PRODUCT RETURNS MANAGEMENT IN THE CLOTHING INDUSTRY IN POLAND

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ABSTRACT. Background: The aim of this study is to identify and define on the basis of the literature the principal external and organizational factors and check to what extent they affect the efficiency of returns management as well as any resultant savings. The author proposes a conceptual model which correlates the results of returns management as well as savings with the main determinants identified on the basis of the literature. Then, in the operationalisation phase of the model, the dependent and independent variables were defined in the form of constructs. In accordance with the adopted model, individual constructs were measured based on standardised interviews.

Materials and methods: The results of returns management and any savings generated by this process are affected by certain determinants which are described in the literature. The adopted model included external factors, such as the cooperation of retailers with logistics operators and suppliers, the exchange of information in the supply chain, and organizational behaviour (experience of employees); as well as organizational factors related to the flow of information and IT systems. Due to financial and organisational restrictions, the originally planned representative sample of retail chains was limited to the regions of Wielkopolska and Lubuskie. In the end, 105 interviews were analysed.

Results: The results obtained in the research sample confirm assumptions about the possible potential savings that can be achieved as a result of appropriately conducted corporate policies in the area of reverse logistics. A correlation was also revealed between the experience and competencies of staff and the efficiency of returns management.

Conclusions: Research into the factors affecting the efficiency of returns management and any savings resulting from returns management policies have not been conducted in Poland to date. The present study contributes to the growing trend of research into reverse logistics, and emphasises in this respect the role of retailers as well as cooperation in the supply chain, the experience and competencies of employees and the importance of computerization of the process as well as the impact of those factors on the efficiency of returns management and any potential savings.

Key words: logistics management, supply chains, returns handlings, retailers, reverse logistics.

INTRODUCTION

Studies relating to the factors which affect the results of returns management and the savings resulting from a returns management policy have not been conducted in Poland so far (This article is part of a project of National Science Center 4228/B/H03/2011/40). This study contributes to the growing trend of research into reverse logistics, and emphasises in this respect the role of retailers as well as cooperation in the supply chain (An earlier version of this paper was submitted at the "International Conference on Management, Leadership and Governance - ICMLG 2014" Wellesley, Massachussets USA, 20-21 March 2014).

From the point of view of competitiveness of enterprise, undertaking actions in field of reverse logistics is important for several reasons: profit margins are shrinking; sales managers are increasingly more sensitive to the costs of maintaining inventory (including unsold goods); and opportunity costs appear, as do the possibilities of recovering the value...
of returned products [Daugherty, Richey, Genchev and Chen, 2005].

In economic and management sciences, which focus on the study of enterprises, it is common practice to formulate models, the purpose of which is to lead to a better understanding of the socio-economic reality [Dyduch, 2008]. Management theorists attempt to capture the relationships between the influence of certain factors on selected indicators which reflect the performance of business operations or, in a narrower sense, a specific area of business operations. In practice, this involves searching for relationships between predefined explanatory variables and a dependent variable or variables; these relationships take the form of hypotheses.

RESEARCH ENVIRONMENT AND HYPOTHESIS DEVELOPMENT

The aim of this study is to define, on the basis of the literature, the principal external and organisational factors; as well as checking which of them affect the results of returns management and the savings which may be obtained in this respect. The study consists of four stages:

1. Proposing a conceptual model which correlates the results of returns management and any savings obtained with the principal determinants identified on the basis of the literature;
2. Operationalizing the model - defining the explanatory variables and the response variables in the form of constructs;
3. Measuring the individual constructs according to the adopted model on the basis of standardised interviews;
4. Results and discussion.

The results of a returns management process and any savings in this area are influenced by certain determinants which have been described in the literature. The adopted model includes external factors (cooperation between a retailer and both a logistics operator and a supplier, as well as information exchange in the supply chain), organisational behaviour (the experience of employees) and organisational factors (flow of information in IT systems).

