

The company-customer transfer of logistics activities

Transfer of
logistics
activities

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Abstract

Purpose – The starting point of the paper is the fact that customers participate in the logistics activities of the supply chain (SC) (Johnston, 1989; Granzin and Bahn, 1989). Having established that customers can and do participate in logistics, firms can consider transferring some of their logistics activities to/from their customer. The transfer can take two contrasting forms: outsourcing by the company of some logistics activities to its customers or insourcing by the company of some logistics activities from its customers. The purpose of this paper is to contribute to a theoretical understanding of these company/customer transfers.

Design/methodology/approach – To address this emerging issue, the authors build on the service management literature and on the study of two contrasting cases of transfer. The first (IKEA) examines the outsourcing of some logistics activities to the consumer. The second (AuchanDrive) examines the reverse process of insourcing.

Findings – Based on the service management literature and the two case studies, the authors develop a theoretical model for the transfer of logistics activities between a firm and its customers. The findings confirm several elements, such as the importance of managing customer participation and adapting service production during a transfer. Most importantly, the findings show that a key issue for a firm during a transfer is the need to redesign its SC in terms of transport, warehousing and production. The main contribution of the research therefore is showing that customer participation in logistics is a key variable in SC design.

Research limitations/implications – This research is based on the analysis of two cases. To generalise these results, further research needs to be conducted.

Practical implications – This research proposes recommendations to help managers and organisations to transfer some logistics activities to or from their customers.

Originality/value – The originality of the framework is that it considers both the company and its customers. This comprehensive approach establishes a link between supply chain management research and marketing.

Keywords Service, Supply chain management, Logistics, Outsourcing, Customer relationship management

Paper type Research paper

1. Introduction

The main aim of supply chain management (SCM) is to create value for customers by integrating logistics activities along the supply chain (SC) (Mentzer *et al.*, 2001; Christopher, 2010). This perspective implies that the customer is served by the SC and does not participate in logistics activities (Lusch, 2011). However, in his seminal article, Johnston (1989) argues that the customer should be considered as an active participant in the SC. He notes that customers can be seen as “employees” and suggests major implications for the field. Granzin and Bahn (1989) also state that customers participate in several logistics activities while shopping, such as trip planning, travel, in-store selection or disposal.

If customers are able to perform the same logistics functions as businesses (Granzin *et al.*, 2005), then a firm can transfer logistics activities to and from its customers. Specifically, two



types of company-customer logistics transfer are possible. A firm can outsource logistics activities to its customers (Cachon and Harker, 1999) or insource some of the activities that customers provide, as in the case of e-retailing (Teller *et al.*, 2012). Modifying customer participation is a source of innovation in the SC (Sampson and Spring, 2012). In the last decade, companies have transferred various logistics activities to/from consumers through the introduction of delivery boxes (Gevaers *et al.*, 2011), self-scanning (Collier and Kimes, 2013) and mobile commerce (Bahn *et al.*, 2015). Transferring these activities raises several theoretical and managerial issues (Bitner *et al.*, 2002).

Although some scholars have discussed customer logistics participation, customer logistics roles have been insufficiently studied, and the question of the transfer of logistics activities between a company and its customers has largely been ignored. The aim of this paper is to improve our theoretical understanding of these transfers. We build on the service management literature, which has long stressed that customer participation is a key component in this field, and that the main characteristic of our service economy is the co-production between company and customers (e.g. Lovelock and Young, 1979; Langeard *et al.*, 1981).

Building on this literature and on the study of two contrasting cases of transfer, we develop a theoretical framework of logistics activity transfers between firms and their customers. This framework confirms several results found in the services literature. For example, after such a transfer, one key issue is managing customer participation (e.g. Lovelock and Young, 1979; Johnston and Jones, 2004; Grönroos, 2007). Another challenge is that of adapting the way the service is produced with customers by modifying the servicescape (Bitner, 1992) and the role played by frontline employees (Solomon *et al.*, 1985). However, our research highlights that in addition to service production, every feature of the service has to be reviewed, particularly the service offer and unit distribution network. The most important contribution of this research is that it shows that redesigning the SC after a transfer is a key challenge.

The paper is organised in five parts. Section 2 reviews the literature on customer participation in the SC. Section 3 presents and justifies our methodology, based on the study of two contrasting transfer cases: AuchanDrive and IKEA. Section 4 presents our results, which highlight three key aspects when transferring logistics activities to/from customers: managing customer participation, adapting the service and redesigning the SC. Section 5 discusses how our results enrich the literature. The main contribution of the paper is to show that customer logistics participation is a key decision variable in SC design. The last section discusses the limits and implications for future research.

2. Literature review

Customer participation has been underexplored in the logistics and SCM literature (Lusch, 2011). This literature mostly considers the customer as an external stakeholder, uninvolved in physical flows, and to whom the SC must deliver value. This focus on “business logistics” alone, leads Lusch *et al.* (2014) to stress that extending the boundaries of SCM to include the customer has become a crucial issue.

2.1 Customer participation: a neglected aspect in the logistics and SCM literature

Although not extensively developed, customer participation in the field of logistics and SCM is emphasised in two streams of research.

2.1.1 Consumer logistics. The first stream studies customer participation in logistics activities from a consumer perspective. This “consumer logistics” stream originates in Granzin and Bahn’s (1989) seminal article. These authors explain that household consumption requires the customer to manage a complete logistics process, which can be divided into ten steps: setting, pre-trip information gathering, pre-trip stock assessment, trip

planning, outbound travel, in-store selection, inbound travel, post-trip stock management, disposal and post-trip communication. Granzin and Bahn (1989) also provide a framework for the study of consumer logistics, based on classic logistics handbooks (Bowersox, 1978; Ballou, 1985).

In subsequent research, Granzin *et al.* (1997, 2005) highlight that customer logistics participation can be used as a basis for market segmentation, and that customers can be more or less inclined to participate in these activities. Building on Granzin and Bahn's framework, Teller *et al.* (2006, 2012) confirm that consumer logistics is relevant to market segmentation and also to understanding customer choice of retail format. Teller *et al.* (2006), show that customers are aware of their logistics efforts, but unable to convert them accurately into costs, and do not necessarily consider these efforts as a burden. Teller *et al.* (2012) also demonstrate that consumer logistics influences the convenience of store-based shopping. Finally, Cochoy *et al.* (2015) stress that consumer logistics activities evolve significantly from one period to another, due to changing technologies and urban contexts.

