IMPORTANȚA LOGISTICII INVERSE PENTRU ACTIVITATEA DE COMERȚ
(The importance of reverse logistics for retail activity)

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Rezumat
Logistica inversă (LI) se referă la un set de programe sau competențe deținute pentru mișcarea produselor în direcție inversă în lanțul de distribuție (ex. de la consumator la producător). Aceasta cuprinde mai mult decât simplu reutilizare a containerelor și a ambalajelor. Reprezintă procesul de mutare a produsului din punctul de consum către un alt punct, cu scopul de a recupera valoarea rămasă sau, eventual, pentru dispunerea corespunzătoare a produsului.

Stadiul dezvoltării LI este asemănător cu acela al logisticii de acum 10-20 de ani. Scopul LI s-a extins de atunci de acțiune de la managementul anumitor servicii, pentru a include diferite preocupări, și a atras în mod semnificativ atenția majorității companiilor.

Procesul logisticii inverse poate genera periodic fluxuri negative de numerar care sunt dificil de previzionat și de contabilizat, dar sunt importante în managementul lichidității comerțului. Incertitudinile referitoare la logistica inversă creează situația în care comerciantul poate întâmpina dificultăți în respectarea obligațiilor financiare pe termen scurt sau în valorificarea oportunităților.

Cuvinte cheie: •logistică inversă, •comerț cu amânuntul, •recuperarea produsului, •design de rețea, •liciditate
Clasificare JEL: D30, L80, Q27, Q56

Abstract
Reverse logistics (RL) refers to a set of programs or competencies aimed at moving products in the reverse direction in the supply chain (i.e., from consumer to producer). It entails more than the mere re-use of containers and the recycling of packaging materials. It is the process of moving a product from the point of consumption to another point for the purpose of recapturing the remaining value, or for the eventual proper disposal of the product.

The state of development of RL is analogous to that of inbound logistics between 10 and 20 years ago. The scope of RL has, since, expanded from service parts management to include other areas and has attracted significant attention of a great majority of companies.

The reverse logistics process can generate periodic negative cash flows that are difficult to predict and account for, but are important when managing retailer liquidity. Uncertainties surrounding reverse logistics create the possibility that the retailer may be strained in meeting short-run financial obligations or opportunities.

Key words: •reverse logistics, •retail activity, •product recovery, •network design, •liquidity
JEL Classification: D30, L80, Q27, Q56
Introduction

Reverse logistics (RL) is becoming an important aspect of supply chain management. Many companies that, previously, did not devote much time or energy to the management and understanding of reverse logistics have begun to pay attention. Firms have begun to benchmark return operations with best-in-class operators. Third parties specializing in returns have seen demand for their services greatly increased.[1] Leading-edge companies are recognizing the strategic value of a RL system for the return of stale or obsolete goods. Those firms can maintain goods on the retail shelf fresh and in demand.

Product life cycles are shortening and this is evident in the computer industry. New designs are brought on in the market at an ever-quickening pace to persuade consumers to increase the frequency of their purchases. While consumers have benefited from greater variety and enhanced performance, this trend inevitably results in increased unsold products, increased returns, increased packaging materials and increased waste. Therefore, shorter product life cycles have increased the volume of product returns and waste entering the reverse logistics network and the cost of maintaining them.

New channels are also being developed to provide consumers with easier and quicker ways to purchase products. Direct channels (i.e. e-commerce) increase the likelihood of returned products, as items are damaged in transit or are simply different from the customers’ expectations.

Introducere


Ciclurile de viață ale produselor se scurtează, acest lucru fiind evident în industria calculatoarelor, de exemplu. Apar pe piață modele noi la intervale rapide de timp, pentru a-i convinge pe consumatori să sporească frecvența cumpărăturilor. În vreme ce consumatorii au beneficiat de o mare varietate a oferitei și o performanță crescută, această tendință se reflectă inevitabil în sporirea produselor nevândute, creșterea numărului retururilor, a ambalajelor utilizate și a deșeurilor. Pe de altă parte, ciclurile de viață scurte ale produselor au crescut volumul bunurilor returnate și al deșeurilor intrate în rețeaua de LI, precum și costul păstrării lor.

