REDUCING THE COST OF SUPERMARKET RETURNS

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INTRODUCTION

Perspective
One of the consequences of customer product returns is that they can increase retail costs and with supermarkets increasing their online and in-store non-food market share, returns are becoming one of the most topical issues in the industry. This paper is relevant to the field of reverse logistics which is becoming a crucial channel within the retail supply chain, involving the integration of information, transportation, warehousing and product handling.

With liberal ‘no quibble returns guarantees’ (e.g. Figure 1), the scale of the problem is set to rise. Typically in Europe the consumer can return any defective product through a store or direct by post (for those purchased online) to the retailer within 14 days and request a replacement or a credit. The product doesn’t have to be defective and so the major consumer areas generating returns is non-food products, particularly electrical products sold in-store and online. The costs of retail returns are becoming more and more important both in terms of the profitability for retailers and the need to manage down the transportation, warehousing and handling costs associated with these large scale returns operations. A fundamental issue therefore is to understand how better to manage returns processes.

Objectives and Link to Industry
This paper looks at how one of the major players in the UK supermarket retail industry could reduce its costs associated with its product returns. Under a Mutual Confidentiality Agreement the supermarket retailer is herein referred to as ‘Company A’. The objectives of this paper are therefore to quantify the processes and the issues associated with the way the returns were managed in order to make the recommendations as to how Company A can improve the returns process and reduce the associated costs.
THE RETURNS PROCESS

Common Configurations
Four basic physical network types for retail organisations to handle returns were identified by the authors of The Efficiency of Reverse Logistics study (DfT, 2004). Different elements of each of these basic forms might be utilised by retailers to obtain a full solution to their returns management issues:

Type A: Integrated outbound and returns network
Utilising backhauling, a company’s own fleet takes returns from retail outlets to the Regional Distribution Centre (RDC). The sortation and potential refurbishment processes are carried out at the RDC. This works well if the frequency of delivery to stores is high, and volume of returns is also high.

Type B: Non-integrated outbound and returns network
A separate network is used for managing returns, typically a third party logistics supplier (3PL) taking returns (on an ‘as and when’ required basis) from stores to a separate location where the reverse logistics activities are undertaken by the retail organisation. This works well if the level of returns varies in volume but is generally low.

Type C: Third party returns management
Total management of returns is outsourced to a third party contractor. The retailer benefits in that no expertise is required to be developed in-house. The 3PL provides the necessary returns management processes, with supporting technologies and refurbishment and disposition programmes.

Type D: Return to suppliers
Goods returned to the suppliers are exchanged for credit. Retailers have little responsibility for returns in this scenario. However, there may be additional costs in terms of vehicle kilometres, as the goods have to return to the supplier before disposition.

Company A Returns Process
Existing Returns Rates
From a non-food perspective “returns” is one of Company A’s largest Key Performance Indicators. Their returns rate for 2009 were at 5% but as the online business increases in scale, Company A stressed that the returns rate will increase and erode profit. From January 2010 to September 2010 the average yield (i.e. the revenue Company A received back from returned items that had been processed) was considered low at 20%.

Supply Chain
Company A utilise the following three physical network types to handle returns:

- Integrated outbound and returns network
- Third party returns management
- Return to suppliers

Therefore Company A adopts a combination of Type’s A, C & D. Essentially Company A’s returns supply chain operated from 14 Regional Distribution Centres (RDC) which is where returns are consolidated having been delivered directly from stores. The Fulfilment Centre, which is the location where all returns are dispatched for processing is located relatively central to the RDCs. This aligns well with literature discussed from Cope (2007), where ideally the product validation (i.e. gate-keeping) should be undertaken in as few places as possible as this drives consistency and lowers costs through a balance between transportation costs and centralised economies of scale.