2.1.2 The logistics role of consumers. The second stream of research views customer participation in SCs from a company perspective. Here, several authors explain that customers play different roles within SCs. Johnston (1989) argues that customers can be considered as "employees", as they perform four roles in the service delivery system: service provision, creation of the service environment, customer training and provision of information. Sampson (2000) suggests that in the context of service SCs, customers can be seen as a supplier, as they provide a major input into the chain. Goudarzi and Rouquet (2009) consider customers as logistics service providers who can perform the two types of activities traditionally provided by third parties: transportation and warehousing. Finally, Sampson and Spring (2012) develop another typology of customer roles in service SCs, by transferring analogous roles from the manufacturing SC. They identify eight roles: component supplier, labour, design engineer, production manager, product, quality assurance, inventory and competitor.

2.1.3 Research gap and research question. To sum up, only a few studies in logistics and SCM emphasise that the customer plays an active role in the SC. Most of this research concentrates on defining the nature of customer logistics participation. Some authors list these activities from the consumer's point of view (Granzin and Bahn, 1989), whilst others take a company perspective (Johnston, 1989). However, if customers can participate in the SC, a company must consider and manage the transfer of logistics activities to/from its customers. It can either look to outsource logistics activities to customers, or decide to insource logistics activities that had previously been the customers' responsibility.

The logistics and SCM literature has not fully addressed the transfer of logistics activities to/from the customer. To our knowledge, the recent analysis by Sampson and Spring (2012) is the only study that considers this possibility explicitly in an SC context. But their analysis only considers the possibility of transferring activities; it does not explain how a firm can accomplish this transfer. Moreover, they do not describe the impacts that such transfers are likely to have from customer and company perspectives. The absence of explicit research on company-customer logistics transfers constitutes a significant gap in the literature. Therefore, the research question we investigate in this paper is as follows:

RQ1. How can logistics activities be transferred between a company and its customers?

2.2 Towards a preliminary framework for company-customer transfer of logistics activities

We propose to base our work on previous research in the services management field. Customer participation in the service production is indeed a pillar of this research stream (e.g. Lovelock and Wirtz, 2001; Zeithaml *et al.*, 2006).

2.2.1 Customer participation: a pillar of services management literature. The active participation of customers in service delivery is a “shift in the perspective of companies to viewing consumers as active co-producers rather than as a passive audience” (Bendapudi and Leone, 2003, p. 14). This change is critical, as customers can play different roles in service delivery (Bitner *et al.*, 1997). Customer participation has recently been reemphasised in Vargo and Lusch’s service-dominant logic (2004, 2008). The customer is no longer seen as an “operand resource”, on which an operation can be performed, but as an “operant resource” (Constantin and Lusch, 1994).

Using the services management field to develop a theoretical framework for company-customer logistics activity transfers seems all the more appropriate in that most recent work on customer logistics participation takes a services approach (e.g. Ehrenthal, 2012; Jafari *et al.*, 2015). Even the initiators of the consumer logistics stream used the service-dominant logic as the theoretical basis of their most recent work (Bahn *et al.*, 2015).

2.2.2 Transferring logistics activities to/from customers: managing customer participation. Our analysis of the services management literature reveals that any theory of logistics activity transfers must consider at least two key dimensions: managing customer participation (dimension 1) and adapting service production (dimension 2).

The first dimension is managing customer participation (e.g. Lovelock and Young, 1979; Grönroos, 2007). By definition, all logistics activity transfers lead a company to modify customer participation in service production. Specifically, two aspects of customer participation need to be managed.

First, seeking to modify customer participation raises the key issue of how customers learn the new role (Payne *et al.*, 2008). The literature highlights the fact that service customers must know what role they are to perform, stressing the importance of customer education (Bateson, 1985; Prahalad and Ramaswamy, 2004). Socialising the customer to the organisation can facilitate this education (Kelley *et al.*, 1992; Goudarzi and Eiglier, 2006). Customer education involves their gradually developing a “cognitive script” (Abelson, 1981; Solomon *et al.*, 1985; Orsingher, 2006), which guides their interaction.

Second, seeking to modify customer participation also raises the issue of customers’ interest in playing the new role. It is essential to motivate customers (Mills *et al.*, 1983; Schneider and Bowen, 1995; Dong *et al.*, 2008) by describing clearly the benefits of their participation (Vargo and Lusch, 2008). Johnston (1989) suggests using a system of motivation and rewards. This aspect is essential in SC, as customers are unable to convert their logistics efforts into cost savings (Teller *et al.*, 2006).

2.2.3 Transferring logistics activities to/from customers: adapting service production. The services management literature also reveals that any theory of logistics transfer must take into account a second dimension, that of adapting service production (e.g. Lovelock and Young, 1979; Langeard *et al.*, 1981). By definition, transfers of logistics activities will alter the role played by the firm in the service production.

Specifically, two aspects of service co-production must be adapted. First, transferring logistics activities to customers raises the issue of adapting the physical surroundings or “servicescape” within which customers coproduce the service (Kotler, 1973; Bitner, 1992). The servicescape comprises three dimensions (Bitner, 1992; Ezeh and Harris, 2007): ambient conditions; spatial layout and functionality; signs, symbols, and artefacts. These components have to be adapted, depending on whether the context is one of self-service, interpersonal service or remote service (Bitner, 1992). It is crucial to align company strategy and operational decisions through the servicescape to ensure customer satisfaction (Miles *et al.*, 2012).

Second, transferring logistics activities to customers will modify the role of frontline employees (Schneider and Bowen, 1993). Employees can support any change in service production by helping customers to coproduce and encouraging them to

participate (Walley and Amin, 1994). The key challenge is to make customer participation compatible with frontline employees' role scripts (Schneider 1980; Hsieh *et al.*, 2004). However, increased customer participation can lead to less employee satisfaction because of the stress involved (Chan *et al.*, 2010). Also, frontline employees may not fully understand or accept the redefined service script (Solomon *et al.*, 1985).

2.2.4 Preliminary theoretical framework. Based on the service management literature, we propose a preliminary framework for analysing the transfer of logistics activities between a firm and its customers, comprising two dimensions. The first is linked to the customers, the issue being the management of their participation following the transfer. Managing customer participation includes: customer learning and customer motivation. The second dimension is linked to the firm, the issue being the adjustment of service production following the transfer. Adapting service production includes: the servicescape and the frontline employee role. We summarise this preliminary theoretical framework in Figure 1.

