

An examination of the reverse logistics of clothing (r)e-tailers in Sweden

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Abstract

Studies on the sustainability of the logistics in the online retail clothing industry have concentrated on the outward process with relatively little research on the returns process. Yet returns in the clothing industry range from 25% to 60%, involving a great deal of logistics. The complexities involved in analysing sustainability in the reverse logistics process is unveiled in this paper using a detailed case study of the returns of a small Swedish clothing company; Nudie Jeans (NJ). The challenges and barriers to sustainability are discussed in terms of five key activities: mitigation, gatekeeping, collection, sorting and disposal.

Keywords: Reverse logistics, e-tailing, sustainable logistics.

Introduction and background

Online retailing has increased at a phenomenal rate over the past 10 years and with it, the need for improved logistics systems to cope effectively with delivery of products ordered online. Although still undergoing substantial developments, the logistics of the outbound products is now fairly well established.

However, the reverse logistics processes involved in returning goods from consumer to e-tailer are complex and have long been neglected, with many companies even now only just recognising the problems and failing to deal with them in any systematic way. Reverse logistics costs impact substantially on e-tailers' operational profits. It has been estimated that, on average in Europe, 22% of goods bought online are returned. The figure for clothing is the highest of all product categories, at 20-30% generally and even higher in some European countries (for instance, it is estimated to be around 70% in Germany) (Ecommerce Europe, 2015).

With an increasing amount of cross-border e-tailing, and with pressure from the EU to enhance it even further through the Digital Single Market agenda, the complexities of dealing with the reverse logistics are multiplying. These complexities and challenges are

multiplied further as a result of the omni-channel experience demanded by consumers (Brynjolfsson et al., 2013). The energy use and environmental costs involved in the reverse logistics operations of clothing (r)e-tailers are largely unknown but are likely to be considerable. Even companies that are very conscious of their corporate social and environmental responsibilities in other aspects of their business are reluctant to tackle this particular issue; not because it is unimportant but because in many cases it is outside of their normal realm of planning and consideration.

This paper will present the results of the first, exploratory, stage of a two year project funded by the Swedish Energy Agency. The overall aim of the project is to develop an integrated e-commerce reverse logistics energy and sustainability (IERLES) framework based on state-of-the-art best practices identified in the clothing industry. The specific objectives of this paper are to facilitate an understanding of the current practices of reverse logistics of clothing e-tailing and to identify the main challenges and barriers to the operation. It will also throw some light on the environmental and energy implications.

Research approach

The paper adopts a qualitative, exploratory, case study approach to analysing the reverse logistics operations of one Swedish clothing retailer. According to Collis and Hussey (2013, p.4) “exploratory research is conducted into a research problem or issue when there are very few or no earlier studies to which we can refer for information about the issue or problem”. There is very limited research on reverse logistics regarding online product returns (Rau et al., 2014). Our research is also analytical as we do not only aim to describe a phenomenon but also to analyse why or how it is occurring.

The main primary data collection methods used for data and information collection in this study were detailed, in-depth face-to-face interviews and on-site observations with key personnel at both the headquarters of the company and their logistics warehouse facility. For each interview, a semi-structured interview schedule was used, with the questions being developed based on a comprehensive literature review, reviews of the commercial press and previous discussions and engagement activities with companies before the funding was achieved for the project. Each interview lasted approximately 2 hours and a further 2 hours were spent observing the operations and talking to staff working ‘on the floor’. All interviews were recorded, transcribed and cross-checked by all researchers present at the interviews.

For the company, a mapping of the reverse logistics process for each alternative returns route possibility was carried out. This includes details of the nodes and links of journeys involved including distances, specification of the modes of transport used, details of the warehousing and other distribution facilities used, packaging weights and types. In addition to the more quantitative element of the operations, a great deal of rich information was obtained on the reasoning behind and the historical development of the reverse logistics processes involved as well as the interviewee’s assessment of the problems and challenges that it involved, particularly in terms of the environment and sustainability.