In-store/Online Returns Processes
In-store returns are stored on roll cages. Only when a roll cage is full will it be loaded onto the back of a salvage vehicle from the supermarket. Returns are then consolidated at the nearest RDC, all of which are run by a third party company herein known as Service Provider ‘A’. The returns are stationed on a stand trailer until full with returns, at which point a backhaul lorry from Company A will transfer the returns to the Fulfilment Centre. Customers wishing to return non-food products purchased online can do so via Royal Mail, a Courier, or through Company A’s ‘Online to In-store’ Product Reservation Service (PRS) enabled stores.
Product Reservation Service (PRS)
PRS is a service where customers are able to pre-order from a wide range of non-food goods over the internet and collect their orders from participating stores. PRS resulted in the largest ‘returns rate’ but it ultimately offered a solution for customers who are not always available at home to receive their online delivery. This has the potential to decrease the fleet’s network mileage as it is a helpful tool in reducing the number of failed home deliveries. This would also reduce the costs that would otherwise have been associated with those deliveries i.e. the costs paid out to the couriers.

Product Gate-keeping and Disposition
The Fulfilment Centre returns operation is also run by a third party herein known as Service Provider ‘B’. They validate the returns whereby they are checked to determine their value and establish whether they need to be returned back to stock, returned to a supplier for full credit, refurbished, recycled or jobbed. ‘Jobbed’ means returns are bought from Company A at discounted rates through auctions and then sold on to intermediaries.

Service Provider ‘C’ is the final third party company who are responsible for product dispersal, i.e. they specifically carry out the refurbishment, recycling and jobbing of returns.

Figure 2 below illustrates company A’s returns process.

Figure 2: Company A In-store and Online returns Process

Key Issues
According to the Daily Telegraph (24/11/2009), non-food sales in UK supermarkets were predicted to increase from £11.6bn in 2009 to £16.2bn by 2014.

One of the consequences of the recent rapid growth of in-store and online non-food product sales is an increased level of returns. iForce (2010) state that returns processing is increasing due to fierce competition in the retail sector which is driving efficiencies and making cost savings an essential. Therefore an efficient returns processing system will improve cash flow and the returns to supplier rates, which will result in cost savings for retailers. ‘Returns to supplier’ refers to the companies that supply the supermarket with for example electrical goods. A full credit is normally given to the supermarket for those products accepted back by the supplier as they are still under warranty.

There can also be severe consequences in terms of the number of vehicle kilometres generated by both customers and Light/Heavy goods vehicles associated with in-store or online returns. Further consequences include the costs associated with returns processing, gate-keeping (i.e. where returns are checked to determine their value and next stage in the returns process) and the reverse logistics associated with the onward movement of returns.
Petersen & Kumar (2010), Rukavina (2007) and Cope (2007) all acknowledge that returns processes are expensive and difficult to manage. The key is therefore to understand how best to manage returns. Cope (2007) who conducted a retail benchmarking exercise in UK retail electronic goods stated that the scale of this problem was likely to result in twice the volume of goods being returned in 2009 compared to 2004. Figure 3 presents the predicted rate of retail returns expressed as returned electrical items.

Figure 3: Predicted Rate of Retail Returns from 2004 - 2009 (Cope, 2007)

This represents a clear challenge and Cope (2007) suggests that retail returns can be managed through initiatives such as:

- controlling the number of returns through validation
- reduced transportation costs through product screening
- increased availability of labour and warehouse space
- disposition of returns to correct destinations
- elimination of warehousing/transportation costs of unusable products
- reduction of transportation costs by consolidating products into volume shipments

In terms of managing the returns process, Rukavina (2007) stated that vendors need to gain a better understanding of the disposition process for returned goods, making it part of the total life cycle of their products and that they need to understand how reverse logistics impacts the supply chain. Bernon & Cullen (2007) argue that by integrating the supply chain, this offers opportunities to reduce the cost of reverse logistics operations while maximising asset recovery values. So looking at the supply chain processes and costs in more detail and understanding what level of yield can be expected from different disposition processes can help to achieve this.