3. Methodology

As the aim of this research is to build a framework for the company-customer transfer of logistics activities, we decided to use a case study approach. Case studies are well suited to theory building (e.g. McCutcheon and Meredith, 1993; Voss *et al.*, 2002; Barratt *et al.*, 2011).

3.1 Research design

As proposed by Ketokivi and Choi (2014), case studies can assist theory building in two ways. The first possibility, called theory elaboration, aims to generate new theory by induction, on the basis of one or more case studies (Eisenhardt, 1989). This approach is appropriate when the researcher has no theory to select beforehand. A second approach, called theory generation, consists of developing an analytical framework by comparing a theory with case studies, in an abductive approach (Dubois and Gadde, 2002). This approach is appropriate when a theory is available to the researcher, but it has not yet been applied to the empirical context selected. In this case, the challenge is to investigate the theoretical and the empirical simultaneously. Understandably, our methodology follows this second approach.

As our preliminary framework suggests (cf. Figure 1), the transfer of logistics activities involves two sub-units of analysis (the firm and its customers). This makes it difficult to study empirically. Moreover, such transfers have not directly been the subject of logistics and SCM research. In view of the complexity of the phenomenon and the exploratory nature of the research, it would have been possible to opt for a single, in-depth case study (Dyer and Wilkins, 1991; Voss *et al.*, 2002; Siggelkow, 2007). However, from a theoretical point of view, there are two contrasting types of transfer of logistics activity between a company and its customers. Studying a single type of transfer would have run the risk of developing a theory

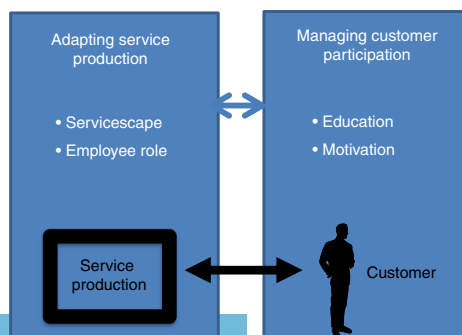


Figure 1. Preliminary framework for company-customer logistics activity transfers

that was not directly applicable to the other type of transfer (Voss *et al.*, 2002; Yin, 2014). To ensure that our results could be adapted to any type of logistics transfer, we decided to study one case of transfer from the firm and one case of transfer from the customers. As pointed out by Meredith (1998), the choice of cases is led here by the number of parameters that influence the analysis. The literature strongly recommends this “polar cases” type of theoretical sampling (Eisenhardt and Graebner, 2007; Barratt *et al.*, 2011). For instance, according to Eisenhardt (1989, p. 537), the cases “may be chosen to fill theoretical categories and provide examples of polar types”. Although generalisability of the results is always limited in case research (see Section 6), including multiple populations such as polar types enhances this generalisability, and makes it possible to “develop a more comprehensive study” (Meredith, 1998, p. 451).

We selected AuchanDrive and IKEA as examples of insourcing and outsourcing. The AuchanDrive case concerns insourcing (product picking and handling at its stores), whereas the IKEA case concerns outsourcing (the handling and transport of furniture from its stores). We chose both cases for their revelatory character. Auchan is the first supermarket in France to have insourced the handling of grocery items with AuchanDrive. IKEA is the first firm in the furniture industry to have outsourced the handling and transport of furniture. These firms were pioneers in their respective sectors, which gives us a double advantage. First, IKEA and AuchanDrive customers discovered a new form of logistics participation, and this doubtless made it even more important to manage customer participation. Second, the firm could not copy its competitors, which doubtless made the challenge of adapting the service production even greater. It should also be noted that each of these cases has been a success. In France, AuchanDrive is a clearly recognised success and this service has since been copied by all the major supermarket chains. IKEA is a worldwide success. The company is the world leader in the furniture industry, with a turnover of €30.1bn in 2014 (IKEA, 2014). The revelatory and successful nature of these two cases makes them good “talking pigs” (Siggelkow, 2007).

3.2 Data collection

Because the unit of analysis in each case is the company-customer dyad, we collected data from the companies and from their customers. The research team relied on a key informant in each firm to help them collect data: the Head of the Marketing and Prospective Studies Department (Auchan), and the Head of Marketing and Human Resources, France (IKEA). One member of the research team collected the data for each case, using identical methods. Each researcher used the same four data collection techniques. This variety of techniques enabled extensive data triangulation for each case.

First, each researcher conducted semi-structured interviews within each company (11 in AuchanDrive, 11 in IKEA). To obtain a comprehensive view of the transfer in each firm, each researcher used a wide range of respondents, both from local stores and from central services. The face-to-face interviews lasted between 60 and 90 minutes, and were systematically recorded and transcribed. Following Myers and Newman (2007), we based the interviews on guides for similar interviews, which we prepared using elements from the literature, but which left room for improvisation. We adapted them to each case. We organised the interviews around four topics as follows: features of the logistics activity transfer (Topic 1), consequences of the transfer on customer participation (Topic 2), consequences of the transfer on the firm’s service production (Topic 3), other consequences of the transfer for the firm (Topic 4). As suggested by Barratt *et al.* (2011), we updated the interview guide as the research proceeded, to take account of what the data revealed.

Second, we conducted semi-structured telephone interviews with a sample of customers (11 for AuchanDrive, 10 for IKEA). We preferred to telephone customers rather than interview them in the store, where they are often in a hurry and lack time to answer questions.

The team included in the sample a broad socio-demographic range of customers (gender, age, profession). We also included both customers on their first trip to the store and regular customers. As with the staff interviews, we used a similar guide for both firms; it was relatively open and evolved as the interviews progressed. The guide included the following topics: their history as customers of the store (Topic 1), their understanding of how they participate in service production (Topic 2), the difficulties they had encountered during their visits (Topic 3), and their assessment of the service offered by the firm (Topic 4). Here again, we systematically recorded and transcribed the interviews.

Third, the research team undertook in-store observation. The researcher in charge of the AuchanDrive case spent three weeks conducting participant observation at three AuchanDrive stores in the north of France, working as picker, deliveryman and receiver. He noted his observations every evening in a research journal. He also took 92 photographs documenting the services environment in AuchanDrive outlets. The researcher in charge of the IKEA case carried out one month's observation at an IKEA store in the south of France. He also noted his observations in a research journal and took 75 photographs documenting the services environment of an IKEA store.

