Supply Chain Management

The Integration of Logistics in Marketing

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Based on the phenomenon of Efficient Consumer Response (ECR), the nature of Supply Chain Management (SCM) is conceptualized from a channel governance point of view. The theoretical typology of interfirm governance, introduced by Heide [1], is applied. While ECR gains in importance for retailing business practice, few theoretical explanations for the effectiveness of ECR and SCM have been put forth. It is suggested that there is a need to conceptually capture the fundamental structure and processes for an effective relationship to exist between manufacturers and resellers. This is even more so given the importance of logistics integration into the marketing realm of channel management to successfully implement these critical systems. Once the theoretical precepts are discussed, a preliminary case study is presented and is based primarily on qualitative research—both secondary and primary data—accumulated from various ECR working groups within Europe and with greater emphasis on the Austrian ECR initiative.

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INTRODUCTION

On the threshold of the new millennium, academia is observing major changes in business practice. Many companies have gained, and continue to gain, competitive advantage from the implementation of powerful, information technology-driven logistics solutions to their distribution systems. An excellent example of this phenomenon is that of Wal-Mart Corporation’s distribution strategy [2]. Wal-Mart has consistently made improvements to its bottom line by streamlining its distribution operations to better serve its customers. Importantly, it is not only Wal-Mart’s distribution policy, but also the con-
The need for integration of logistics and marketing.

sumer focus of the policy’s execution throughout the retailer’s operation that has translated itself into greater profitability for the company [3]. From this example, as well as others, it is no wonder that while the seventies and eighties are described as the “The Decades of Marketing,” the nineties are being touted as the “Decade of Logistics” [4].

Even with these advances in business practice, marketing academicians have been slow to rise to the occasion of combining logistics research into their studies of channel systems [5]. Witness the latest “call to arms” by veteran channel researchers such as Weitz [6] and Nevin and Jambulingam [7] for the necessity of integrating logistics—usually defined as the physical side of distribution—into marketing channel research. An in-depth investigation into the strategy of Supply Chain Management (SCM) may be the answer to this call for the integration of logistics and channels research in marketing.

In this paper the phenomenon of SCM is targeted by looking at both the management of the transactions required by the channel members and the management of the relationships between manufacturers and resellers. To begin, SCM is defined as the integration of business processes among channel members with the goal of better performance for the entire channel system. As Bechtel and Jayaram [8] have pointed out, the majority of the research on SCM has been a focus on the logistics functions of the strategy. This is primarily due to the majority of SCM research having been conducted by logistics academicians. However, Bechtel and Jayaram suggest that the future research on SCM will need to integrate both the transactions and the relationships among the various firms to fully understand the strategy.

We answer this call for integration by applying Heide’s [1] theoretical typology of interfirm governance. Heide’s framework is especially useful in outlining the market and nonmarket forms of governance, which are used throughout the marketing channel. Importantly, Heide’s perspective combines these forms of governance with three main relationship dimensions: Relationship Initiation, Relationship Maintenance, and Relationship Termination. In doing so, Heide’s framework lends itself to an integrated study of a channel system.

Therefore, the investigation of supply chain management at various stages of development is critical in order to apply the propositions in Heide’s framework. For this research, the focus is on the Supply Chain Management developments, which are currently being implemented in the European and North American grocery industry under the guise of Efficient Consumer Response [9].

The initial methodology used and the one that is presented in this paper focuses on examining exploratory data. This includes qualitative research such as descriptive data from an attitudinal survey as well as secondary data accumulated by the various ECR working groups. In focusing initial efforts on exploratory dimensions, the objective is to better conceptualize the proposed theoretical typology. By doing so, we may eventually structure a theory that will effectively test the conditions under which a governance form will be optimal for both suppliers and their resellers.

The next section provides an overview of Supply Chain Management (SCM) and its application within various industries. The paper continues with general background and insight into a particular form of SCM, that of Efficient Consumer Response (ECR). Theoretical issues are discussed next, with an emphasis on outlining Heide’s [1] framework on relationship governance.
forms. Insights into the focal “site” of study—the Austrian ECR initiative—are then provided. Included in this part is a discussion of the applicability of Heide’s framework. Finally, the paper concludes with managerial implications of the initial findings and suggests avenues for future research.

SUPPLY CHAIN MANAGEMENT

Supply Chain Management is a recent movement in logistics research that has been defined in various ways [8]. The Global Supply Chain Forum defines SCM as “the integration of business processes from end-user through original suppliers that provides products, services, and information that add value for customers” ([10], p. 504). Following Cavinato [11], Kotzab and Schnedlitz [12] define SCM as a special form of strategic partnership between retailers and suppliers, with positive effects on the overall performance of the channel. The key element of SCM is activity integration. In fact, Bechtel and Jayaram [8] present an integration-continuum between “pure awareness” and “pure integration” of supply chain activities. They champion the view of SCM as a “seamless demand pipeline” with the end-user as the driving force in the entire system ([8], p. 18).

Kotzab [13] goes further and places SCM in the “metalogistical” level of business logistics. The “metalogistical” level includes all possible forms of cooperation between economic organizations [14]. And, according to Ihde [15], this cooperation occurs between institutions of different levels within a channel and can be either short- or long-term in orientation. Inspired by Cooper, Lambert and Pagh [16], Kotzab [13] presents a schematic of an SCM model in Figure 1.