The case study is of Nudie Jeans (hereafter referred to as NJ), a Swedish company specialising in the manufacturing and sales of premium jeans made out of organic cotton. Relatively small compared to other clothing (r)e-tailers, this company has seen steady growth in sales and has about 10,000 stock keeping units (SKUs). The company also has a strong focus on sustainability, with sustainability being one of the core values of the company and its owners (elaborated in the next section). Though this company is just one single case study based on the interviews we have conducted, it illustrates many

reverse logistics problems facing other clothing retailers, therefore offers us rich insights in terms of how the business has evolved, and the challenges facing its reverse logistics operations and their subsequent environmental sustainability implications. It also highlights the complexities involved in analysing the sustainability of the reverse logistics operations, even in a company with probably one of the simplest reverse logistics processes conceivable in a retail context.

Findings

Company background.

NJ is a Swedish company, established in 2001 by a husband and wife team who realised that people became very attached to their jeans; saw them as a vital part of their life and got very upset when they had to throw away their favourite pair when they wore out. They wanted to produce a product which was as sustainable as possible. The cotton used in the production was organic; they were (initially) produced in Sweden; they could be repaired free of charge. The company started off as a wholesaler as they had neither the reputation nor the knowledge to step into retailing. However, recently they have tried to bring things back under their own control and now have 25 of their own retail outlets around the world. Their own shops are also repair centres where customers of Nudie Jeans can have their jeans repaired free of charge. The company found that initially their retail customers were marketing and promoting NJ products as ‘unique’ and ‘premium’. However, as the online shopping market has taken off and the competition in the retail sector has increased, retailers that they formerly relied upon have become less keen on promoting the NJ brand, so NJ have had to do something for themselves. They started their own webshop in 2008, with the help of other retailers. Currently the majority of their sales are via their own webshop..

In 2016 they dispatched 44,000 packages to customers who bought from their webshop. Their major markets were Australia, UK, Germany, US and Sweden. As the company developed, they started supplying jeans to around 50 major e-tailers, such as Zalando, Asos and Cultizm. They also sell to approximately 1000 other retailers on a wholesale basis. They send out 400 orders (boxes) per day on the wholesale side, with each order weighing approximately 15kg. They also have agents in some countries (such as Japan) and distributors in others (such as the US). Overall they now sell 1 million pairs per annum worldwide. All orders are dispatched by the parcel carrier UPS.

The brief description of the development of sales of Nudie Jeans above points to some of the complexities of the issues involved in establishing the sustainability of the reverse logistics process. A company establishing itself in the market has to sell through many different channels and the channels it sells through are not always designated by choice; more through financial necessity. The development process is iterative and sales avenues which are not necessarily considered at the outset become important at different times in the company’s development timeline. Logistics, particularly reverse logistics, is not their major focus in considering their growth trajectory. Thus a company which at first sight looks to be a typical B2C e-tailer also has physical stores and more importantly has a great deal of involvement in B2B sales in its role as a wholesaler to other physical stores, online retailers and those that have a presence in both platforms (which we term (r)e-tailers). Although NJ has some control over the B2C element of its sales, when it comes to the B2B element, it has much less control.

The NJ returns process.

The returns can be divided into B2C returns and B2B returns as they are treated completely differently. We start with the B2C returns. NJ return rate on an item as opposed to a package (which may contain more than 1 item) basis is approximately

15%. This percentage differs considerably between countries, with Germany being the highest. Returns are not free. The pricing of returns has been a big issue at NJ as they struggle to balance customer service and costs. They have introduced set-price return labels from 4 countries (Sweden, US, UK, Australia) and are doing a trial in 20 countries in South East Asia. The aim is to get all their markets to use return labels so that they have a certain degree of standardisation in the returns process. From these 4 countries, they have a contract with UPS (in Sweden it is done by Postnord) and the returns cost a set amount irrespective of how many items of clothing are in the parcel. The returns cost 50Kr (approximately £5) per package from Sweden and different amounts from other countries (£7 from the UK, \$10 in the US). For the customer this is much cheaper than it was before as they previously had to pay for the returns using whatever postal service they chose to use – some charged considerably more. The fixed set price and the single choice of carrier benefit both the company and its customers. As customers outside of these 4 countries do not have fixed-price return labels, the returns can come back using any parcel carrier. One of the benefits of using UPS for the returns is that they have sufficient knowledge and expertise in dealing with customs procedures for NJ. Other parcel carriers have not built the same level of competence hence often have problems in handling customs clearance for NJ. For the customers, the return label brings convenience. For most customers it is not the cost of the return that is most important, it is the transparency of the process, the convenience and having confidence in the process. Customers using UPS need to either organise a collection by UPS from their place of residence or take the parcel to a UPS pick-up point.