Au fost dezvoltate noi canale de distribuție pentru a asigura consumatorilor modalități mai ușoare și rapide de achiziționare a produselor. Canalele directe (de exemplu comerțul electronic), intensifică returnarea produselor, pe măsură ce articolele sunt deteriorate în tranzit sau pur și simplu sunt diferite față de așteptările clienților.
In Asia, Dell and Gateway are selling their personal computers online and are expecting 10% - 15% of products to be returned directly to them or via third-party logistics providers. As direct channels find customers not simply locally but globally, managing returns will become increasingly complicated and expensive. Thus, direct channels will add pressure on the reverse logistics network.

Increased competition and a larger base of suppliers have implied that buyers have more power in the supply chain. A survey conducted on the logistics service providers in Singapore confirmed the voice of the consumer to be the most important driver of logistics management (Sum and Teo, 1999). Offering more logistics services is considered crucial, as an increasing number of logistics companies in Singapore transform themselves into third-party logistics providers (3PLs). 3PLs are expected to provide complete solutions for collection, transportation and other value-added services (i.e. repair, remanufacturing). In fact, manufacturers are increasingly producing goods based on customer demands and requirements so as not to flood the channel with unwanted inventory (Tan, 1999).

RL can also be used to clean out customers obsolete or slow moving inventories, so that these customers can purchase more or newer goods. Caterpillar Asia and other industrial equipment companies, for example, adopt fairly liberal return policies that allow them to collect obsolete spare parts and components back from their appointed dealers, they then remanufacture these mechanical spare parts to reclaim any remaining value.
1. Network design for reverse logistics

Growing green concerns and advancement of RL concepts and practices make it all the more relevant. Three drivers (economic, regulatory and consumer pressure) drive product returns worldwide. This has also gained momentum because of fierce global competitiveness, heightened customer expectations, pressures on profitability and superior supply chain performance. Consumers expect to trade in an old product when they buy a new one. Different products may be returned at different stages of their life cycles. They may go for remanufacturing, repair, reconfiguration, and recycling as per the most appropriate disposition decision. This creates profitable research and business opportunities. [3] Consequently, original equipment manufacturers (OEMs) are expected to undertake RL activities in an effective and efficient manner. They may do so independently or by outsourcing. Estimation of returns is a pre-requisite for establishment of a RL network and hence becomes very crucial in this context.

RL issues are mainly regulatory-driven in Europe, profit-driven in North America and in incipient stage in other parts of the world, including India, where both consumer awareness and globalization are likely to lead to greater economic, consumer and regulatory pressures in the coming future. Society in general is still price sensitive and to a little extent quality sensitive (quality for a given price) but not environment sensitive in its buying and promotion behavior. Lack of incentives/disincentives from regulatory authorities and lack of pressure from prospective customers and consumers on the manufacturers/service providers is inhibiting these initiatives.
De aceea, LI nu a primit atenția dorită, fiind în general însușită de sectoare neorganizate pentru materiale reciclabile, cum ar fi hârtia și aluminiul.

Recent, anumite companii din sectorul produselor de folosință îndelungată și al automobilelor au introdus oferte de schimb pentru a atrage clienții care dețin astfel de produse. În prezent aceste produse returnate sunt revândute direct sau după reparații și recondiționări de către firme în franciză/producători locali pe piața secundară. Aceste produse nu sunt remanufacturate sau recondiționate de către PEO.

Therefore, RL has not received the desired attention and is generally carried out by the unorganized sector for some recyclable materials such as paper and aluminum.

Only recently, some companies in consumer durables’ and automobile sectors have introduced exchange offers to tap customers who already own such products. Presently, these returns are either resold directly or after repair and refurbishment by firm franchisee/local remanufacturers in the seconds’ market. They are not remanufactured or upgraded by OEMs.