Fourth, we collected documents and archive material for both cases. These documents included the annual reports of each firm and information from their websites. For AuchanDrive, we also collected the following documents: training guides for outlet employees, internal newsletters ("Ca drive pour nous", "Agora"), organisation charts, performance indicators used by AuchanDrive, job descriptions showing the responsibilities of commercial directors, and documents aiming to assist customers. For IKEA, we collected the following documents: the IKEA catalogue, which contains a description of IKEA "operating instructions," all the customer surveys conducted by the firm during the previous two years (after-sales and after-delivery surveys, satisfaction surveys, complaints) and employee surveys (satisfaction surveys), and again, all the documents provided for the assistance of customers. We present all the data collected in Table I.

3.3 Data analysis

Following the recommendations given in the literature, we analysed the data in two stages: within case and cross-case (Eisenhardt, 1989; Voss *et al.*, 2002; Barratt *et al.*, 2011). First, we

Company	AuchanDrive	IKEA
Interviews with employees	11 semi-structured interviews conducted with the following 6 store employees 3 store managers 2 central services managers	11 semi-structured interviews conducted with the following 5 store employees 3 store managers 3 central services manager
Interviews with customers	11 semi-structured interviews conducted with a sample of customers	10 semi-structured interviews conducted with a sample of customers
Observation	3 weeks' researcher observation in three AuchanDrive stores as picker, shipper and receiver Observations recorded in a research diary Pictures of AuchanDrive store (92)	1 month's observation in different areas of one French IKEA store Observations recorded in a research diary Pictures of IKEA store (75)
Documents	Annual reports Internal company guidelines (organisation of work in an AuchanDrive store, job descriptions, etc.) Customer procedures (website information, in-store posters, etc.)	Annual reports Internal company guidelines (IKEA work organisation, job descriptions, etc.) Customer procedures (website information, in-store posters, etc.)

Table I.
Data collection

analysed each case separately. The aim of this stage was to condense the data, while familiarising ourselves with the details of each case (Eisenhardt, 1989). We produced a brief narrative of the issues that emerged from our study of each transfer (Voss *et al.*, 2002). The narrative was structured in line with the two dimensions of our preliminary theoretical framework (Figure 1). After a brief introduction to the case, the first section of the narrative covered “customer participation management” and the second covered “adaptation of service production”. Finally, the third, more open section covered other aspects that appeared important for the case but were not covered by the two dimensions identified in Figure 1.

We used these two descriptions as the basis for the second, cross-case phase of our analysis. Here, the aim was to identify similar patterns in the cases. We used a procedure often recommended in the literature, which consists in coding categories and dimensions for each case to reveal similar patterns (Eisenhardt, 1989; Voss *et al.*, 2002; Barratt *et al.*, 2011). The starting point for our coding was, understandably, the two dimensions and four categories identified in our preliminary theoretical framework. First, we checked whether some of the empirical data in our descriptions of the cases could be coded and classified in the categories of our preliminary framework. For example, we observed that two types of data confirmed our category “customer training:” the existence of customer errors; and the existence of corporate communication strategies to help customers manage the new sales process. For each case, we noted in an Excel spreadsheet the data clearly associated with the categories. The aim was to produce a table summarising the data at the end of our analysis, as suggested by Huberman and Miles (2002).

Second, we looked at the empirical data in our descriptions that we had not associated with any category or dimension. During this second phase we considerably modified and enhanced the preliminary theoretical framework. First a new category emerged in the dimension “managing customer participation”: the category “customer shopping”. Next, we renamed the dimension “adapting service production”. The data indeed suggested that, following the transfer, the service offer and delivery had been adapted in each case, in addition to production. This led us to rename the dimension “adapting service production” as “adapting the service,” and to divide it into three categories: “adapting production”; “adapting the offer” and “adapting distribution”. Above all, a new dimension emerged that had not been included in our preliminary theoretical framework: “redesigning the SC”. This dimension was divided into three categories: “redesigning transport”, “redesigning warehousing”, “redesigning manufacture”. Eventually we developed a definitive coding grid, which we present in Figure 2. Using this grid, we developed the table summarising our results, presented at the beginning of the findings section.

To ensure the reliability of our research, we sent the narratives generated by the individual case analyses to our key informers in each organisation (Yin, 2014). The informers suggested several minor corrections to the narratives and clarified certain points. To improve the internal validity of the research, we triangulated our data during the intra-case and cross-case analysis (Eisenhardt, 1989; Barratt *et al.*, 2011) by making sure that each dimension of the different categories was supported by empirical data obtained using different collection methods (interviews, observation, documents) and/or different informers. Furthermore, the research team coded the data together. In this way, as we went along, we discussed and resolved any differences in interpretation that appeared at this stage.

4. Findings

In this section, we present the findings that emerged from our case analysis. After briefly presenting the AuchanDrive and IKEA cases (Section 4.1), we show that both firms had to tackle three principal challenges linked to the transfer of logistics activities: managing customer participation (Section 4.2), adapting the service (Section 4.3), and redesigning the SC (Section 4.4). We present a summary of our findings from the AuchanDrive and IKEA cases in Table II.

Aggregate dimensions	Second-order categories	First-order categories
Managing customer participation	Education	Customer mistakes and errors Company information on process (how?)
	Motivation	Customer gains and losses Company information on advantages (why?)
	Shopping	Customer buying habit changes Company information on purchases (what?)
Adapting service	Production	Servicescape Employee role
	Offer	Product format Product portfolio
	Distribution	Store location Store network
Redesigning supply chain	Transport	Delivery units Delivery frequency
	Warehousing	Warehouse type Warehouse network
	Manufacturing	Production process Production sourcing

Figure 2. Data structure

4.1 Presentation of the cases

4.1.1 The AuchanDrive case. AuchanDrive is an exemplary case of a transfer of logistics activities from customers to company (insourcing). Unlike hypermarket stores, which currently dominate the food-retailing sector, AuchanDrive stores insource product picking and handling at the store, but customers continue to transport the items home themselves. When customers decide to shop at AuchanDrive, they must first visit the store's website. Using the website, customers can shop wherever and whenever it is convenient. When placing the order, customers can choose when to pick up the goods (with a minimum of 2 hours between order and collection). Upon arrival at the AuchanDrive store, customers check in at a service point with their customer number. This automatically informs AuchanDrive staff that they have five minutes to load the order into the customer's car. Before the customer arrives, 80 per cent of the order has already been assembled. Staff assembles the rest once the customer checks in. The customer then parks at the dock indicated on the receipt he/she was given at the service point. Within five minutes, an employee greets the customer, takes his/her name to avoid mistakes, checks the receipt and loads the goods into the customer's car boot. Once the boot is closed, the customer can return home, unload the car and put away the shopping.