It is important to note that the basic SCM model in Figure 1 suggests the orchestration of activities at the inter-organizational level as well as the departmental level. Instead of focusing on the management of interfirm inventory and transportation capacities, SCM aims to integrate the activities of an entire set of organizations from procurement of material and product components to deliver completed products to the final customer [17]. These activities refer to marketing-dominated areas such as new product development, customer relationship management and/or customer service management [16]. Consequently, SCM leads to improvements in channel performance among all channel members and not solely within the focal firm.

Prominent examples of these positive effects include the supply chains of the Dell Corporation [18], Wal-Mart [19], Digital Equipment Corporation [20], the personal computer supply chain [21], and the Hewlett-Packard Corporation [22]. All of these examples report cost reductions with simultaneous improvements in customer service. It is exactly this effect that is seen as a “paradigm shift” in existing logistics thinking, where improvements in customer service would typically have resulted in increased cost levels. Keebler, Manrodt, Dursche, and Ledyard refer to the re-arrangement of the way business is conducted within supply chains, “improving business performance requires improving the way work is done in a business activity” ([23], p. 82). Basically the improvements are due to the following ([24], [25], p. 33; [26]; [27], p. 27 ff.; [28], p. 19 MH; [29]; [30], p. 57):

- Avoidance of duplication effects by concentrating on core competencies;
- Use of inter-organizational standards like ABC (activity based costing) or EDI (electronic data interchange)
- Elimination of unnecessary inventory levels by postponing customization towards the end of the supply chain.

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**FIGURE 1. Basic supply chain management model.**
It is interesting to note that these positive effects can apply to a variety of industries, as well as direct and indirect resellers.

Beyond the definitions and examples discussed above, our perspective on SCM is extended by describing it as a strategy that brings together the application of logistics and its focus on transactions between channel members with that of channel management and its focus on relationships within the channel. One way that the use of supply chain practices has been witnessed is with the recent advent of Efficient Consumer Response (ECR) within the grocery industry in the US and Europe.

EFFICIENT CONSUMER RESPONSE

The Grocery Industry in the United States and in Europe

In the late eighties and early nineties a majority of the companies that form the grocery industry (e.g., manufacturers and supermarket businesses) suffered from “the trade practice wars that had separated manufacturers and distributors” ([31], p. 33). The term “war” seemed to apply given the way business was managed between the partners: they “had squared off against each other over a variety of issues, including slotting allowances, coupon misredemption, forward buying, promotional fees...” ([31], p. 33). This led to a loss of productivity and market share.

While the negativity continued, mass merchant chains developed and began to carry more and more grocery items thereby gaining the market share lost by the supermarkets. Mass merchants are defined as being “similar to department stores, except product selection is broader and prices are usually lower” ([32], p. 44). Well-known examples of this type of store include Wal-Mart, Target and K-Mart. During the mid-nineties these three companies alone held some 30% of the total mass merchant market, prompting Andersen Consulting to refer to them as the “Big Three” ([33], p. 1).

In 1992, managers representing manufacturers (e.g., The Coca-Cola Company, Campbell Sales Company, Kraft General Foods, Nabisco Food Corp., and The Procter & Gamble Co.) and retailers (e.g. The Vons Companies Inc., Supervalu Inc., and Safeway Inc.) formed the Joint Industry Project on Efficient Consumer Response in the US. The group’s objective was to “examine the grocery supplier/distributor/consumer value-chain to determine the cost and service improvements the industry could achieve through technological and business practice changes” ([34], p. iv).

In 1994, the Coca-Cola Retailing Research Group transferred these basic ideas to the European market and started its own initiative: the Supplier–Retailer Collaboration Study ([27]). Based on these ideas, leading European manufacturers (e.g., Unilever, Nestlé) and retailers (e.g. Albert Heijn, Tesco) formed the European ECR-Initiative in 1995. This group presented its interpretation of ECR in January 1996 at the first European ECR Conference.

Basic ECR Model and General Effects

ECR is defined as “a grocery industry strategy in which distributors, suppliers and brokers jointly commit to work closely together to bring greater value to the grocery consumer” ([34], p. 12). Figure 2 presents the basic ECR model of the US grocery industry. This supply chain management approach aims to meet the goal of better fulfillment of consumer needs via the implementation of a four-part process: 1) Efficient Replenishment; 2) Efficient Promotion; 3) Efficient Store Assortment; and, 4) Efficient Product Introduction (Table 1 provides more detail).

Given the various interests of each of the channel members, the efficiency criterion requires that strategic supplier partnerships be developed within the grocer channel [35]. It also requires the use of “enabling technologies” such as information systems and improved business processes [36]. The effect is then one of harmo-
nizing the activities among the various channel members (see Figure 3).

The “focus areas” noted in the boxes at each of the four corners of Figure 3 should be interpreted as interorganizational and interdepartmental working groups. Instead of functioning with different departments, ECR proposes the installation of these “focus areas” within the participating companies. Their implementation suggests the loss of functional and organizational borders within and between firms. The transformation from departmental completion to interorganizational solutions eliminates financial and procedural waste from the channel. This structure encourages team members to work for an increase in performance of the entire channel.