**Figura 1** Diagrama fluxului activităților logistici inverse (Flow diagram of reverse logistics activities).


Figura 1 indică diagrama fluxurilor de bază ale activităților LI. Complexitatea operațiunilor și valoarea recuperată cresc din stânga-jos către dreapta sus în figură.

Figure 1 shows the basic flow diagram of RL activities. The complexity of operations and the value recovered increase from bottom-left to top-right in the figure.
The logistics of merchandise

The pattern of quantity, quality and time of arrival of returns is of paramount importance in RL network design. The location of facilities relative to process inputs, customer markets or waste disposal locations has been considered both analytically and empirically in literature. [6]

Collection is the first and a very important stage in the recovery process, where product types are selected and products are located, collected, and, if required, transported to facilities for rework and remanufacturing. Used products originate from multiple sources and are brought to a product recovery facility, resulting in a converging process. Srivastava (2006) suggests classifying schemes for collection based on whether the initial transport is performed by the consumer (i.e. bring schemes) or by a waste manager (i.e. kerbside collection).

Inspection/Sorting may be carried out either at the point/time of collection itself or afterwards (at collection points or at rework facilities). Collected items generally need sorting. Inspection/sorting illustrates the need for skill in the sorting of used products. This may or may not be combined with pre-processing. Pre-processing may be in the form of sorting, segregation, partial or complete disassembly or minor repair and refurbishing activities. It may be carried out either at collection centers or at rework facility depending upon the technological and economic factors. These include the operational costs related to energy, labor, maintenance costs and the loss of interest related to the facilities.

Location and Distribution are the most important and critical area of RL that is assuming greater importance day by day.

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Modelul cadru al cantității, calității și al timpului de sosire al retururilor este de o foarte mare importanță pentru designul rețelei LI. Localizarea facilităților legate de procesele de intrare, piețe sau locurile de dispunere a deșeurilor au fost considerate atât analitice, cât și empirice în literatură. [6]


Localizarea și Distribuția constituie aspectul critic al LI, care presupune o importanță în creștere.
In many cases, recovery networks are not set up independently “from scratch” but are intertwined with existing logistics structures. In particular, this is true if the OEM recovers products. Location and configuration of facilities frequently affect the external natural environment.

Capacity decisions in general aim at providing the right amount of capacity (i.e., how much) at the right place (i.e., facilities location) and at the right time (i.e., when). Long-range capacity is determined by the size of the physical facilities that are built. In general, facility decisions are affected by estimated returns (assuming infinite markets), costs, competitors’ behavior and other strategic and operational considerations. Operations strategies that entail the installation of new capacity also become more complex as regulatory and consumer demands for returnable/recyclable products increase. There was developed the concept of “critical mass” of returns for profitable remanufacturing/recycling. In this context, the efficiency of RL could be improved by ensuring that product design takes into account the requirements of post-use/post-consumption collection, sorting and recycling.

2. Logistica inversă pentru comercianții cu amănunțul

Logistica inversă se referă la un set de programe și competențe necesare pentru a muta produsele în direcția inversă în canalul de distribuție (de la consumator la producător). Scopul este de a maximiza valoarea produselor returnate și de a asigura dispunerea lor corespunzătoare. Aceste activități pot include manipularea produselor returnate, reciclarea, reutilizarea materialelor, depozitarea deșeurilor, reconținerea sau remarșurarea.

2. Reverse logistics for retailers

Reverse logistics refers to a set of programs or competencies aimed at moving products in the reverse direction in the supply chain (i.e., from consumer to producer). The goal is to maximize value from returned items and insure their proper disposal or both.

Related activities may include handling product returns, recycling, reuse of materials, waste disposal, refurbishing, or remanufacturing.
Operating effective reverse logistics programs is a critical part of retail business, because the programs often represent the firm’s most visible and possibly final effort at recovering value from a service failure. Service failure has been studied at length in marketing publications, and at various times, has been negatively associated with customer satisfaction, customer loyalty, service quality, trust, and behavioral intentions [2]. Similarly, reverse logistics programs represent an opportunity to undertake a sort of “product recovery,” that if handled correctly, gives the retailer a second chance to “get it right” with the customer. Retail firms that fail to pay close enough attention to returns risk any or all of the negative effects, and additionally, miss an excellent opportunity to turn a lost sale into additional revenue. For example, following an initiative directed towards a greater focus on reverse logistics, Sears, Roebuck, and Co. realized over $45 million in costs savings in a three-year period. As the result of similar successes, many firms are placing greater focus on learning more about how reverse logistics can help firms reclaim value. RL programs are generally comprised of a four-step system, including gate keeping, collection, sortation, and disposition components. A typical retail reverse logistics system is graphically depicted in fig. 2.