In addition to its competence in logistics, UPS was chosen by the company based on its sustainability performance being perceived by the company “as good as any other carrier” (*NJ logistics manager*). NJ pays UPS an amount to offset their carbon usage. The reverse logistics process for goods returned from Sweden, for which the ‘national carrier’ Postnord is used. Figure 1 provides an overview of NJ’s returns process. This figure also illustrates that at least 6 people are involved internally in dealing with the returns process.

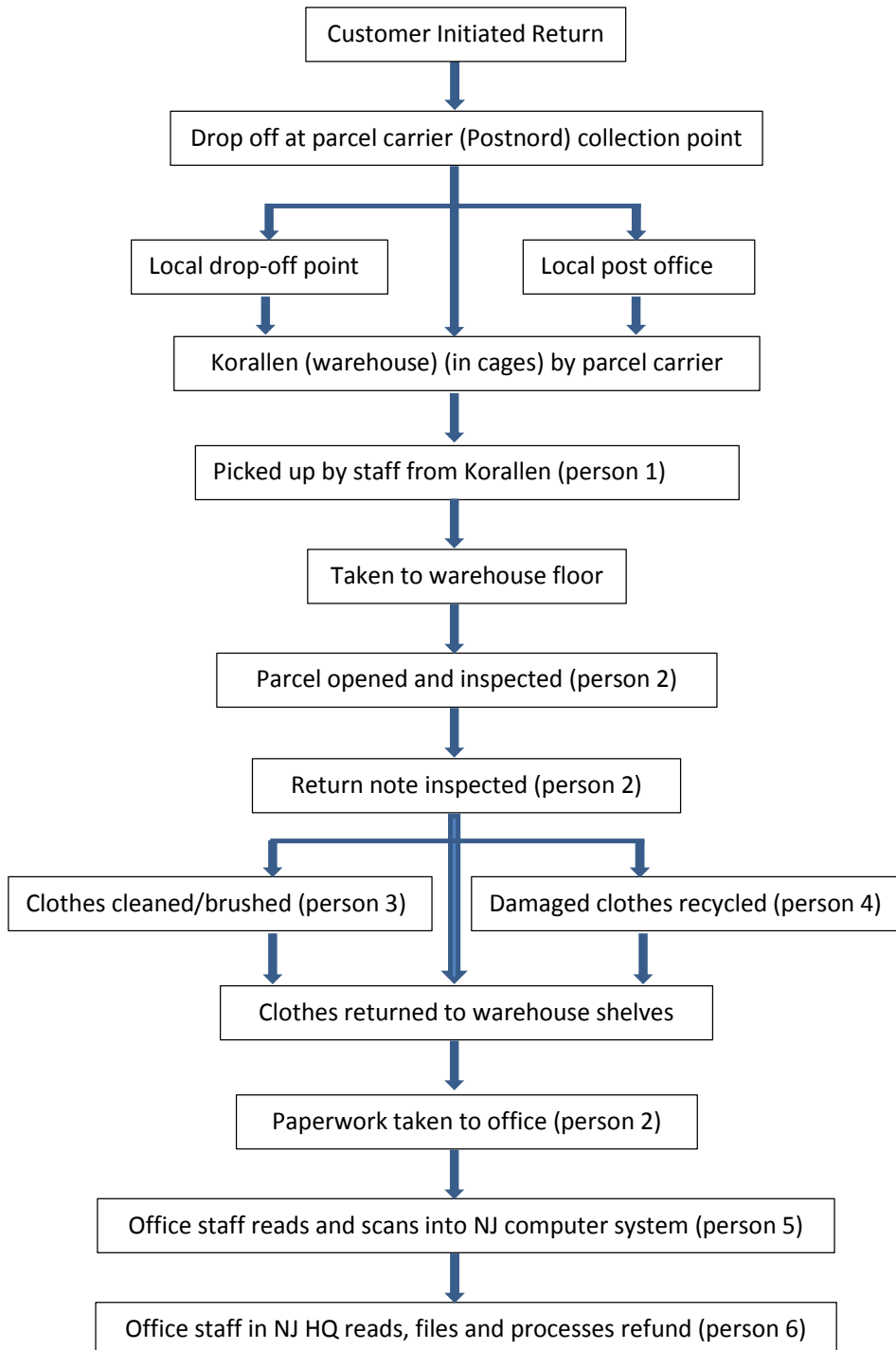


Figure 1: The Reverse Logistics Process of Goods Returned in Sweden

Returns of clothing bought in NJ physical shops must be made to the physical shops. There is no facility to return NJ goods bought online to NJ physical shops. There are two reasons for this. First, there is not sufficient space in the physical shops to accept returns, and second, neither the computer systems nor the financial structure of the company are compatible, so if goods are returned to the physical shop, they are lost from the inventory location system (i.e. there is a stock visibility problem). Similarly there is also no mechanism to return goods bought in the physical shop, online. Thus, although NJ sells on various platforms, it is not a true omni-channel retailer.

Turning to the B2B returns, once the goods have been sold to the third parties, they become the responsibility of those third parties. This includes the returns. So, for example, returns of NJ jeans to Zalando will be made using whatever returns processes have been put in place by Zalando. The only returns NJ receive from the wholesale market is whole boxes, where there has been a problem with the production run, resulting in faults.

All returns, from all countries and all sources are handled in a warehouse approximately 50km from Gothenburg, Sweden by the same company which dispatches the products. This company, Korallen, (which is not completely independent of NJ) also handles returns from other clothing retail companies.

Analysis/discussion

Several authors including Rogers and Tibben-Lembke (1998), Schwartz (2000), Lambert et al. (2011) and Daaboul et al. (2014) suggest that a reverse logistics network includes four essential activities; gatekeeping, collection, sorting and disposal. A fifth issue, mitigation, which deals with company measures to try and reduce the returns rate absolutely, also has considerable implications for sustainability. As it precedes the other activities in the reverse logistics process, it is the first issue to be covered. In the tabular analysis below, each activity will be defined and described theoretically, discussed in terms of the Nudie Jeans operations and finally discussed in terms of sustainability. The table refers only to the B2C e-tailing portion of NJ operations as B2C represents the majority of returns of the company.

Table. 1. Relating Nudie Jean’s reverse logistics processes to theory and sustainability.

Activity	Definition	Relationship to NJ	Sustainability implications