Due to these effects there exist many proponents among logistics and marketing researchers who promote ECR as one of the best strategic initiatives within the grocery industry [37, 38]. The savings potential from using ECR principles in the grocery industry are enormous, according to reports from the ECR-US and the ECR-Europe Working Groups. Some estimates place the value at US$30 billion for the U.S. grocery industry and 50 billion DM for the European grocery industry [34, 39]. The value added for end users results in a price reduction of 10.8% in the U.S. market as well as 5.7% for the European market [40].

Selected Results from ECR

The European grocery industry is known for having extremely low average margins for retailers. These margins can range between $1 and +2.5% [41, 42]. As such, with its assurance of greater efficiency in the channel, the implementation of ECR practices promises to be a powerful tool to improve the business performance within the channel. Below are listed some selected results from academic and industry publications and events that have encouraged practitioners to look forward to great rewards from ECR:

- Fleury [43] reported higher margins (8%), faster category turnover (27%), and greater retailer market share (12%) effects from the implementation of ECR principles within the laundry detergent category in a European country market.
Advancing relationships through mutual interests.

- Partch [44] noted a 50% improvement of distributors’ profits by eliminating techniques like forward buying.
- Hven and De Soysa [45] presented results from an ECR partnership between their companies, ICA and Lever-Sweden. Highlights were an increase in turnover of 9%, a reduction in number of SKUs by 20%, a higher market share of 7% and higher profits of between 3% and 16%.
- Johnson & Johnson Company representatives disclosed two-digit turnover increases in their respective business segments [46].
- Kotzab [47] reported a somewhat obscure ECR example in his work with the John Menzies Publishing Company. The U.K.-based magazine and newspaper distributor implemented certain ECR principles during the 1990’s by establishing electronic links between its distribution centers and the newspaper stands of 20 of its clients. This partnership resulted in increased sales volume of 35%, reduced inventory levels of 10% and increased margins of 2.1%.

To be fair, it should be pointed out that there has been some criticism about ECR’s achievements, or lack thereof. One of the main problems seems to be that there has been a miss of the “big bang” from ECR, even though the basic concepts of ECR have been known since the early nineties and managers and academics could observe some initial examples of successful implementation. Indeed, the headlines of trade journals continue to ask: “What’s up with ECR” [48], “Is ECR dead?” [49], or “ECR: More promise than performance” [50]. It seems that all parties expected major short-term results, primarily based on the phenomenal savings promised by the original ECR promoters. In fact, many are finding that ECR is a long-term strategy and this is forcing the participating managers to completely rethink and consequently rearrange the way business has always been done.

Therefore, while greater efficiency from the strategy has been documented, albeit with some misgivings, there still remain questions as to the conditions that favor an effective model. In other words, a thorough framework that predicts the factors leading to a well-implemented and well-managed relationship need to be studied. In the next section, we discuss the theoretical foundation that may provide a way to assist channel members with this important issue.

Theoretical Foundation for SCM Strategies

While the greater use of SCM strategies such as ECR is occurring, few theoretical explanations for the effectiveness of these phenomena have been put forth. One reason for the lack of theoretical explanation could be that SCM and ECR have only recently begun to be practiced, so few researchers have had the chance to formulate theories. Perhaps a better reason for the dearth of theory for these strategies is due, primarily, to the complexity involved with supply chain management. Indeed, many researchers have noted that these “hybrid” relationships are difficult to test since they tend to span the wide spectrum of the area between purely market or discreet transactions and hierarchical or integrated governance structures [1, 35]. With various actors present in the channel and the many partnerships needed for effective implementation, a broader theoretical basis would seem to be required.

Heide’s Typology: The Intersection of Law, Economics, and Organization Theory

One framework that may meet this need is Heide’s synthesis of resource dependence theory [56], transaction cost theory [53, 54] and relational contracting [57], to

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1Fisher [51] suggests an effective supply chain management strategy results from minimizing inventory, shortening lead-time, and maximizing performance in product design. His focus was on “functional products,” that is, grocery-type products, and his basis of effectiveness depended upon correct forecasting.

2Whipple, Frankel, and Anselmi [35] suggest that transaction cost (TC) theory [52, 53] provides a theoretical foundation for an ECR structure. While their framework is an important advancement in the area, there have been some views written about the inadequacy of TC to fully integrate the critical process-oriented components for managing effective relationships [1, 54, 55].
help describe market and nonmarket forms of interfirm governance. In Heide’s framework, the processes that would be most effective for the type of governance under which one would expect to find strategies such as SCM and ECR can be seen. That particular type falls under the heading of “Nonmarket Governance,” which includes organizational forms that no longer look to the traditional market for channel members. From the framework, one could then say that when a firm chooses to use a SCM strategy, the firm is removing itself from the market and is committing itself to a closer relationship with other firms in the channel. Given this assumption, Heide’s framework should then be able to be applied to the study of supply chain management, and to ECR in particular. Table 2 is an adaptation of Heide’s presentation of his framework while more discussion follows in the next section.