4.1.2 The IKEA case. Whilst AuchanDrive is an exemplary case of a transfer of logistics activities from customers to company (insourcing), IKEA is an example of outsourcing. The transfer process began in the 1950s in Sweden and is now well known worldwide. Customers who want an IKEA product often have to travel some distance to a store. The location of stores, often close to a motorway, assumes that most customers

	AuchanDrive	IKEA
<i>Managing customer participation</i>		
Education		
Customer mistakes and errors	Some customers do not know where to find products on the AuchanDrive website Some customers do not understand that you have to wait 2 hours after ordering before going to collect your shopping at AuchanDrive	Some customers do not understand that they have to note down the warehouse location of any products they want when they are in the IKEA showroom Some customers take a shopping trolley by mistake when they go into the IKEA store
Company information on process (how?)	Auchan has set up a telephone and internet helpline to answer customers' questions Auchan has display panels explaining the shopping procedure to customers at the entrance to their drive-through stores	IKEA explains the shopping process in its catalogue and on its website IKEA reminds customers of this process on display boards at the entrance to the store and inside
Motivation		
Customer gains and losses	Customers who say they do not have much time to do their shopping like AuchanDrive Customers who say they like to have more product choice do not like AuchanDrive so much	Customers who want low prices like buying their furniture at IKEA Customers who do not like carrying out and assembling their furniture do not like IKEA
Company information on advantages (why?)	Auchan uses its website to publicise the time savings its Drive service offers Auchan stresses the fact that it is better for this service not to offer too much choice	IKEA publicises the fact that customer participation enables it to reduce the cost of its products IKEA emphasises the fact that its products are immediately available
Shopping		
Customer buying habit changes	Customers buy heavier and bulkier products from AuchanDrive Customers tend to buy fewer fresh products (fruit and vegetables) from AuchanDrive	Some women buy smaller, less bulky products when they go to IKEA on their own Customers do not go to IKEA alone when they buy heavy, bulky products
Company information on purchases (what?)	Auchan emphasises the advantages the service offers for buying heavy, bulky products such as water Auchan explains that the service is useful for doing shopping that is a chore	IKEA emphasises the fact that customers make significant savings when buying heavy, bulky products IKEA offers additional services to facilitate furniture shopping (van hire, etc.)
<i>Adapting the service</i>		
Production		
Servicescape	Customers do not go into the store as in a hypermarket, but park in bays where they wait for their products to be loaded into their car The storage of products is not arranged by department, but depending on their physical features and storage requirements	An IKEA store is not organised like a traditional furniture store, but has two floors with a showroom area and a self-service area The products are not stored in areas that are inaccessible to customers, but in different self-service areas depending on their physical characteristics
Employee role	Rather than checkout assistants in contact with customers as in a hypermarket, there are staff to load purchases into the customer's car Employees have warehouse type jobs (order picking, preparation) rather than hypermarket jobs	The role of staff is less to answer customers' questions as in a traditional store and more to help them understand how the IKEA process works The responsibilities of IKEA employees include selling but also restocking the self-service area each morning

Table II.
Summary of the
AuchanDrive and
IKEA cases

(continued)

	AuchanDrive	IKEA
Offer		
Product format	Fruit and vegetables can only be ordered in standard quantities rather than by weight as in a hypermarket To avoid waste, products are sold in smaller package sizes at AuchanDrive than in a hypermarket	IKEA products are not assembled as in a traditional furniture store, but sold in kit form and boxed in flat packs Product have to fit into two flat packs at most to avoid mistakes by customers when they pick them up from the self-service area
Product portfolio	The product range is smaller than in a hypermarket (6,000-8,000 distinct items) to reduce order preparation times For each type of product, the choice is narrower than in the hypermarket, and is limited to either a national brand or a store brand	There are many fewer different products in an IKEA store than in a traditional store to reduce storage costs (8,000 distinct items) There are only a few items for each product category to ensure that the whole product range is always available
Distribution		
Store location	Store location is not designed to facilitate accessibility as with hypermarkets, but to be as close as possible to major roads	IKEA stores are not located in the town centre like a traditional furniture store, but are located on the outskirts of large towns near motorway exits
Store network	The AuchanDrive network differs significantly from a hypermarket network and most of the stores are much smaller than hypermarkets	The IKEA network is less dense than that of a traditional furniture chain (only 30 stores in France) and store size is much greater
Redesigning supply chain		
Transport		
Unit of deliveries	Products are delivered to AuchanDrive in much smaller quantities than in a hypermarket	IKEA stores are supplied by the truckload, and items are not ordered individually but by the pallet
Frequency of deliveries	The frequency of deliveries to AuchanDrive is much lower than deliveries to a hypermarket	The frequency of deliveries to IKEA stores is much greater than to traditional furniture stores
Warehousing		
Warehouse type	Whilst hypermarkets are stores, AuchanDrive outlets are mini-warehouses that customers do not enter	Unlike traditional stores that have very low stock levels, IKEA stores operate as mini-warehouses, which are unusual in that they are open to customers
Warehouse network	The fact that drive-through stores operate as mini-warehouses means that the network can be supplied using a central network of only 2 or 3 warehouses, rather than the 30 or so warehouses needed for a hypermarket network	The fact that IKEA stores operate as mini-warehouses means that they can be supplied using 2 or 3 central warehouses that are much bigger than traditional furniture warehouses
Manufacturing		
Production process	Suppliers produce smaller units than for hypermarkets, to avoid waste that might result from smaller sales volumes in drive-through stores	The products are not assembled by suppliers as in the case of a traditional furniture store; the production process leaves this task to the customer
Production sourcing	AuchanDrive has fewer suppliers than a typical hypermarket	In addition to quality and cost criteria, used throughout the furniture industry, the most important criterion used to select an IKEA supplier is the ability to manufacture furniture in large quantities

Table II.

will arrive by car. Upon arrival at the store, customers park in a vast car park and then go up to the first level, where most of the products are on show. Customers walk around the display area and make their selection, generally noting down the product number. Then they go to the “self-service” area on the ground floor, where the products are stored. Logistics participation at the store differs depending on the goods chosen: either the customer is responsible for picking up the item, in one of two distinct areas, or an IKEA employee collects the product from a storeroom that is inaccessible to the customer. Once the purchase has been paid for, customers push their trolley of goods to their vehicle and load their items. This is made easier because the furniture comes in flatpack kit form. The customer drives home, unloads the flat packs and assembles the furniture.