These factors are not directly observable. They have been described by means of 6 constructs, each of which consists of components included in the questionnaire. Selected measurement tools were used in this study, which were applied and published in reputable logistics journals. The tools were found to be credible and reliable. Each of the analysed dimensions (contracts) was converted into the form of statements which denoted the occurrence of each individual dimension and to which the respondents reacted. Below is a list of the constructs in an operationalized form, i.e. in the form of questionnaire questions.

Explanatory variables:
- exchange of information in the supply chain,
- collaboration with suppliers and logistics operators,
- degree of computerisation of the product returns process and the IT used by a corporation,
- experience of employees.

Response variables:
- results of product returns management,
- savings.

RESULTS OF PRODUCT RETURNS MANAGEMENT

Company policies in respect of reverse logistics are often treated superficially by managers. Over the years, management practice and studies conducted in this field made it possible to identify the most important expectations of company management as well as the ways of measuring performance in this area. Corporate policies and practice can take the form of reverse logistics handling programmes [Daugherty, Autry, & Ellinger, 2001]. Constructing a tool for measuring the extent to which the targets of returns handling have been met makes it possible to assess the efficiency and effectiveness of actions undertaken in this field. The results of returns management include factors related to customer services, but also cost factors related to value recovery, profitability and inventory.
A tool constructed in this way captures the essence of both management and the implementation of a returns policy [Autry, 2005].

SAVINGS

As an economic category savings are usually considered in the context of household budgets, as cash or money deposited in a bank account as an investment. In this analysis savings are treated as a tendency to reduce waste in logistics as well as a chance to lower costs and reduce unnecessary spending. A measure of savings understood in this way consists of statements referring to employees’ perception of savings in respect of reverse logistics [Jack, Powers, Skinner, 2010, Skinner, Bryant, Richey, 2008].

COOPERATION IN THE SUPPLY CHAIN

The first group of hypotheses is related to the assumption that closer cooperation in the supply chain (specified in the study as the relationship between a retailer and a supplier) is positively correlated with the results of returns management and any resultant savings.

In the study two dimensions of cooperation in the supply chain were adopted: exchanging information plus cooperating with suppliers and operators. Such an approach, even though the notions partially overlap as information exchange is a manifestation of close cooperation, is treated as a separate construct which relates mainly to information regarding inventory. This is due to the assumption that exchanging information about the level of products is less expensive than physically transferring them.

Cooperation with suppliers and operators is based on exchanging information. In the literature it is accepted that there is a correlation between information exchange and an increase in a company's economic performance [Daugherty et al., 2005]. Typically, cooperation in respect of information exchange is connected with such issues as production planning, inventory and pricing levels, sales data and delivery information [Sandberg, 2007; after: Olorunnivo, Li, 2010]. Information exchange in these areas usually results in a greater transparency of operations in the supply chain, cost reductions, better inventory results and increased sales (Olorunniwo and Li, 2010). Cooperation on an operational level is the most commonly described form of partnership [Whipple, Russell, 2007; after: Olorunnivo, Li, 2010].

The cooperation of retailers with suppliers and logistics operators has been presented in the form of such attributes as well-defined objectives, scope of cooperation and the responsibilities involved, common arrangements in respect of planning and forecasting, long-term contracts, commonly agreed performance indicators, as well as sharing risks and benefits with partners.

Information exchange in the supply chain (in this study specified as the relationship of a retailer with a supplier and logistics operator)

H1 Information exchange is positively correlated with
H1A the results of the returns management process and
H1B the resultant savings

H2 Cooperation with suppliers and logistics operators is positively correlated with
H2A the results of the returns management process and
H2B savings.

THE DEGREE OF COMPUTERISATION IN HANDLING RETURNS AND THE USE OF INFORMATION TECHNOLOGY

Today, information technology is indispensable for enterprises and their partners in the supply chain. New technologies improve the performance of enterprises on every level [Bharadwaj, 2000]. Companies use different systems, data formats and software, and share
data with business partners can be very beneficial [Olorunniwo, Li, 2010].