One of the more attractive features of Heide’s framework is that it allows for the partnerships in a supply chain to be at various stages of the relationship. That is, an almost evolutionary, even dynamic, process can be witnessed as one progresses through the three stages. Heide calls these stages “dimensions” and they include: 1) Relationship Initiation; 2) Relationship Maintenance; and 3) Relationship Termination. The first of these—relationship initiation—refers to the beginning of the relationship and describes what should be occurring at this stage, given the nonmarket form of governance. The second is the more lengthy—at least timewise—of the three in that it encompasses the core activity of the relationship, namely the preservation of the relationship. Here the many requirements needed for the maintenance of the organizational form are noted: role specification; nature of planning; nature of adjustments, monitoring procedures; incentive system, and means of enforcement. These should not only be specified at the start of the channel system, but should also be continuously updated as the relationship evolves. Finally, the end of the relationship and the basis for termination complete the framework.

The processes within these dimensions vary based on whether or not the relationship is one of a “unilateral/hierarchical” form or a “bilateral” form of nonmarket governance. The first could be described as one where a single channel member leads, or aligns, the channel system, and would presumably gain the most benefits from the relationship. On the other hand, a bilateral system is one where the actors in this channel form manage the relationship jointly, thereby reaping somewhat equal benefits from the relationship.

### Channel Coordination: Power Structures and Norms in Relationships

The capability and use of dominant power by one of the channel members would seem to be the most effective means of aligning a unilateral channel [58, 59]. The concept of a “channel captain” who steers the relationship in the right direction is often referred to when there exists evidence of an asymmetric power structure [32]. Indeed, Heide points out that the enforcement of a hierarchical contractual relationship requires “legitimate authority” be brought to bear ([1], p. 78). In terms of chan-

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**TABLE 2**

Dimensions of Nonmarket Governance*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Unilateral/Hierarchical</th>
<th>Bilateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship initiation</td>
<td>Selective entry; skill training</td>
<td>Selective entry; value training</td>
</tr>
<tr>
<td>Relationship maintenance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Role specification</td>
<td>Individual roles applied to entire relationship</td>
<td>Overlapping roles; joint activities and team responsibilities</td>
</tr>
<tr>
<td>Nature of planning</td>
<td>Proactive/unilateral; binding contingency plans</td>
<td>Proactive/joint; plans subject to change</td>
</tr>
<tr>
<td>Nature of adjustments</td>
<td>Ex ante/explicit mechanism for change</td>
<td>Bilateral/predominantly negotiated changes through mutual adjustment</td>
</tr>
<tr>
<td>Monitoring procedures</td>
<td>External/reactive; measurement of output and behavior</td>
<td>Internal/reactive; based on self-control</td>
</tr>
<tr>
<td>Incentive system</td>
<td>Short- and long-term; tied to output and behavior</td>
<td>Long-term; tied to display of system-relevant attitudes</td>
</tr>
<tr>
<td>Means of enforcement</td>
<td>Internal to the relationship; legitimate authority</td>
<td>Internal to the relationship; mutuality of interest</td>
</tr>
<tr>
<td>Relationship termination</td>
<td>Fixed relationship length, or explicit mechanisms for termination</td>
<td>Open-ended relationship</td>
</tr>
</tbody>
</table>

*Adapted from [1].

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3It is assumed that the relationship, if it delivering on its promises [57], will be deemed worthy of preserving.

4There may be situations where it seems one party has no power (e.g., a prisoner–guard relationship); however, it is often the case that all parties have some degree of power but it is not exercised or is not recognized [57]. This is not to say that one party cannot have a dominating instance of power, only that power is relative in a relationship [60, 61].
channel management and coordination, the channel captain could be either the supplier or the reseller with the determinant depending upon both the capability and the use of the power base by a dominant channel member [59]. Evidence of asymmetric power and dependence structures would then be a necessary condition in unilateral governance forms.

On the other hand, a necessary condition of bilateral relationships relies on the recognition of mutual interests for the advancement of the relationship by “making certain behaviors desirable or undesirable” ([1], p. 78). This point has great precedence in the literature on norms and values and their presence in and effect on relationships [57, 62, 63]. Norms and values vary according to the parties involved and can therefore exist independent of the focal relationship (i.e., a supplier believes that planning a schedule for a new product launch is important to do, regardless if it relies upon a reseller to promote the product in the marketplace). In a bilateral relationship, the expectation goes further in that the planning for the launch would involve both the supplier and the reseller and they both believe that the planning is important to do. They understand the value of the joint planning and the ability to remain flexible given the needs of the channel system and of the marketplace.

The presence of norms and values does not mean that there are no power structures in a bilateral relationship. Rather, a bilateral relationship depends on a high degree or intensity of interdependency in the channel as well as symmetry of the power structure [1]. It is this intensity of interdependency that will lead the firms to consider themselves to be one system with one set of superordinate goals yielding ultimate success for the relationship [32, 64, 65].

So, does either a unilateral structure or a bilateral structure ensure greater performance of the channel? As has been noted in the literature, some level of dependency is necessary for exchange to result between two or more parties [60, 66]. Alternatively, the level of dependence of one partner on another can rise to such a level that it may cause the relationship to falter [58, 61, 67, 68]. For example, Kumar and his colleagues found that increases in the level of total interdependence (i.e., the entirety of dependence between two firms) tend to result in more trusting and committed relationships [58]. In addition, they were able to show that increases in interdependence asymmetry (i.e., the contrast between the levels of dependence from each of the partners) will result in more conflict-laden relationships, potentially leading to complete failure.