Fig. 2  The retail reverse logistics process.

Odată cu inițierea de către consumator a returnării produsului și având în vedere funcția de păstrare (de obicei a unui asociat sau manager), se decide căror produse le este permisă intrarea în sistemul LI. Datorită liberalizării în creștere a politicilor de returnare, șefii de depozit sunt mai dispuși să accepte un produs returnat în sistem. După această etapă, produsele sunt colectate și centralizate într-un loc, în așteptarea procesării, sau sunt procesate la comerciant. În alte cazuri, produsele sunt periodic sortate, conform utilității lor pentru comerciant și, eventual, sunt dispuse în concordanță cu decizii formale, sau de cele mai multe ori informale.

Din perspectiva comerciantului, ultima porțiune a procesului decizional al LI ia forma unui set multidimensional de opțiuni. Când produsele reintră în sistemul comerciantului prin returnarea de către consumator, comercianții au la dispoziție acest set de opțiuni pentru colectare și sortare. Produsele pot fi păstrate într-o mare varietate de stocuri de tranzit, după cum comerciantul determină cea mai bună modalitate de dispoziție a returnurilor. Mai mult, în vederea disponerii, produsele pot fi returnate furnizorilor, restocate pentru o eventuală vânzare viitoare, sau vândute pe un piață de reduceri sau "piața secundară".

Managementul produselor returnate și executarea deciziilor procesului de dispozition este complex și frecvent dezorganizată, iar angajații din comerț însărcinați cu luarea acestei hotărâri dobândesc competențe în găsirea celei mai bune destinații pentru fiecare produs. În orice caz, procesul decizional al LI este unul foarte important și nu trebuie tratat cu superficialitate. Firmele care se preocupă de fluxul invers al bunurilor au obținut beneficii odată cu scăderea nivelului stocurilor, reducerea costurilor și creșterea satisfacției clienților. [3]

Upon the initiation of a product return by the customer, the gate keeping function (usually a retail sales associate or manager) decides which products should be allowed to enter the reverse logistics system. Due to increased liberalization of returns policies, gatekeepers are more likely than ever to accept a returned product into the system. After products have passed the gatekeeper, they are either collected and centralized in one location, awaiting processing, or are processed at the retailer location. In either case, products are then periodically sorted according to their remaining utility to the retailer, and are eventually disposed of according to some formal, or more often informal, decision heuristic.

From the perspective of the retailer, the latter portion of the reverse logistics decision process takes the form of a multidimensional choice set. When products re-enter the retailer system via customer return, retailers have several options available for collection and sorting. Products can be held in a wide variety of transient inventory states as the retailer determines the best way to ultimately dispose of the returns. Furthermore, with regard to disposition, products can be returned to suppliers, restocked for eventual resale, or sold into the discount market or "aftermarket".

The management of the returned inventory and the execution of the disposition decision process is complex and frequently disorganized, and retail employees charged with making this choice develop expertise in finding the best destination for each product. However, the reverse logistics decision process is a very important one and should not be taken lightly. Firms that effectively manage the reverse flow of goods have been shown to benefit through decreased inventory levels, cost reductions, and enhanced customer satisfaction. [3]
One area of concern related to reverse logistics that has been largely ignored by academic research and practicing retailers is the financial implications of reverse logistics activities, especially as related to firm liquidity. When products reverse directions in a supply chain, it can happen quickly and without notice. While effective reverse logistics activities generally result in value reclamation and increased cash inflows, there can be periods where significant unexpected cash outflows occur. This is often due to the time lag between the moment the firm recovers the value from the returned product and the assumption of costs incurred in the reverse logistics process. Therefore, financial management of the reverse logistics process becomes salient, and needs to be a retailer focus on an ongoing basis.