Mitigation	Measures designed to reduce the product return rate.	Charges for returns. Has someone on the end of the phone all the time to deal with customer queries (such as, are these jeans meant to look like this? should they have holes here etc.) This prevents too many returns based on uncertainty of product look. Many repeat customers – so they order the same product as before. Reasons for product returns are analysed (the customer must complete a reason for returns form along with the return). If it is obvious that there are many returns of a certain item for similar reasons, it can re-take the photographs that are used in the marketing.	Relatively low returns rate (15%). Introduction of fixed price return label may increase this, impacting negatively on sustainability.
Gatekeeping	The point of entry into the reverse logistics system. This could be defined in terms of a monetary value	Very little. If a customer notifies NJ of a fault in the jeans, NJ may send out a repair kit if the problem is	Due to the nature of the product, improving sustainability through gatekeeping is not easy.

	or some other criterion. (e.g. only products worth over €5, or only products where the return value exceeds the postage etc. are sent back up the supply chain), This step is critical since it revolves around the decision as to whether or not a product can enter the returns process and is thus important for the manageability and profitability of the reverse flow	small, rather than asking the customer to return the product. If there are major problems, the customer can take a photo of the problem and send it to NJ. NJ may then tell the customer not to return the jeans but will dispatch a replacement, free of charge.	
Collection	According to Lambert et al. (2011) collection involves two stages; the pick-up of the returned product and its transportation. This can be done by the (r)e-tailer, a third-party logistics provider or the customer themselves (for instance, by returning products to stores), depending on several factors including complexity of product, reason for return, and the territories involved, among others.	Customers in countries with UPS contracts must contact UPS for a collection or take the products to a UPS pick-up location. In countries without a UPS contract, customers must send the returns using normal postal services, involving a trip to a postal counter. UPS or other parcel carriers, deliver the returns to Korallen by truck. For Swedish, returns, where Postnord is used, some return parcels are delivered to the local supermarket pick-up point, for some reason not understood by NJ!	Considerable van movements required for pick-up from residences and passenger vehicle movements to take products to pick-up locations (many complex issues involved here). Parcel carrier movements domestically and internationally (again very complex in terms of consolidation issues, vehicle types used, traffic conditions etc.)
Sorting	Involves inspection of each returned item individually.	Employs 2 people full time. Packages are opened, inspected individually, maybe brushed clean and then put back on shelves for re-picking	Considerable warehouse space and resources devoted to sorting process. Other additional resources used.
Disposal	The exit of the reverse logistics system. Sometimes referred to as 'asset value recovery' in contrast to the other stages, can actually generate revenues, and could be viewed as the main goal of this activity (Lambert et al., 2011).	Approximately 10% of returns are not suitable for re-sale immediately. Of this 10%, some are sold in secondary markets or in 1 of their 2 outlet shops. A small proportion is upcycled into camping chair or other 'niche' products'	Tiny proportion sent to land fill. However, resources used in all disposal options.