4.2 Managing customer participation at AuchanDrive and IKEA

Our results show that, during the logistics transfer, both AuchanDrive and IKEA had to manage customer participation. In particular, the companies had to manage customer education, customer motivation and customer shopping.

4.2.1 Managing customer education. In both cases, some customers initially found it difficult to understand what was expected of them. For example, in the case of Auchan, customers needed to learn the AuchanDrive model and their new logistics role: what is AuchanDrive? What do I have to do? When? How? It took time for some customers to learn a number of the features of this format, for example, the fact that the shopping could not be collected from the AuchanDrive store until at least two hours after placing the order, and the fact that certain products on the website were in unfamiliar categories and thus not easy to find.

Similarly, in the case of IKEA, some customers found it difficult to negotiate the process in the store as they were unused to doing anything physical related to buying furniture. In describing their first visit to an IKEA store, many interviewees explained they had made mistakes. One told us that:

It was the first time I had been to IKEA. I didn't realise at first that I had to note down the codes of the products I liked on a little piece of paper. When I arrived downstairs and realised I needed the aisle and shelf numbers to find my products, I was really very annoyed; I had just spent two hours in the store and I had to start again.

In the light of these problems, both Auchan and IKEA made efforts to educate customers following the transfer. Auchan set up a customer service department that could be contacted by telephone and/or e-mail, and provided help desks in its stores. IKEA attempted to assist customers via messages in its catalogue and in its stores. For example, at the entrance to the store and in each department, IKEA provides paper and pencils to note down the location of products in the furniture self-service area.

4.2.2 Managing customer motivation. The transfer also had an effect on the retailer's clientele. After trying and testing AuchanDrive, some hypermarket customers rejected the format because the new logistics role did not suit them. Interviewees gave several reasons, such as you do not find “everything under one roof” (as you do in a hypermarket) or that you cannot see, touch and choose for yourself. On the other hand, some customer types, such as working couples with young children, much preferred the new format to hypermarket shopping, because it saves time. These gains and losses mean that AuchanDrive customers may differ from hypermarket customers.

We identified the same issues in the IKEA case. Unused to working physically when buying new furniture, some customers rejected the activity transfer proposed by IKEA. During in-store observation, we encountered several customers coming to the store for the first time and discovering that they had to do everything without the help of

a sales assistant. They were distinctly unhappy and vowed never to repeat the experience. The interviews show that customers were unhappy because they discovered, during their visit, that they were being forced to take on a role they did not want. As with AuchanDrive, the transfer proposed by IKEA suited particular types of customer: the stores have numerous young, healthy customers with lower purchasing power.

Both Auchan and IKEA have attempted to make the benefits and drawbacks of these new roles more explicit to customers. Their aim is to prevent customers who would not be amenable to their new role from discovering this at the last moment. They also hope to attract customers who would be particularly interested in taking on this role. On the AuchanDrive website, Auchan presents the service to its customers very clearly, spelling out its advantages and its constraints. IKEA includes messages in its catalogue, on its website and in its stores explaining that the reason why customers need to do so much is to keep prices low.

4.2.3 Managing customer shopping. In both cases, the transfer also affected the type of products purchased by customers. For instance, some customers who previously shopped for their groceries in a hypermarket now use AuchanDrive only to buy basic food items, such as rice, pasta, tinned goods, etc., which they consider a chore. They want to make the best use of their time. However, these customers derive hedonistic pleasure from certain kinds of shopping and so regular AuchanDrive customers tend to transfer the satisfaction of their hedonistic needs to other forms of shopping, such as outdoor markets (“Now I have got into the habit of going to the market on Saturday morning to do extra shopping”) or the hypermarket (“When I do the shopping at AuchanDrive, I do extra shopping at the hypermarket using the automatic checkout to save time”).

To a lesser extent, IKEA customers also adapt their shopping to the logistics role proposed, as highlighted by the following:

In general, I prefer going to IKEA alone, because it prevents arguments with my husband, but when I want to buy furniture there, I always go with my husband because I can't put the flat packs on the trolley, take them to the car and put them in the boot.

Here it is not the hedonistic aspect that rules, but the physical ability necessary to do the shopping. Because of the physical effort required to purchase furniture from IKEA, customers adapt their shopping to the logistics role that the firm imposes on them.

To help its customers adapt their shopping habits, AuchanDrive tries to be more explicit about the type of purchases for which the store is particularly useful. On the AuchanDrive website, a video highlights the fact that these stores are especially suitable for heavy products, such as bottled water. Recently, AuchanDrive experimented with a new concept in the north of France. The firm located several shops selling fresh products near one of its Drive stores. The aim of this experimental concept is to encourage customers to do their basic shopping at the Drive and their pleasurable shopping at traditional shops.

4.3 Adapting the service at AuchanDrive and IKEA

Along with these customer-related aspects, our findings show that, during the transfer of logistics activities, AuchanDrive and IKEA had to adapt certain aspects of their service. In particular, the companies had to adapt service production, offering and distribution.

4.3.1 Adapting service production. Both types of transfer made a significant difference to service production in each store. First, Auchan had to rethink the traditional servicescape it uses in its hypermarkets. The firm makes this clear in an internal PowerPoint presentation explaining that an AuchanDrive store is managed like a “warehouse”, which means that the product layout must be appropriate. There are no traditional shelves designed to tempt consumers to make purchases; the various storage areas are designed to optimise the

pickers' work, which means that babies' nappies might be located alongside bottles of water and orange juice. Instead of a customer car park, AuchanDrive has numbered loading bays where consumers park their cars to have their shopping loaded. The role of the employees has changed completely. There are no checkout girls as in a hypermarket. Most of the staff spend their time preparing orders and loading them into cars.

This aspect is obvious in the IKEA case. The servicescape in their stores is fundamentally different from the layout of a traditional furniture store. Most IKEA stores worldwide have a first-floor showroom that looks like a furniture store, with a ground floor area for the collection of goods. This floor is similar to a warehouse and customers pick up their own items. It has very wide aisles that are easier to negotiate with a loaded trolley.

4.3.2 Adapting service offering. The two transfers also raised important issues concerning the service offering. In the case of Auchan, the firm had to reduce drastically the number of products available at AuchanDrive (6,000-8,000 items compared with 30,000-100,000 available in their hypermarkets). A larger product range would have increased the amount of storage space required, which would have resulted in longer order preparation and product collection times. The firm would not have been able to keep its promise to have the goods ready two hours after the order.