3. Liquidity and the retail reverse logistics process

The amount, timing, and uncertainty of the retailer’s operating cash flows affect the size and dynamics of its liquidity position.

Given that returned products can represent a significant percentage of sales even during off-peak returns periods, reverse logistics activities will play an important role in calculating expected cash flows, both directly and indirectly. As the retailer expands its reverse logistics activities, a greater level of liquidity will be required to account for reverse logistics processes—based not only on the number of items in the returns pipeline, but also on the length of time that returns require for processing, restocking, repairing, and so forth before they return as cash inflows to the firm. Additionally, the level of uncertainty associated with reverse logistics activities requires additional liquid reserves—lest the retailer find itself in a position of sudden liquidity shortages.
Așadar, LI constituie o oportunitate pentru managementul financiar și pentru lichiditățile firmei, deoarece programul are ramificații pentru disponibilitatea sau necesarul de numerar.

Programele eficace ale LI ar trebui să genereze intrări de fluxuri de numerar datorate recuperării valorii produsului returnat. În orice caz, aceste intrări de numerar se constituie drept etape subsecvente returnării. Remunerarea apare atunci când articoulul este returnat unui agent economic situat în amonte în canalul de distribuție și comerciantul este plătit, sau atunci când articoulul este vândut. Pe de altă parte, ieșirile de numerar asociate cu LI din comerț și costurile asociate cu sortarea, procesarea și dispunerea sunt resimțite înainte de momentul în care comerciantul primește fluxul de numerar de pe urma stocului de produse returnate. Din cauza decalajelor de timp între ieșirile și intrările de fluxuri de numerar, comerciantul poate întâmpina probleme de lichiditate.

Mai mult, orice fluctuații în procesul LI pot avea un impact negativ asupra lichidității. Este importantă înțelegerea acestor aspecte ale activităților de LI asupra fluxului de numerar, pentru a evita problemele care pot să apară în respectarea angajamentelor bănești. Toate acestea sunt considerații necesare atunci când comerciantul conștientizează impactul activităților de LI asupra capacității de respectare a obligațiilor.

4. Logistica inversă aduce beneficii asupra mediului

Logistica inversă vizează activități asociate cu manipularea și managementul echipamentelor, produselor, componentelor, materialelor sau chiar sistemele tehnice complete care trebuie recuperate.

Reverse logistics, therefore, represents a salient issue for retail financial management and firm liquidity because the programs have ramifications for the availability of and the demand for cash.

Effective reverse logistics programs should generate cash inflows due to the recovery of value from the returned product. However, the cash inflows from product returns occur in time periods subsequent to the return. Remuneration occurs when the returned item is returned to a previous channel-member and the retailer is reimbursed, or when the item is sold. On the other hand, the cash outflows associated with retail reverse logistics usually are absorbed as or soon after the item is returned. The costs of remuneration, as well as all subsequent costs of sorting, batching, processing, and disposing are incurred before the retailer achieves the cash inflow from the disposition of the returned inventory. It is because of this time lag between cash outflows and cash inflows that the retailer could experience liquidity problems.

In addition, any fluctuations in the reverse logistics process could also negatively impact liquidity. It is important to understand the ramifications of reverse logistics activities on retailer cash flows to avoid problems in meeting cash commitments. All of these are necessary considerations when the retailer is assessing the impact reverse logistics activities may have for the ability to meet its obligations.

4. Reverse logistics provides green benefits

Reverse logistics concerns activities associated with the handling and management of equipment, products, components, materials or even entire technical systems to be recovered.
Recuperarea poate reprezenta doar revânzarea unui produs, sau poate fi acompaniată de o serie de procese de colectare, inspectare, separare, mergând până la remanufacturare sau reciclare. Recuperarea materialului și refolosirea (partială) a produsului sau echipamentului este o practică mai veche. În trecut, motivația principală era lipsa resurselor. În orice caz, emergența materialelor ieftine și a tehnologiei avansate au condus societățile vestice la un consum de masă și la risipire. Atunci, problemele legate de protejarea mediului sau dezvoltarea durabilă nu constituiau aspecte ale preocupării umane.