In transportation terms Rukavina (2007) promotes the benefits of an effective returns transportation management system which include a single source control that removes hassle, information visibility, routing to proper destination and reduction of transportation and handling costs through screening of non-program products and freed-up cash flow.

He argues that the benefits of customized warehouse management should include the reduction of unauthorised returns, increased availability of labour and warehouse space, disposition of returns to correct destinations, improved customer satisfaction through reduced credit cycling, elimination of warehousing/transportation costs of unusable products, and reduction of transportation costs by consolidating products into volume shipments.

Finally, by using these methods to improve reverse logistics, Rukavina (2007) argues that companies can expect to reduce reverse logistics costs by at least 10% - 15%, which would result in substantial savings.
METHODOLOGY

Key Questions for Company A to Address
A desktop review and a quantitative assessment were the two methods used to understand how Company A can reduce the costs associated with its product returns and assist in minimising the forthcoming profit erosion expected from an increase in non-food products sold in-store and online. Through meetings and site visits, the reverse processes were established for Company A as part of the desktop review which included gaining information on the following:

- How individual non-food returns were logged when they were intercepted in-store, or at the Fulfilment Centre (i.e. for online returns).
- The logistics paths taken for the returned products from the customer to the Fulfilment Centre.
- How long returned items were stored in-store before being collected for returns processing.
- The types of vehicles used for the transportation of returns.
- The labour and warehouse costs associated with managing returns along the supply chain.
- The costs associated with the transportation of returns between stores, RDCs and the Fulfilment Centre.

Data Sources
A quantitative assessment was then undertaken where Company A’s returns process was audited using real returns data obtained through their 3rd party handling operator databases. This made it possible to quantify the processes and the issues associated with the way the returns are managed from in-store handling, online postage, transportation, warehousing and 3rd party stock control, to gate-keeping and onward dispersal. The data sources obtained included the following:

- Originating store where returns were initially purchased, alternatively ‘online’
- Date of purchase; in-store or online
- Method of return
- Reason for return to assess trends associated with returns
- A log of the returns sent to the Fulfilment centre for processing
- The date each return was booked into the Fulfilment Centre
- Gate-keeping details for each individual return
- The dispersal outcome of each individual return i.e. recycled, refurbished, jobbed etc.
- Original ‘retail price’ of the returns and the subsequent yield achieved following gate-keeping.

The data ultimately assisted in quantifying the processes and the issues associated with the way the returns were managed and ultimately in making recommendations as to how Company A can improve the returns process.

RESULTS & ANALYSIS

Reason for Returns
The audit trail of returns data logged by Service Provider B was assessed. There are 13 periods in the Company A financial year and the audit trail of returns data was assessed from Period 6 (P6) in 2010 which covers 4 weeks of August. In P6 19,629 returns were sent to the Fulfilment Centre. Of these, 90% were found to be associated with in-store returns and 10% online returns. Figures 4 & 5 below indicate that 60% of returns for products sold ‘online’ and over 95% of returns for products sold ‘in-store’ were returned because they were unwanted, the customer gave no reason or there was simply no explanation.
This highlights that there is currently bad practice in stores and they should ensure that staff ask customers why products have been returned.

**Transportation, Warehouse and Labour Costs**

In the returns process, two separate trips are made where Company A vehicles take stock from an RDC to a store and from the Fulfilment Centre to an RDC. Company A simply took advantage of the return journeys associated with these trips to transport returns.

All the in-store associated transport, warehouse and labour costs of returns from the 2009/2010 financial year were subsequently calculated, (Table 1). The cost for use of stand trailers was found to be consistent at about £60 for each RDC, while the labour cost at the RDCs was fairly consistent at around 25 pence per minute. The cost per load for transporting goods from depot to Fulfilment Centre appeared to be related to the distance the vehicle had to transport the goods, with the exception of RDC’s located in and around London which have higher associated generalised costs.