An information system (IS) can be described in respect of the following categories:

– Capability, measured by means of accuracy and availability of information;
– Compatibility, referring to user-friendliness and technologies which enable automation, bar codes, EDI and RFID [Daugherty, Myers, Richey, 2002].

Empirical studies confirmed that the use of IT in logistics is crucial to the performance of logistics management [Closs, Savitskie, 2003 after: Olorunnivo, Le 2010]. It has been assumed that the results of returns management and any potential savings are related to the degree of computerisation of returns handling; and that potential savings are related to the degree of computerisation of returns handling and using IT solutions by an organisation.

On this basis the following hypothesis have been formulated:

H3 Using information systems in returns handling is positively correlated with
H3A the results of returns management and
H3B the resultant savings

EMPLOYEES AND IMPROVING THEIR COMPETENCES

People, with their skills, knowledge and experience, are a fundamental resource of enterprises. In the adopted model it is assumed that in terms of the results of returns management an important role is played by such elements as managerial skills; including organisation and control, team collaboration, as well as the continuous professional development of employees. Such an approach was proposed by [Ho, 2012]. Thus, another relationship has been included in the analysis:

H4 Employees’ experience in handling returns is positively correlated with
H4A the results of returns management and
H4B the resultant savings

METHODS AND RESEARCH

SAMPLE

The study involved retail corporations in the clothing industry. In clothing chains the leaders are manufacturers or distributors. A brand in the clothing market is a value which is often worth hundreds of thousands of dollars. Equally important is efficient logistics. In a clothing chain, goods are transferred from a central warehouse to the shops, as well as between shops. Depending on the customer segment and target group, enterprises in the clothing industry form networks either at the retail or wholesale level. Thus, two categories of chains can be distinguished:

– In the first category the leader is the company responsible for designing and manufacturing clothes as well as selling them under various brands which form a network with suppliers. These are usually highly integrated enterprises, connected by a shared strategy, capital and other resources, including manufacturing and logistics facilities.
– The second model is based on a design and retail company, which manages a domestic or international brand and organises a network of companies under a franchise agreement or a chain of stores of its own. In the clothing sector there are international enterprises which transfer the sales of the entire group to a country and create subsidiaries which are responsible for the distribution in a given market, for example through a sales office. Franchise chains in the clothing industry are usually not closely integrated.

This study analyses shops - retail outlets which belong to a retail chain (ownership status was not taken into account). There are several reasons behind the choice of clothing chains (franchises or affiliated retail outlets) for the analysis. In such chains it is extremely important to adjust the stocks of seasonal products between warehouses and shops, including unsold goods which a retailer (distributor) has the right to return due to seasonal changes (spring/summer, autumn/winter).

In retail chains there are sometimes deliveries which do not comply with orders,
the shelf stock may be too large, sales forecasts may turn out to be too optimistic, or an unprofitable outlet in a certain location is closed down, which means that any unsold goods have to be transferred to other shops.

A questionnaire was designed based on the literature and interviews with the personnel of retail chains. After conducting a pilot study (12 questionnaires), the aim of which was to eliminate any ambiguities so that the respondents would not have any doubts as to the meaning of the questions, the research proper began. Due to financial and organisational constraints, the research sample was restricted to stores from the Wielkopolska and Lubuskie region. Data were collected by students of Domestic and International Logistics at Poznań University of Economics. Finally 105 interviews have been included in the analysis (See also exploratory research: Jeszka A.M., 2014, Returns management in the supply chain. LogForum 10 (3), 295-304).