Main barriers to sustainability.

Based on the descriptions and analysis above, we can summarise that the main barriers to sustainability for Nudie Jeans (and probably many other small companies) include the following:

1. Not being in complete control of the reverse supply chain. They cannot fully dictate how customers return their products. NJ understand that it would be better for the environment if returns were dropped off by foot, or if it has to be by car then as part of a trip chain involving little additional mileage, at a local pick-up point. Customer travel behaviour is beyond the scope of their control.

2. Difficulty in evaluating the parcel carriers in terms of their sustainability. NJ commented that they would love to find a sustainable parcel carrier but are 'stuck' with what exists. They rely on competition between carriers to improve sustainability.
3. Trade-offs in terms of prices charged to customers versus costs of dealing with returns. NJ would like as few returns as possible, but cannot charge too much as otherwise customer loyalty and hence profitability would suffer. The fixed price return label introduces standardisation and control to the process, however it also sometimes drives counter-productive customer behaviour. For instance there was a case from US where a customer bought \$2000 worth of jeans and returned them all using a \$10 return label.
4. Difficulty in controlling the return practices in its B2B channel. NJ could exert significant influence to ensure the sustainability of their own retail outlets and have spent considerable efforts in their sustainability practices. However, when NJ sells to other e-tailers, the returns are sent back to those e-tailers. NJ have no influence in these company's returns policies or reverse logistics processes.
5. Customers in different countries have different returns behaviour (return rates are much higher in Finland and Germany for historic cultural and legal reasons). Local culture and tradition plays a part which NJ cannot hope to influence. Different countries tend to have different regulative policies, tariff and customs clearance procedures for cross border returns – adding further complexities into NJ's sustainability practices.
6. Packaging issues: If a customer orders, say 6 pairs of jeans, they are dispatched in a box. The returns come back in the same box – with maybe only 1 or 2 pairs in it. Often customers use any old packaging they can lay their hands on. Again, whilst NJ put effort into reducing the environmental sustainability of their packaging, consumer behaviour sometimes thwarts this effort.
7. Although 'omni-channel' retailing is a goal in the long run, at present NJ cannot take back goods bought online into stores as the computer systems and financial structure of the company are incompatible and there is not the physical space in store to cope with the returns. This multiple disintegrated sales channels pose significant challenges in stock control and cash flows. Duplication of handling and lack of visibility in the reverse flow of products add administrative burden and operational cost. This lack of economy of scale may have negative consequence on the environment.
8. There is a certain, albeit low, percentage of deliveries that are never picked up by the customers and which are returned. Effort needs to be put in to eliminate this small percentage altogether.

Relevance/contribution

There has been a wealth of studies linking reverse logistics to green supply chains and sustainability (Srivastava, 2007, Hsu et al., 2016, Van Hoek, 1999). However studies in the clothing retail context are very few. This is an important omission given the very high rate of clothing returns. Our study offers empirical evidence on the complexities of reverse logistics in the clothing retail sector, and the main challenges and barriers it imposes upon companies seeking to maximise their environmental and economic performance. Although this study is confined to data and information collected from one company and the findings are not necessarily generalisable, there are clearly many issues discussed that are relevant to companies of any size and to studies relating to sustainability analysis of the wider retail sector.

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