**Table 1: In-store Transport/Warehouse/Labour Costs for Returns in the 2009/2010 Financial Year (all costs in pounds)**

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>Year Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Items Processed</td>
<td>19262</td>
<td>15885</td>
<td>13315</td>
<td>19594</td>
<td>11950</td>
<td>16972</td>
<td>17945</td>
<td>19681</td>
<td>19554</td>
<td>49160</td>
<td>25587</td>
<td>33973</td>
<td>23011</td>
<td>285889</td>
</tr>
<tr>
<td>In-store labour cost/item</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Total In-store labour cost</td>
<td>3852</td>
<td>3177</td>
<td>2663</td>
<td>3919</td>
<td>2390</td>
<td>3394</td>
<td>3589</td>
<td>3936</td>
<td>3911</td>
<td>9832</td>
<td>5117</td>
<td>6795</td>
<td>4602</td>
<td>57178</td>
</tr>
<tr>
<td>Transport costs of Store to RDC</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RDC/Fulfilment Centre Costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Transport (Vehicle, Labour &amp; Trailer)</td>
<td>27113</td>
<td>24239</td>
<td>18297</td>
<td>13417</td>
<td>12980</td>
<td>6468</td>
<td>6957</td>
<td>7126</td>
<td>8717</td>
<td>7149</td>
<td>8437</td>
<td>9051</td>
<td>8331</td>
<td>158282</td>
</tr>
<tr>
<td>Total Warehouse</td>
<td>29124</td>
<td>24930</td>
<td>21870</td>
<td>26344</td>
<td>26550</td>
<td>27106</td>
<td>11106</td>
<td>11845</td>
<td>23700</td>
<td>26352</td>
<td>16607</td>
<td>27529</td>
<td>20212</td>
<td>293274</td>
</tr>
</tbody>
</table>
The calculations imply that the overall cost of the in-store returns process was over £500,000 for the year which is approximately £1.80 per return. The in-store costs were the cheapest part of the process at 20 pence per return, followed by transport & labour costs at over 50 pence per return, and finally the warehouse costs at over £1 per return.

In terms of the costs associated with transporting goods returned online, in the same year, the average cost to Company A per item returned via Royal Mail was £2.16, via a single-person courier for non-bulk items was £2.66 and via a 2-person courier for bulk items was £32.41. So it is apparent that the online transportation costs were much higher than in-store related transportation costs. The online transportation costs also form the most expensive part of the overall returns process. Given that the collection of goods from homes is quite logistically time consuming, especially where bulk items are concerned, the cost to transport online returns is always likely to remain high. Company A iterated that the process and the cost to them for transporting online returns were in fact one of the most competitive, and that this part of the returns process was actually very efficient. As the online business grows this will become more and more of an issue and some solutions to this are considered in the recommendations section of this paper.

The total cost of the in-store and online returns process in ‘P6’ was found to be approximately £47,000. However, the returns that required processing had a combined retail value of over £640,000. Company A said that the average yield from these returns is 20%; therefore Company A would expect to lose over £500,000 from the original retail value of returned items in P6. This gave a strong indication that Company A should either focus on working to avoid customer returns in the first place or focus on the dispersal routes which ultimately determine the level of yield that can be achieved given that Company A stand to lose much more money from lost revenue than they would through the actual returns process costs.

### Gate-keeping

Having analysed the products validated by Service Provider B for P6, Table 2 below shows that the majority of returns were either returned to a supplier for full credit or they were sent to Service Provider C for jobbing or refurbishment.