Quantitative research was conducted on a sample of retail chains operating in the clothing industry in Poland based on a retailers directory. For financial reasons the geographical scope of the study was restricted to the regions of Wielkopolska and Lubuskie. The study focused on shopping centres as this is where retail chains most frequently are located. The sample included large shopping centres in Poznań, Gorzów Wielkopolski and Zielona Góra. The study took into account the number of retail points in relation to the number of inhabitants, where the ratio was 7:1. From a statistical point of view, random sampling was used. This made it possible to determine the characteristics of the subject of research, which was specified as a study of the whole class of entities described, i.e. clothing retail chains operating in Poland (The entire research report [Jeszka, 2014]). This is an example of using triangulation and mixed methods in social research. The findings of this research refer to the research sample and as such are a case study as understood by [Miles, Huberman, 1994].

Taking into account the objectives of the study, standardised interviews were conducted with senior management staff representing the analysed retail chains. The research tool was an interview questionnaire. The study was conducted in March and April 2013. The study carried out on a sample of store managers of retail chains revealed diversified opinions among the managerial staff on various aspects of returns management.

In the study some hypotheses were tested which can be divided into two groups: the first two hypotheses are related to cooperation in the supply chain and concern its relationship with the results of returns management and savings. The next two hypotheses are related to the computerisation of returns handling, the IT tools used by a company as well as the experience of management and employees in the area of handling product returns, and concern the influence of these variables on performance and savings.

Figure 1 presents the conceptual model.

Cooperation in the supply chain is a concept that has been discussed for a number of years. The best known and most widely used projects such as ECR, CPFR and VMI are mainly used in the FMCG sector. So far, the issue of cooperation between suppliers, logistics operators and retailers in the clothing sector has not attracted a great deal of interest.

A frequently used measure of a reliability of a construct is Cronbach's alpha, which determines the consistency of the items included in a given scale. In other words, it determines to what extent the items included in a given factor are similar to one another, and whether they relate to the same phenomenon - the same theoretical construct. The value of the alpha coefficient above 0.7 indicates that the scale is correct and confirms a correct construction of an indicator. The measure of the reliability of a Cronbach's alpha scale based on the correlation values between items should be higher than 0.6. Otherwise the predictions of the variables are weak and they cannot be fully trusted.
Fig. 1. A graphic representation of the conceptual model
Rys. 1. Graficzne przedstawienie koncepcji

Table 1. Exchange of information
Tabela 1. Wymiana informacji

<table>
<thead>
<tr>
<th>Statements</th>
<th>Median</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Accuracy of the information we exchange</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>2. Access to the database</td>
<td>3</td>
<td>2.7</td>
</tr>
<tr>
<td>3. Use of inventory data available on the Internet</td>
<td>3</td>
<td>2.8</td>
</tr>
<tr>
<td>4. Access to information from the warehouse</td>
<td>3</td>
<td>2.8</td>
</tr>
<tr>
<td>5. Trust between partners</td>
<td>3</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Table 2. Cooperation with suppliers and logistics operators
Tabela 2. Współpraca z dostawcami i operatorami logistycznymi

<table>
<thead>
<tr>
<th>Statements</th>
<th>Median</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Long-term contracts</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>2. Well-defined goals, scope and responsibilities within cooperation</td>
<td>3</td>
<td>3.1</td>
</tr>
<tr>
<td>3. Common arrangements for planning and forecasting</td>
<td>3</td>
<td>2.9</td>
</tr>
<tr>
<td>4. Commonly agreed performance indicators</td>
<td>3</td>
<td>2.8</td>
</tr>
<tr>
<td>5. Sharing risks and benefits with partners</td>
<td>3</td>
<td>2.6</td>
</tr>
</tbody>
</table>
Table 3. Degree of computerisation of returns handling

<table>
<thead>
<tr>
<th>Statements</th>
<th>Median</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Passing information to all units of the company</td>
<td>4</td>
<td>3.7</td>
</tr>
<tr>
<td>2. Prompt handling of return procedures</td>
<td>4</td>
<td>3.8</td>
</tr>
<tr>
<td>3. Effective planning of returns</td>
<td>4</td>
<td>3.6</td>
</tr>
<tr>
<td>4. Effective handling of return operations on a daily basis</td>
<td>4</td>
<td>3.7</td>
</tr>
<tr>
<td>5. The system is integrated with suppliers and customers</td>
<td>4</td>
<td>3.5</td>
</tr>
<tr>
<td>6. Monitoring what happens to returned products</td>
<td>4</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Table 4. Employees’ experience and competences