In the same study, the researchers did not link the degree of power asymmetry with the performance of the individual firms in the relationship versus the performance of the relationship, in general [58]. Heide’s own framework does not have prescriptions for performance per se. Nevertheless, the framework could be extended by proposing that bilateral governance forms will perform better in the long run than will unilateral relationships.

In determining the relevance of Heide’s typology on ECR relationships, this research is based on a close examination of the ECR-Austria initiative. As a caveat, the initiative is still in its late formative stage, so little can be determined about the performance of the firms or of the initiative at this time. However, the attempt to apply Heide’s framework will be made in order to decide whether or not the conditions suggest the ECR-Austria initiative is one that follows a unilateral or a bilateral nonmarket governance form. In so doing, it may then be possible to suggest the implications of the form on subsequent performance issues. In the next section, the methodology used to study the case of ECR-Austria is described.

METHODOLOGY

A Case Study of ECR-Austria

An initial study in close cooperation with the Austrian ECR-initiative, which is the Austrian branch to the ECR-Europe movement, has been completed. ECR-Austria, as do the other member organizations, reports on its current progress at the annual ECR-Europe meetings. The Europe-wide forum provides a good opportunity to see many aspects of the ECR initiatives from various Euro-
A complex and multifaceted phenomenon.

pean members while also providing the chance to see more specific country outcomes, as needed.

The Austrian grocery market is a microcosm of the entire European venture and offers an excellent venue for gathering case data. Not only does its highly concentrated grocery industry limit the number of industry contacts but the fact that ECR principles, or norms, have already been established allows the opportunity to view the heart of the ECR operation. Indeed, insights from various partners of a national supply chain can be gained all at one time.

Once ECR-Austria was accepted as a case to be studied, an aggregation of exploratory methods was applied. Secondary data used in the analysis included Austrian trade journals and both the ECR-Austria and Europe manuals. Preliminary primary data was also gathered from observations of and attendance at presentations during the ECR group meetings. Another critical input was a descriptive survey instrument that allowed for the examination of the application of ECR principles among the member companies of the Austrian ECR-committee. Table 3 summarizes the survey research methodology applied.

The Austrian Retail Trade and Grocery Industry

In the mid-1990s, the Austrian retail trade represented more than 63,000 retail companies with a total sales volume of approximately US$120 billion and an employee base of some 400,000 people [70]. The typical Austrian retail company is a small sized company with less than nine employees (90% of all the companies fit this characterization) and is facing a steadily growing concentration of sales volume in the retail industry. In most of the regional markets, the ten largest companies account for more than 80% of total sales volume.

The situation in the grocery industry is even more extreme. In the late 1960s, Austrians had the choice of buying groceries from more than 20,000 outlets; today that choice has been reduced to less than 8,000 outlets [71]. The grocery store density of 10 stores for every 10,000 inhabitants is much lower than the total retail store density of 81 for every 10,000 inhabitants. The already low density of grocery stores is expected to continue to decrease [72].

The total grocery sales volume is approximately US$15 billion. During the mid-1990s, 10% of all retailers accounted for 48% of the total sales volume [71]. Today, two companies are responsible for an estimated 70% of total sales [73].

Applying the ECR Principles in Austria

In 1996, leading Austrian consumer goods manufacturers, retailers, and distributors formed ECR-Austria, a “loose” association of 68 member companies. Figure 4 is the organization chart of ECR-Austria.

Looking at the facts presented in the previous section, the motivation to join the ECR movement was understandable. The trends in the Austrian market would make it almost impossible to gain market share via expansion. Improving results seemed only capable by rearranging the way business was being conducted in this industry. Also, since joining the European Union, the Austrian market was no longer manageable as a single market. The Austrian-run retailers reacted by changing their distribution facilities from local warehouses to central distribution centers and the mostly European manufacturers started to eliminate their Austrian inventory facilities by delivering directly from neighboring countries like Germany [47], p. 191).

The movement now incorporates about 200 experts from the various stages of a multi-echelon logistics and/or distribution system in the grocery industry (included are wholesalers, retailers, third-party providers and other
value-adding network companies) that are working on various ECR implementation issues, described in the following section. The goal of the working groups, thus far, has been the establishment of overall valid business and information technology process standards in order to harmonize the activities of the partners in this special channel.

In 1997, these industry experts authored an ECR manual introducing the following cooperation oriented business process model [74]. As indicated in Figure 5, ECR-Austria differentiates between four ECR areas, which are further subdivided into supply-side, demand-side, processes and standards categories. Supply- and demand-side include the “involved” departments (e.g., procurement, logistics, marketing and sales) at both the retailer and manufacturer levels. Processes and standards represent the way business should be done in this special pipeline. The end result of Efficient Consumer Response is a better understanding between retailers and vendors in order to offer end-user required product solutions.

The savings potential for the Austrian grocery industry has been evaluated at approximately US$100 million, which should result in 0.67% lower end-user prices. Several pilot projects have shown interesting effects for the Austrian market. Included is an intelligent routing system that would allow for delivery to outlets in a category-wise manner thereby reducing truck standstill times by 1,000 hours a year per truck. This system is expected to decrease costs by approximately US$40,000/truck [75].