<table>
<thead>
<tr>
<th>Product Gate-keeping Outcome</th>
<th>Number of Returns</th>
<th>Respective Retail Value</th>
<th>Proportion of Returns from In-store</th>
<th>Proportion of Returns from Online</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undetermined</td>
<td>46</td>
<td>£2,098</td>
<td>83%</td>
<td>17%</td>
</tr>
<tr>
<td>Scrap</td>
<td>186</td>
<td>£7,424</td>
<td>74%</td>
<td>26%</td>
</tr>
<tr>
<td>Return to Smart</td>
<td>1353</td>
<td>£29,854</td>
<td>52%</td>
<td>48%</td>
</tr>
<tr>
<td>Return to Supplier</td>
<td>8237</td>
<td>£518,840</td>
<td>97%</td>
<td>3%</td>
</tr>
<tr>
<td>Jobbed</td>
<td>9807</td>
<td>£602,430</td>
<td>91%</td>
<td>9%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>19629</strong></td>
<td><strong>£1,160,646</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The 50% of returns which were sent to be jobbed represented over £600,000 in retail value so this is where it becomes evident that Company A began to see deterioration of its profits.

Disposition
Following the audit of the database maintained by Service Provider C for P6, it was found that products that required repair (that had a warranty) achieved yields of 74% and those with No Fault Found (which were still upgraded or cleaned by the Service Provider) achieved yields of 64%. Those that required repair (that had no warranty) achieved yields of 59%. This demonstrates the importance of rapid transportation and efficient handing of returns across the supply chain in order to realise higher yields.

Finally, the returns validated for jobbing were sold at auction on pallets. An analysis of these jobbed returns by pallet demonstrated the need for smarter organisation of returns as it became apparent that each pallet contained all manner of returns with products varying in type, size and price. On a random inspected pallet, 49 returns were found to range from electric fans, clipper sets, toys, steamers and vacuums between £5 and £100 but the pallet also contained a £529 Sony Vaio Laptop. In discussion with Company A it was felt that what may be important to those bidding on pallets is that they contain consistent items with a minimal number of categories to suit their requirements, so jobbed returns could be dealt with in a much more efficient manner by introducing some level of pallet categorisation. Some recommendations for this are discussed in the next section.

RECOMMENDATIONS

Reducing Transportation Costs
While the overall cost of the returns process to Company A is relatively minimal in comparison to losses through revenue from returns, it appears that the online transport costs will become more of an issue given the anticipated growth in online shopping. The first recommendation would be to look at ways of reducing the number of returns in the first instance by improving product quality, reliability, handling and information.

Royal Mail were found to be the cheapest method of returning goods purchased online so a recommendation would be to encourage customers to return online purchases using Royal Mail. To avoid the cost of using couriers, Company A could also encourage customers to return online purchases to stores. As the number of PRS enabled stores increases this is believed to become more feasible. While there is the argument that encouraging customers to return goods to stores can result in more private vehicle trips, it may be the case that customers who buy products online already make additional trips to stores for smaller purchases though this has not been researched in detail.

Company A could survey customers to understand what their preference would be in terms of preferred returns methods. Allowing customers to return online purchases to their nearest store regardless of whether it is PRS enabled could be beneficial to save Company A the cost associated with Royal Mail/couriers. A recommendation would therefore be to capture this through a customer survey.

While the growth of online shopping is likely to increase returns rates, Flack (2010) suggests that supermarkets and online retail stores offer huge demand management expertise. Operations such as online shopping and the wide range of products available in-store could be employed more effectively in the management of non-food returns, which in turn would lead to reductions in carbon emissions.

Reducing the Reliance on Jobbing
Westcoast Asset Management (2011) suggest that retailers should seek alternatives to ‘jobbing’ to achieve higher returns yields and the audit of Company A’s returns process supports this view. Company A could take the principle of both an employee discount scheme and the concept of ‘Clearance’ auctions by offering discounts to its employees on returned products with ‘No Fault Found’ or those otherwise specified for ‘jobbing’.

Returns could then flow back through Company A’s existing supply network rather than through onward dispersal routes. Keuhne Nagel who runs a similar scheme for a major high street retailer suggests that this method could result in yields of 60% - 70%. This measure could have the largest
potential in terms of increasing returns yields and removing the logistical costs associated with processing returns for external dispersal.