<table>
<thead>
<tr>
<th>Statements</th>
<th>Median</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Experienced and competent staff</td>
<td>4</td>
<td>4.4</td>
</tr>
<tr>
<td>2. Competent management</td>
<td>5</td>
<td>4.5</td>
</tr>
<tr>
<td>3. Skilled advisers and trainers</td>
<td>4</td>
<td>3.9</td>
</tr>
<tr>
<td>4. Support from senior management</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>5. Cooperation in a team</td>
<td>5</td>
<td>4.5</td>
</tr>
<tr>
<td>6. Sufficient number of staff</td>
<td>4</td>
<td>4.0</td>
</tr>
</tbody>
</table>

Table 5. Savings

<table>
<thead>
<tr>
<th>Statements</th>
<th>Median</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. We save a lot because of our returns operations</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>2. Our returns policy improves our cost position relative to competitors</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>3. Our reverse logistics programme results in considerable savings</td>
<td>3</td>
<td>3.2</td>
</tr>
<tr>
<td>4. Our returns methods incur lower costs relating to compliance with environmental regulations</td>
<td>3</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Table 6. Results of product returns management

<table>
<thead>
<tr>
<th>Statements</th>
<th>Median</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improved customer relations</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>2. Reduced costs</td>
<td>3</td>
<td>3.4</td>
</tr>
<tr>
<td>3. Value recovery</td>
<td>3</td>
<td>3.4</td>
</tr>
<tr>
<td>4. Reduced inventory</td>
<td>3</td>
<td>3.3</td>
</tr>
<tr>
<td>5. Increased profitability</td>
<td>3</td>
<td>3.3</td>
</tr>
</tbody>
</table>

The above data in tables 1-5 refer to savings which can be achieved by undertaking active measures in the area of reverse logistics. Savings are usually talked about in the context of money deposited in bank savings accounts. In this case they are used as a measuring tool which consists of the four statements listed in the table 6.
**RESEARCH FINDINGS**

Based on a correlation analysis at the level $p<0.05$ the following significant correlations can be observed: those between cooperation with suppliers and logistics operators and savings (correlation coefficient $R=0.2$); between computerisation of returns handling and savings ($R=0.3$); as well as between the experience and competences of employees and savings ($R=0.6$). Staff experience and competences are also correlated with the results of returns management at the level of $R=0.19$. Thus, hypotheses H2B, H3B, H4A and H4B have been confirmed; whereas hypotheses H1A and H1B as well as H2A and H3A have been rejected.

![Fig. 2. Empirical model](http://www.logforum.net/vol10/issue4/no7)

Based on the findings obtained in the analysed sample, the predictions relating to potential savings which could be achieved by retail enterprises through implementing appropriate reverse logistics policies have been corroborated. An important role in this respect is played by the experience and competences of staff in terms of reverse logistics as well as the extent to which the process of handling returned products is computerised. There is also a correlation between potential savings and the cooperation of a retailer with suppliers and logistics operators. These findings show that automating the process of product returns does not result in better customer relations, cost reductions, value recovery, reduced inventory or improved profitability. It is quite striking that no correlation was discovered between the computerisation of the returns process, the flow of information or the cooperation of partners in the supply chain and the results of product returns management. Reverse logistics continues to be perceived by practitioners as something not worthy of attention. The process of handling product returns is usually neither monitored nor subjected to analyses which, as the findings show, are only made possible by adequate computerisation and exchanging information with suppliers and logistics operators. Often
suppliers manifest their opportunism by disposing of goods through selling the largest possible volume of merchandise to retailers and leaving to them all the issues related to dealing with surplus goods or price reduction policies. This process is controllable and measurable but there is no will to cooperate or to share benefits.