Given the structure of the Austrian grocery industry, the market position cannot be improved through modest increases in sales volume. As discussed above, the market is very concentrated, with the two leading retail chains comprising almost 70% of the total market. Over the last few years, other major Austrian players have exited the market, for either economic or political reasons. Given this perspective, entering nonmarket governance relationships such as alliances and partnerships seems to be the way to gain competitive advantage in this field. As such, the establishment of ECR-Austria can be seen as the first step toward this end.

RESULTS: APPLYING HEIDE’S TYPOLOGY TO ECR-AUSTRIA

Based on the vocabulary of Heide’s typology we have concluded that ECR-Austria is an example of a bilateral,
nonmarket governance relationship. To begin with, the establishment of the working groups is evidence of a form of relationship initiation that does exhibit selective entry. Becoming a member of ECR-Austria is not simply a matter of paying dues (annual financial contribution of approximately US$10,000); it also involves a demonstration of a degree of cooperation on behalf of its member organizations regardless of the asymmetry of interdependence. This might be a possible explanation as to why one of the two major retail players is not a member of ECR-Austria. Additional details with regard to relationship initiation are noted in the following section.

**Relationship Initiation: Value Training through ECR Standards**

The suggested standards are values that members agree to adopt and primarily concern various logistics and marketing activities among supply chain partners (Table 4 provides specific examples of the standards):

*Efficient Unit Load* (EUL) refers to logistics packaging standards supporting a steady flow of merchandise within the total grocery supply chain. The ECR manual suggests cooperation between retailers and vendors in the field of data exchange, application of generally accepted norms and sizes, optimization of order quantities, avoidance of re-supplies and better logistical operations, overall.

*Electronic Data Interchange* (EDI) refers to the implementation of electronic data exchange, which allows the transfer of standardized and structured data between the various partners in the supply chain. ECR-Austria has proposed EDI standards in order to minimize errors with regard to order management, order processing, invoicing, inbound logistics and the management of activity data.

*Efficient Replenishment* (ER) aims at the “heart” of the logistics process: the replenishment of merchandise within the supply chain. ECR-Austria proposes replenishment techniques in order to guarantee lower inventory levels, quicker replenishment processes, quick responses to changes in demand, better use of transportation capacities and fewer returns.

*Category Management* (CM) refers to a joint-planning process between retailers and vendors in order to offer a customized set of products to be managed as a strategic business unit. Within ECR-Austria, CM is expected to reengineer the dialogue structure between retailers and vendors, to increase product profits, to lower the lead-time from the distribution center (DC) to the stores and to increase inventory turns.

Since the introduction and general presentation at the first ECR-Austria conference, the companies involved have been working to implement these critical ECR standards. As such, one can view their adoption as evidence of the members’ value training that will go far in setting the course for the relationship between the suppliers and the reseller. Based on the value training itself, the ECR-Austria group has initiated an Academic council in order to get the business schools more involved in educating...

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**Table 4**

<table>
<thead>
<tr>
<th>ECR Standard</th>
<th>Example</th>
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<tbody>
<tr>
<td>Supply-Side Standards</td>
<td></td>
</tr>
<tr>
<td>Efficient Unit Load</td>
<td>The loading capacity is not allowed to be over 1,000 kg</td>
</tr>
<tr>
<td>Carton size</td>
<td>The size of the cartons shipped in the channel should be 1200<em>800, 800</em>600, 600<em>400, 400</em>300, 300*200 (all numbers in cm)</td>
</tr>
<tr>
<td>Pallet size</td>
<td>The size of the pallets shipped in the channel should be EUL 1: 1,05(1,20)m, EUL 1,4: 1,62, EUL 2: 2,25(2,40)</td>
</tr>
<tr>
<td>Electronic Data Interchange</td>
<td></td>
</tr>
<tr>
<td>PRICAT</td>
<td>EDI-standard to be used for transferring price lists and catalogues</td>
</tr>
<tr>
<td>ORDERS</td>
<td>EDI-standard to be used for transferring orders</td>
</tr>
<tr>
<td>RECADV</td>
<td>EDI-standard to be used for confirming the receipt of goods at the retailers DC’s</td>
</tr>
<tr>
<td>Demand-Side Standards</td>
<td></td>
</tr>
<tr>
<td>Category Management</td>
<td>The initiative suggests 26 categories (food/nonfood articles) which should be accepted by all members of the initiative</td>
</tr>
<tr>
<td>Defining categories</td>
<td></td>
</tr>
<tr>
<td>Category management partnerships</td>
<td>The initiative asks for partnerships in this area in order to improve the consumer value</td>
</tr>
</tbody>
</table>

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³Another reason why this retailer is not a member of ECR-Austria could be due to its unease with revealing too much information. This retailer has been at the forefront of implementing information technology to improve its own distribution system [47, 76]. If it had chosen to join ECR-Austria, it may have had to reveal its competitive advantages.

⁴[77].
students and managers about ECR. The group has also begun a seminar series for managers outside the initiative in order to broaden the ECR perspective to non-members [77].

