to be had with customers and regulations on the environment to be better complied with. The conclusions arrived at by Svensson (2004) for the same industry as studied here suggest that one of the criteria used by automotive manufacturers when selecting their suppliers is the degree of commitment these have to the relationship. This would involve additional benefits for the supplier due to his/her commitment to RL.

Evidently, if we take into account the model with the key relational marketing variables and its precedents (Morgan and Hunt, 1994), it is essential to start from a basis of shared values if trust and relational commitment are to be achieved, and, in this case, these values, which are fundamental to defining the company culture, are especially related to concern for the environment. In keeping with Stone and Wakefield (2000), it would be a case of sharing eco-orientation. This is the company culture that reflects a firm’s sensitivity to environmental matters and requires that company directors put emphasis on issues of this type (Aragón-Correa et al, 2004), aspects of which are the generation and dissemination of ecological knowledge and a response capability.

According to Morgan and Hunt (1994), the precedents of relational commitment are the costs of terminating a relationship and the benefits, in this case, the specific assets, are part of the cost of terminating the relationship. The precedents of trust are communication, which favors it, and opportunist behavior, which damages it.

The conclusions that have been drawn have to be interpreted prudently on the basis of the study's limitations. These are typical of a survey that collects the perceptions of company directors and which, moreover, focuses on a specific sector of activity and analyzes a particular sample, thus not allowing the conclusions to be generalized to other sectors with different features, subject to different influences from pressure groups and different restrictions in their environment.

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