LIMITATIONS

Most empirical studies refer to a segment of the market or a particular group of companies. So it was in this case. The sample was narrowed down to clothing retail chains in two provinces in Poland.

Methodologically, the study was based on a questionnaire survey and the analysis is strongly based on the perceptions of the respondents. This was due to two factors: the complexity and the amount of data collected, and in particular the confidentiality of data that we guaranteed in the course of the study. The research study outcomes are used as measures of perceived performance results. Hard data in the form of financial results could reveal other relationships and connections. Future studies ought to take this into account.

This study focused on describing a state of affairs and making a diagnosis but it did not take into account changes over time. Future research ought to conduct an analysis over a period of time and include different industries.

REFERENCES


ZARZĄDZANIE ZWROTAMI W BRANŻY ODZIEŻOWEJ W POLSCE

STRESZCZENIE. Wstęp: Celem niniejszego studium było zdefiniowanie na podstawie literatury głównych czynników (zewnętrznych i organizacyjnych) i sprawdzenie, które z nich wpływają na efektywność zarządzania procesem zwrotów produktów oraz oszczędności, które z tego tytułu można uzyskać. Zaproponowano model koncepcyjny, który wiąże korelacyjnie wyniki zarządzania procesem zwrotów produktów oraz oszczędności z wyłonionymi na podstawie literatury głównymi determinantami. Następnie w fazie operacyjalizacji modelu – zdefiniowano zmiene objaśniające i zmiennych objaśniane w postaci konstruktów. Dokonano pomiaru poszczególnych konstruktów zgodnie z przyjętym modelem na podstawie wywiadów standaryzowanych.

Material i metody: Teoretycy zarządzania podejmują próby uchwycenia zależności pomiędzy wpływem określonych czynników na wybrane wskaźniki odzwierciedlające miary efektywności prowadzonej działalności lub w węższym ujęciu – określonego obszaru teże działalności. Na wyniki zarządzania procesem zwrotów produktów i oszczędności w tym zakresie wpływ mają określone i opisane w literaturze determinanty, w modelu ujęto: zewnętrzne czynniki tj. współpraca detaliisty z operatorem logistycznym i dostawcą oraz wymiana informacji w łańcuchu dostaw, zachowania organizacyjne (doświadczenie pracowników), oraz czynniki organizacyjne tzn. związane z przepływem informacji system IT. Planowaną reprezentatywną próbę sieci handlowych ze względów finansowych oraz organizacyjnych ograniczono do województwa Wielkopolskiego i Lubuskiego. Ostatecznie analizie poddano 105 wywiadów.

 Wyniki: Studia w zakresie czynników mających wpływ na efektywność zarządzania procesem zwrotów produktów i oszczędności wynikających z polityki zarządzania zwrotami nie były dotąd przeprowadzane w Polsce. Przeprowadzone studium wnosi wkład w rozwijającą się nurt badań nad logistyką zwrotów i podkreśla rolę detaliistów oraz współpracy w łańcuchu dostaw w tym zakresie. Na podstawie wyników w badanej próbie potwierdziły się przypuszczenia na temat możliwych potencjalnych oszczędności uzyskiwanych dzięki odpowiednio prowadzonej przez korporacje handlowe polityce w zakresie logistyki zwrotów. Występuje także zależność między współpracą detaliisty z operatorami logistycznymi i dostawcą a możliwością uzyskania oszczędności.

Słowa kluczowe: zarządzanie logistyczne, łańcuch dostaw, obsługa zwrotów, detaliści, logistyka zwrotna

RETOUREN-MANAGEMENT IN DER BEKLEIDUNGSINDUSTRIE IN POLEN


Codewörter: Logistik-Management, Lieferkette, Bedienung von Retouren, Einzelhändler, Retouren-Logistik

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