At IKEA, the problems were greater. For example, to outsource handling and transport to customers, the firm had to rethink its products entirely. For customers to be able to pick up and transport a wardrobe, a completely new product concept was necessary. As already described, IKEA furniture is sold in kit form. It is designed from scratch by product developers and IKEA designers to fit into flat packs that can be handled by customers and loaded into a car.

4.3.3 Adapting service distribution. Finally, the two transfers raised important issues concerning service distribution. Auchan had to adapt its store location strategy. Originally, AuchanDrive stores were to be located next to hypermarkets to rationalise flows. However, experience showed that AuchanDrive customers were not affected by a catchment area ("I go to this AuchanDrive because it is near my home"), but by their routes ("I go to this Drive because I often drive past"). For example, most regular customers we interviewed said that they did not make special trips to collect their AuchanDrive shopping. This led Auchan to remove some of its Drive outlets from its hypermarkets and relocate them on routes heavily used by potential consumers.

Because IKEA customers must load their flat packs into a vehicle, the company's store location strategy is based on the assumption that customers will arrive by car. Consequently, its stores are located, on average, one hour's drive away from 80 per cent of the population. This has allowed IKEA to have very few stores. In France, for instance, IKEA has only 30 stores, all of which are located next to major trunk roads.

4.4 Redesigning the AuchanDrive and IKEA SCS

Finally, our findings show that, during the transfer of logistics activities, AuchanDrive and IKEA had to redesign the different activities of their SC. Specifically, the companies had to redesign the transport, warehousing and manufacturing of products.

4.4.1 Redesigning transport. During the transfer of logistics activities, AuchanDrive and IKEA had to tackle transport issues. AuchanDrive in particular faced problems related to unit sizes in the SC and to delivery rate. To reduce costs and rationalise the logistics flow to AuchanDrive outlets, Auchan initially decided to locate its AuchanDrive stores next to a hypermarket. This would have allowed AuchanDrive stores to take advantage of deliveries to the hypermarket. However, the flow of customers to AuchanDrive stores is slower than to hypermarkets, so the firm had to adapt the delivery rate to its Drive outlets to the lower demand. And when Auchan began to locate AuchanDrive outlets away from its hypermarkets, it had to set up specific deliveries to those outlets.

IKEA also faced this issue. By outsourcing as many logistics activities as possible to the customer, IKEA was able to supply its stores with much larger logistics units than in the traditional furniture industry. Their large ground floor storage areas allow them to order full pallets of products. In term of transport, delivery by pallet provides the firm with significant benefits by optimising truckloads and thereby saving transport costs. This also allowed IKEA to increase the frequency of deliveries from its warehouse to its stores and so improve logistics services to the stores.

4.4.2 Redesigning warehousing. The AuchanDrive and IKEA cases highlight the fact that logistics activity transfers require some redesigning of a firm's warehousing network. Given that AuchanDrive stores are actually mini-logistics warehouses, the AuchanDrive warehousing strategy is fundamentally different from the hypermarket warehousing strategy. The latter is based on a small number of large centralised logistics warehouses, located far from city centres. The AuchanDrive strategy, on the other hand, is based on a larger network of smaller warehouses, located closer to city centres. They are supplied by two or three traditional warehouses, which is much fewer than the network of warehouses that supply Auchan hypermarkets.

IKEA also had to redesign its warehouse network. Compared with other firms in the furniture industry, IKEA reduced the number of warehouses delivering to its stores by outsourcing as many logistics activities as possible to its customers. In fact, the warehousing strategy is based on a very small number of huge warehouses (three in France), located far from city centres. These warehouses supply the network of IKEA stores located closer to city centres, which stock a relatively large number of products and act as mini-logistics warehouses.

4.4.3 Redesigning manufacturing. Finally, during the transfer, both firms had to redesign their production strategy. Given that fewer items are carried in drive-through stores than in a hypermarket, with a narrower, shallower product range, AuchanDrive had first to reduce the number of its suppliers drastically. Then it had to adapt its sourcing, since each product category is represented by only one or two brands. Moreover, as the flow of customers in a drive-through store is much slower than in a hypermarket, some delivery units ordered from suppliers were soon found to be too large. AuchanDrive had to ask its suppliers to make production batches smaller, to avoid throwing away products past their sell-by date or selling them at a loss.

IKEA's adaptation of production strategy was even more radical. To sell its products in kit form, the firm had to ask its suppliers to modify their production processes drastically. Production no longer includes final product assembly at the factory; this is now the responsibility of the customer. This strategy also led the firm to standardise production components even more, to facilitate assembly by its customers.

5. Discussion

The paper contributes to the literature on customer participation in the SC by introducing a theoretical framework for the transfer of logistics activities between the firm and its customers. It also highlights the fact that customer logistics participation is a crucial decision variable in SC design. Finally, it offers practical advice to company managers who decide to transfer logistics activities to/from their customers.

5.1 A theoretical framework for the company-customer transfer of logistics activities

Our analysis shows that three aspects were crucial when AuchanDrive and IKEA transferred logistics activities to/from their customers: managing customer participation, adapting the service and redesigning the SC. Managing customer participation involves managing customer education, motivation and shopping. Adapting the service involves adapting the service production, offer, and distribution. Redesigning the SC

involves redesigning transport, warehousing and manufacturing. These results confirm a number of issues identified in our preliminary framework and presented in Figure 1. However, they also lead us to modify this framework and to introduce a new theoretical framework for company-customer logistics transfers, in Figure 3.

Echoing the literature, our theoretical framework shows the importance of managing customer participation after a transfer. However, we argue that the challenge is not just to educate and motivate the customer, as has already been established by many studies, but also to help customers adapt their shopping practices after the transfer. Our results reveal that the type of logistics participation influences the products customers buy, and whether they shop alone or with others. The influence of logistics participation on customer consumption choices has so far received very little attention in the literature (Granzin *et al.*, 1997, 2005; Teller *et al.*, 2012). Our results also confirm that another important issue is how the firm produces the service with customers after the transfer. However, the challenge is not simply to adapt service production, as suggested in the service management literature (e.g. Bitner, 1992; Xue and Field, 2008), but to rethink the entire service. This involves adapting both the service offering (the range or the type of product offered to customers) and service distribution (the store network and locations). However, our theoretical framework's principal contribution is to highlight a crucial challenge for the firm, that of rethinking three key SC activities after the transfer: production, transport and warehousing (Christopher, 2010).