La începutul anilor ’70 un studiu efectuat pentru Clubul de la Roma releva faptul că există o limită a creșterii. Raportul anunța că în jurul anului 2050 omenirea se va dezintegra, atrăgând atenția asupra cursului civilizației. Pe parcursul decenii următoare, dezastrele medii, devenind mai frecvente, au intrat în preocupația academicienilor, politicienilor, mass-media, iar societatea în general a început să fie preocupată de aceste aspecte.

Termeni ca reciclare, reutilizare, reducerea resurselor, responsabilitatea față de mediu și produse verzi au devenit familiare pentru noi toți. Începând cu mijlocul anilor ’90, în special în Europa, acestea au fost acompaniate de susținerea legală privind recuperarea produselor și materialelor. De asemenea, în SUA, echipamentele au devenit mai scumpe și restricțiile privind transportul deșeurilor între state au crescut substanțial. Recent, exemple cum ar fi remanufacturarea telefoanelor mobile au scos în evidență profitabilitatea activităților de recuperare și crearea de valoare adăugată, mai mult decât aspectele referitoare la protecția mediului. În plus, argumentele privind concurența, marketingul sau strategiile au împins companiile către politici generoase de returnare.

Recovery can simply be just reselling a product. Or, it can be accompanied by a series of processes as collection, inspection, separation, and so on, leading to e.g. remanufacturing or recycling. Material recapture and product or equipment (partial) reuse is a very old practice. In the past, the primary motivation was scarcity of resources. However, the emergence of cheap materials and advanced technology led Western societies into mass consumption and routine throw away. By then, environmental matters or sustainable development were not objects of concern.

In the early seventies however, the study for the Club of Rome augured that there was a limit to the growth. The report announced that around 2050 Mankind was going to disintegrate, drawing attention to the need of sustaining the course of civilization. During the following decade, environmental disasters kept the mind of the academicians, politicians, the media, and society in general addressed to such issues.

Terms like recycling, reuse, resource reduction, environmental manufacturing responsibility and green products began to be familiar to all of us. Since the mid-nineties and especially in Europe, this was accompanied with legal enforcement of product and material recovery or proper disposal. Also in the US landfill tolls became a lot more expensive and restrictions on cross-State transport of waste rose substantially. More recently, real examples like the remanufacturing of mobile phones have pointed out the profitability of recovery activities and its value-creation rather than environmental aspects. In addition, competition, marketing or strategic arguments have pushed companies into generous return policies.
În Japonia, orice produs cumpărat de către guvern trebuie, prin lege, să aibă un conținut specific de materiale reciclate. În Olanda, producătorii sunt responsabili de colectarea procesarea și reciclarea produselor uzate cum ar fi frigiderele, mașinii de spălat, congelatoare, televizoare, articole de consum electronice și ambalajele asociate lor. În Uniunea Europeană (UE), a fost propusă o directivă privind manipularea de eurilor provenite din echipamentele electrice și electronice, iar statele membre elaborează legislațiile naționale pentru a o implementa. În SUA există sute de legi de protecție a mediului și reguli în cadrul fiecărui stat, precum și la nivelul guvernului federal, care prevăd operațiuni de reciclare și reponsabilitatea recuperării ambalajelor. [5] Oricum, sunt necesare numeroase cercetări și trebuie stabilit o abordare mai clară și mai ușor de înțeles.

Operațiunile producătorilor și distribuitorilor „prieteni” cu mediul înconjurător se răspândesc în toate colțurile lumii. Există trei forțe care conduc această tendință:  1) legile și regulile referitoare la mediu se răspândesc rapid, 2) consumatorii devin mai receptivi la produsele realizate din materiale reciclate, la fel ca și din materiale noi și 3) unele companii consideră reciclarea, remanufacturarea și procesarea produselor, materialelor și ambalajelor uzate drept o afacere bună, care reprezintă surse adiționale de venit.