**Branding, Categorisation and Efficient Transfer**

Company A could introduce a first stage of categorisation at the start of the supply chain by within stores by, for example, separating electrical from non-electrical returns, high value from low value and establishing items that are clearly damaged, faulty and of poor quality. This could assist in making their gate-keeping processes more efficient and will result in a more visible and auditable returns process because Company B essentially have limited information about what can be expected to be received at the Fulfilment Centre and have little time to prepare for forthcoming gate-keeping and dispersal.

The audit indicates that reducing the lag time for transferring returns along the supply chain can improve the subsequent yields because returns that were still under warranty realised the highest yields. A review of the staff processes responsible for co-ordination of returns at each store could assist in reducing the lag time with a view to ensuring that the in-store roll cages take every opportunity to head up to their dedicated RDC, rather than waiting for a roll cage to be full with returns before dispatch. Given that there are literally 100’s of electrical, non-electrical, high and low value products sent to the Fulfilment Centre on a daily basis, homogenisation of pallets is not considered to materially impact on the lag time for transferring returns.

Company B could then undertake secondary level grading and categorisation of pallets at the Fulfilment Centre by separating ‘standard branded’ and ‘Company A branded’ returns as Company A branded goods sold in the EU need to be de-branded which has financial consequences. The further separation of pallets by for example type, size and price is likely to be appropriate in the longer term given the anticipated growth in online shopping. Nonetheless, the data does indicate that there are many product areas, particularly electrical goods such as TV’s and laptops with existing high levels of returns which could currently warrant their own separation by pallet without the danger of affecting returns processing lag times.

**Increased Competition**

Company A may achieve higher yields by increasing the competition and having more than one 3rd party undertaking the refurbishment and jobbing of returns which is currently undertaken by one service provider. The same recommendation could be applied to the 3rd party supplier that consolidates the electrical returns at the RDCs. Even re-tendering the contract every couple of years could assist in driving down third party costs.

**3rd Party Handling Review**

It is recommended that the 3rd party handling practices are reviewed by comparing in detail those returns that were refurbished versus those that were jobbed as the audit revealed that hundreds of items appeared to have been incorrectly validated.

**CONCLUSION**

The audit demonstrates that reducing the number of returns in the first instance is a key factor in avoiding all of the associated transportation, warehouse and labour costs. While the analysis implies that the data captured about the reason for the return needs to be improved, Cope (2007) indicates that it can be difficult to draw hard conclusions from technical appraisals of customer’s stated problems.

The desktop review and data analysis suggests that the current operation for transporting returns to the Fulfilment Centre is relatively efficient. However better monitoring of returns at the Fulfilment Centre may be necessary in order to identify the extent to which product quality, reliability and handling needs to be improved.

Cope (2007) supports the central validation of returns which will drive consistency and lower costs, however, identifying how Company A can maximise the value of returned products through the various dispersal channels appears to be crucial and will ultimately lead to increased returns yields, and thus profitability.
APPLICATION

This paper shows that the challenge is to process returns at a proficiency level that allows quick, efficient and cost-effective collection and return of merchandise. Not only is it important to shorten the link from return origination to the time of resell but it is fundamental to improve and find alternatives to the existing dispersal processes to mitigate losses in the returns retail value. While the recommendations are unique to the case study supermarket, they are applicable to a broad retail issue.

Company A expressed that returned goods can eventually make their way onto many different sales channels within the UK, Europe and worldwide so the logistical operation of retail returns can be substantial on an international level. Quantifying the cost of the onward movement of returns not just by way of transportation, handling and warehousing costs but in terms of the carbon impacts of the vehicle types involved is an area that is recommended to be built on in the near future.

REFERENCES

- Flack, S., (2010) If you go down to the shops today you'll discover ways to tweak travel behaviour, Local Transport Today, Issue 551, 6th August 2010