5.2 Customer logistics participation: a key decision variable in SC design

Our research shows that customer logistics participation is a key decision variable for firms to consider when they design their SC. To the best of our knowledge, this point has not been discussed in the literature. It is not mentioned in major logistics and SCM textbooks (e.g. Simchi-Levi *et al.*, 2007; Christopher, 2010), despite the fact that these books review a wide range of aspects linked to SC design (supplier selection, facility location, etc.). Nor is it cited in reviews of the SC design literature (e.g. Beamon, 1998; Meixell and Gargeya, 2005), which discuss operational variables unrelated to the customer (e.g. inventory levels, number of stages, facility selection, production/shipment quantities, supplier selection). This lack of concern for customer logistics participation can also be observed in the literature on the design of SC subcomponents. Studies of product design, for example, note the importance of considering the firm's logistics constraints (e.g. Mather, 1992; Khan and Creazza, 2009), but ignore the customer's logistics constraints. Similarly, studies of warehouse design (e.g. Rouwenhorst *et al.*, 2000; Baker and Canessa, 2009) and of transport network design (e.g. Melkote and Daskin, 2001; Chopra, 2003) do not consider customer participation.

From this perspective, our research reveals more than ever the importance of the end customer in SC design variables. Traditionally, the SCM literature stresses that the SC must be

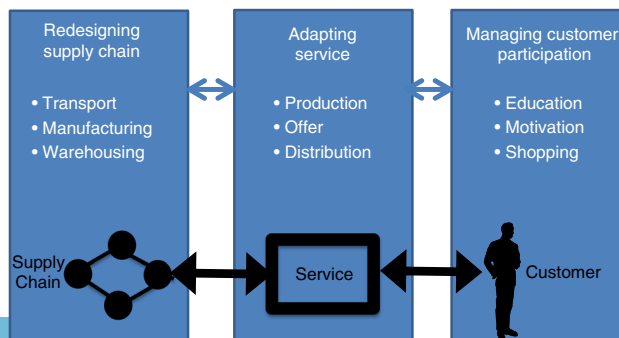


Figure 3.
Company-customer
logistics activity
transfer framework

designed in line with the logistics services the firm offers its customers (e.g. Mentzer *et al.*, 2001; Christopher, 2010). However, alongside the level of service offered, which of course remains a key design parameter, our research shows the importance of determining what logistics activities customers are willing to undertake. This factor is all the more important and strategic in that it will influence all the other components of the SC (production, transportation and warehousing), and because modifying customer logistics participation makes innovation possible (Sampson and Spring, 2012). Fundamentally, our research stresses the urgent need to broaden the frontier of logistics and SCM to include the end consumer (Lusch *et al.*, 2014), and to move from a value creation paradigm to one of co-creation (Vargo and Lusch, 2008). Our framework underlines the fact that logistically the consumer acts as an “operant resource” (Constantin and Lusch, 1994), who can perform different logistics operations. Thus, for SC firms, the challenge does not lie in delivering value to consumers, but rather in co-creating value with them (Lusch, 2011; Bahn *et al.*, 2015).

5.3 Managerial guidelines for transferring logistics activities to/from customers

At managerial level, our findings offer guidance to firms considering the transfer of logistics activities to or from consumers. We identify the three areas affected by such transfers that firms need to consider (customer participation, service, and SC). Beyond these three aspects (and their different associated sub-aspects), our theoretical framework suggests that the key managerial challenge in such transfers is to organise these components rationally. Such transfers appear successful when, at the end of the process, the three aspects are correctly aligned so that: customers understand and accept the new role they play in logistics activities; the service the firm offers is suited to client logistics participation; the SC set up is aligned with the client’s new logistics role.

Those aspects being related to both marketing and logistics, it is critical for the firm’s logistics and marketing departments to cooperate closely during transfers. This cooperation is particularly crucial when making decisions related to service characteristics, which involve both marketing and logistics. This need for more cooperation between these two departments is increasingly discussed in the literature (e.g. Jüttner *et al.*, 2010; Lusch *et al.*, 2010), as today’s SCs are increasingly bidirectional (Sampson, 2000), or even closed-loops (Savaskan *et al.*, 2004). Customers now have increased resources at their disposal, enabling them to perform logistics activities that were previously carried out by SC firms (Goudarzi and Rouquet, 2009). In this context, logistics performance increasingly depends on the degree to which firms successfully integrate their customers in the SC.

6. Limitations and avenues for future research

This study has some limitations, which suggest avenues for future research. First, despite our efforts to ensure that our methodology was of the highest quality, the internal validity of our research could be improved. In collecting data on logistics activity transfers between a firm and its customers, we interviewed the actors once the process was complete. This approach has several drawbacks: actors may forget important points or stress others that are in fact unimportant; or the actors may also make *ex post* rationalisations. Our results might have been richer if we had been able to collect data regularly throughout the transfer process. From this perspective, it would be particularly valuable for a researcher to be embedded in a firm that is currently transferring logistics activities to/from its customers.

Second, by focussing on the analysis of just two cases, our research is by its nature limited in external validity. Therefore, to confirm whether our model for customer-firm logistics activity transfers can be generalised analytically (Eisenhardt, 1989), other case studies are necessary. First, it would be interesting to study other types of logistics activities that can be transferred between a firm and its customers. Alongside the transport and handling of products that we study in this paper, checking out is an area in which many

transfers are occurring due to the development of self-scanning technology. Second, it would be interesting to study transfers in sectors other than those selected here (food and furniture). DIY retailers, for example, are implementing drive-through systems to facilitate collection of heavy or bulky products (cement, timber, etc.). Transfers also occur in contexts other than retail, for example, in fast-food restaurants.

Finally, whilst this research enhances our theoretical understanding of logistics activity transfers between firms and their customers, it raises several questions that could provide subject matter for future research. First, a firm can transfer activities other than logistics to its customers. It would be interesting for future research to study the transfer of other types of activities, such as those related to product design or marketing. The aim would be to reach a higher level of generalisation and to build a general, integrative model of firm/customer activity transfers. This seems all the more crucial because the literature generally agrees that one of the keys to developing strategic advantage is co-creation with customers (Prahalad and Ramaswamy, 2004). Second, a firm can of course transfer activities not only to/from its customers, but also to/from suppliers or logistics service providers. Such transfers between firms have been widely studied in the literature and are theorised, notably using transaction cost theory (Williamson, 1975). In terms of theory, then, the challenge seems to be to develop theories that can account for activity transfers whether the stakeholders involved are firms or consumers.

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