Relationship Maintenance through ECR Standards

The implementation of these ECR standards exemplifies the Relationship Maintenance stage of the Heide [1] model. Following the bilateral nonmarket governance path, one can identify the following stages of Heide’s proposed framework:

Role specification—ECR-Austria identified overlapping roles and suggested joint activities and team responsibilities. The ECR manual can be seen as an outcome of this specification process.

Nature of planning—By establishing the initiative, the member companies certainly intend to change the way business is planned in the channel. Probably the most important field of interfirm planning within the ECR arena can be seen with category management. In the long run, CM should lead to end-user friendly Point-of-Sale (POS) assortments based on actual POS-data. At the second ECR Austria conference, the initiative reported on more than 140 category management projects, all of them starting during the span of 1 year [77].

Nature of adjustments—The use of EDI should guarantee quick changes in management behavior due to customer needs. The information technology-linked supply chain functions to connect the manufacturing plants with the POS information and promises to smooth production processes while avoiding inefficiencies from over-capacity. The initiative has suggested 11 EDI-standards, which should improve the communication between vendors and retailers. Some of the standards have been implemented by a majority of the members. For example, the program to be used for placing orders (ORDERS) is used by 98% of the members. On the other hand, some of the standards are still in the early adoption stage: the sales forecasting system, SLSFCT, has only been installed by 11% of the members [78].

Monitoring procedures—Based on the current state, the ECR-member companies are not at the point of independently monitoring their own performance, nor can it be said that they are exhibiting full “self-control.” But, monitoring in ECR could also refer to the examination of the diffusion of suggested ECR standards. This monitoring process is based on approved tools and is completed by a neutral organization in conjunction with the member companies’ reports on their progress. In the case of ECR-Austria, monitoring is done by an independent consulting company. The results of the monitoring process are then presented only to the ECR member companies. In addition, the monitoring described above occurs with the concurrence of the member companies, ensuring that some level of self-monitoring does enter into the process. This would seem to allow for an objective assessment of the members’ outcomes and, arguably, a greater level of trust in the ECR organization.

Incentive System—The incentives for the companies involved in ECR-Austria are considered to be long-term in nature. Furthermore, there is a deep-seated need for “system-relevant” attitudes to motivate the participation of the companies. For the ECR gains noted earlier are industry-wide and in order to realize these gains, the member companies must act in concert and aim for a higher goal than their own parochial concerns.

Means of Enforcement—Enforcement lies in the hands of the member companies. They must feel their role in the relationship will lead to gains for all concerned, thereby exhibiting the “mutuality of interest” noted by Heide [1]. This attitude seems to be the prevailing one since the published information on ECR Austria has given no indication of an eventual means of enforcement.

Relationship Termination in ECR-Austria

Given the requirements for entry into the organization and the relative youth of the initiative, there have not been any terminations reported. The assumption is made that the relationships will continue and will remain open-ended until such time that supply chain partners no longer see an advantage to be involved with ECR-Austria.

DISCUSSION AND MANAGERIAL IMPLICATIONS

Based on a case-study examination of the problem, there is evidence supporting the proposition that the Austrian
Efficient Consumer Response is a form of bilateral nonmarket interfirm governance [1]. Table 5 summarizes the ECR-Austria standards according to the dimensions outlined in Heide’s framework for a bilateral governance structure. In particular, we found that members seem to be committed to the standards they have jointly developed and continue to implement. The values they have adopted via the standards and the level of interdependence among and between members in order to implement the standards further exemplifies the bilateral structure of nonmarket governance. While much of the process planning is conducted within the ECR organization, there is still a need for resellers and manufacturers to jointly implement the standards at each level. As an example, one critical aspect of the ECR principles, Category Management, has received a great deal of attention with some 140 projects already underway. Category management is just one way that Heide’s “Nature of Planning” dimension is manifested in the supply chain.

As far as particular managerial issues are concerned, we find that implementing ECR principles tend to be the greatest challenge for supply chain partnerships. Nevertheless, as Jenkins [79] has insisted, it remains critical for the industry that managers be able to adopt and employ ECR principles. Following are several reasons why ECR is important for managers working in the grocery industry ([79], p. 8):

- The push strategy does not work;
- Both suppliers and distributors have to work towards consumer satisfaction
- Trust and compromise are better than power plays
- The competitive environment does not allow growth based on sales only.

Exactly these issues have been addressed in this case study on the ECR movement in Austria. As has been shown, ECR presents itself as a tool to bring different members of a marketing channel together and allows them to jointly plan and outline a cooperative strategy.

The case study has also shown that ECR does not focus only on logistics issues (supply-side) but also on relevant marketing problems (demand-side). This can be seen with category management, where ECR Austria has presented a commonly agreed upon category structure for the Austrian market. It is astonishing, that in the 30 years prior to establishing ECR-Austria, managers from both sides were not able to communicate in the same language. Today, with the application of the ECR principles there is a much different picture. Another improvement is seen with the implementation of cross-functional teams. Within ECR Austria, experts of all business areas are working together in order to set up common standards. As some participants mentioned during informal discussions at the conferences, this has been the first time they have even met their counterparts!

 Granted, not all of the results are as rosy as category management implementation seems to have been. Indeed, many of the dimensions of relationship maintenance have yet to be implemented. Nonetheless, the intention of the ECR-Austria members is to carry forth on the standards. As noted above, implementation of some of the standards by a majority of the members has already been witnessed. Other standards remain to achieve greater dispersion throughout the organization. Importantly, the “target site” will continue to be monitored, especially with regard to the rate of adoption of the standards by the member firms.

### TABLE 5

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Bilateral Nonmarket Governance</th>
<th>ECR-Austria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship Initiation</td>
<td>Selective entry; value training</td>
<td>ECR values adopted and endorsed by partner firms</td>
</tr>
<tr>
<td>Relationship Maintenance</td>
<td>Overlapping roles; joint activities and team responsibilities</td>
<td>Manufacturer and reseller members work jointly and in committees to develop the standards and the manual</td>
</tr>
<tr>
<td>Role specification</td>
<td>Proactive/joint; plans subject to change</td>
<td>Category management has been the focus with 140 projects already under way EDI projects are instrumental in allowing interaction between partner firms</td>
</tr>
<tr>
<td>Nature of planning</td>
<td>Bilateral/predominantly negotiated changes through mutual adjustment</td>
<td>Each member is expected to monitor its own progress, although not independently; results and implementation are reviewed by ECR-Austria</td>
</tr>
<tr>
<td>Nature of adjustments</td>
<td>Internal/proactive; based on self-control</td>
<td>Continued success in the implementation of standards signals that members are committed to the goals of the entire system</td>
</tr>
<tr>
<td>Monitoring procedures</td>
<td>Long-term; tied to display of system-relevant attitudes</td>
<td>Members continue to enforce their own involvement in the group as progress is gained in implementing the standards</td>
</tr>
<tr>
<td>Incentive system</td>
<td>Internal to the relationship; mutuality of interest</td>
<td>There are no formal end-dates for the ECR partnerships</td>
</tr>
<tr>
<td>Means of enforcement</td>
<td>Open-ended relationship</td>
<td></td>
</tr>
</tbody>
</table>
As Heide [1] points out, the various forms and dimensions outlined in his framework are not on a continuum. As such, this phenomenon being studied is at once complex and multifaceted. Furthermore, the crossover between logistics and marketing invites an even deeper analysis of the relationships that are being established with ECR strategies. While the target site, ECR-Austria, is only just leaving its formative stage, this may be an advantage in being able to gain insights into what Heide refers to as an area that has had “limited empirical inquiry” ([1], p. 76).

CONCLUSIONS AND FUTURE DIRECTIONS

Looking at the existing ECR-results, one might argue that planning is often easier than implementing. After nearly eight years of ECR, Kotzab [38] claims that none of the results have been realized. While this may be true, ECR involved managers can now reply “not yet.” In the case of the Austrian market, it could not realistically be expected that managers change their attitude within 1 year, after running their supply chain in the “old way” for more than 20 years. Kotzab [80] points out that retailing managers, in particular, cannot easily or quickly forget the way they had been treated by vendors in previous decades. Therefore, all those who study supply chains, including academicians and managers alike, cannot and should not expect short-term profits out of ECR.

Indeed, Shulman [81] argues that “ECR hasn’t failed. It’s simply following the process that has historically marked every major effort to improve our industry’s primary activities.” He refers to a commonly agreed-upon strategy to manage the flow of goods and information in the grocery business. In fact, the recent ECR discussions confirm the historical perspective on the importance of physical distribution given by Drucker [82]: “We know it is there and we know it is big, but that’s about all.” The jury may still be out with regard to the effectiveness of ECR, but the rather positive results on efficiency give suppliers and resellers an incentive for implementing ECR principles within their channel systems. In fact, new ventures into the use of ECR have progressed to various other industries [13]. However, a better conceptual model of the structure and processes of ECR is very much in need in order to help suppliers and resellers decide whether to invest their scarce resources in such practices.

In particular, as suggested by Drucker [82], future research in the marketing channel area should continue to address the logistics infrastructure necessary to implement the strategy. Other than internal and external “real-life” examples, the ECR phenomenon needs more empirical evidence on the organizational level, including answering the following questions:

- How does ECR affect the marketing organization as a whole?
- What are the consequences of changing marketing organizations based on interfirm cooperation?

Additionally, new research initiatives should target the performance measurement field, where research is needed in order to evaluate results from ECR and its influence on the overall performance of the firm.

Another avenue to follow is in the critical area of theory. Even though a great deal has been gained from this initial analysis of ECR principles within the realm of Heide’s governance typology, there is much that remains unanswered about an effective way to manage the channel. Expanding this initial study to encompass other countries involved in ECR implementation is just one way to learn more. Indeed, doing so will allow for the comparison and contrasting of the many forms of governance that result from such industry-wide initiatives, even if the intent is to establish only one particular governance type. In other words, the objective would be to uncover the conditions that favor one form of governance over another through witnessing the progress of these types of initiatives.

Given the level of interest in supply chain management and ECR in particular, we see the further investigation of such strategies to be a great opportunity to heed the call for more joint research between logistics and marketing academicians. In addition, the application of a theoretical framework will do much to fully understand the phenomenon. We also believe that this understanding will help lead to better tactics for implementing supply chain management strategies for other firms and industries that might be contemplating this important form of channel structure. As such, the managerial implications from the research will lead to potentially greater benefits for all the parties involved.

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