O armă importantă în lupta împotriva distrugerii mediului o constituie LI. O abordare a LI este manipularea returnărilor, în special în domeniul cum ar fi televânzarea, comertul cu amânuntul și comenzile prin poștă. Cu siguranță, operațiile de acest tip înregistrează importante procente ale returnărilor, iar deseori sunt stabilite sisteme separate pentru gestionarea mărfurilor returnate, reutilizarea și revânzarea lor.

In Japan, any products purchased by the government must, by law, have a specific content of recycled materials. In the Netherlands, manufacturers are held responsible for the collection, processing, and recycling of used products such as refrigerators, washers, freezers, TVs, and consumer electronics items and their associated packaging. In the European Union (EU), a directive on handling waste from electrical and electronic equipment has been issued and member states are working on national legislation to implement it. In the United States, there are hundreds of environmental laws and regulations within individual states, as well as the federal government, which include mandates for recycling operations and responsibility for packaging recovery.[5] However, more research is needed, and a more clear-cut and comprehensive approach needs to be established.

Environmentally - friendly manufacturing and distribution operations are growing in many parts of the world. There are three driving forces for this trend: 1) environmental laws and regulations are increasingly widespread, 2) consumers are becoming receptive to products made from recycled as well as virgin materials, and 3) some companies are finding recycling, remanufacturing, and processing of used products, materials, and packaging to be good business that represents additional sources of revenue.

A major weapon in the fight against environmental damage is reverse logistics. One view of reverse logistics is the handling of "returns," especially in such areas as TV shopping, retail, and mail-order operations. Certainly some operations of this type have a significant percentage of returns, and often separate systems are set up for dealing with returned merchandise and its reuse and resale.
The logistics of merchandise

Today, reverse logistics takes on a broader scope. It involves recycling and reuse of materials contained in a product and its packaging, after that product’s useful life has ended. Reverse logistics is a departure from land filling or incinerating used-up materials - practices that are no longer acceptable in many situations. In place of land filling or incineration, reverse logistics includes recycling, material substitution and reuse, and remanufacturing. It takes in all the logistics steps involved in collecting, disassembling, and processing used products, parts, materials, and packages to provide an environmentally safe method of recovery (Figure 3).

To be successful, reverse logistics must encompass the entire supply chain.
Partenerii de afaceri trebuie să lucreze în echipă pentru a se asigura că procesul LI este legat de-a lungul tuturor nivelurilor lanțului. Principalele diferențe dintre logistica directă și cea inversă sunt prezentate mai jos (tabelul 1):

<table>
<thead>
<tr>
<th>Logistica directă (Forward Logistics)</th>
<th>Logistica inversă (Reverse Logistics)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambalarea produsului – uniformă</td>
<td>Ambalarea produsului deseori afectată</td>
</tr>
<tr>
<td>Product packaging uniform</td>
<td>Product packaging often damaged</td>
</tr>
<tr>
<td>Preț relativ uniform</td>
<td>Preț dependent de numeroși factori</td>
</tr>
<tr>
<td>Pricing relatively uniform</td>
<td>Pricing dependent on many factors</td>
</tr>
<tr>
<td>Importanța vitezii recunoscută</td>
<td>Viteză nu este considerată a prioritate</td>
</tr>
<tr>
<td>Importance of speed recognized</td>
<td>Speed often not considered a priority</td>
</tr>
<tr>
<td>Costurile distribuției directe sunt</td>
<td>Costurile distribuției inverse sunt mai</td>
</tr>
<tr>
<td>vizibile ușor</td>
<td>puțin vizibile direct</td>
</tr>
<tr>
<td>Forward distribution costs easily visible</td>
<td>Reverse costs less directly visible</td>
</tr>
<tr>
<td>Management consistent al stocurilor</td>
<td>Management inconsistent al stocurilor</td>
</tr>
<tr>
<td>Inventory management consistent</td>
<td>Inventory management not consistent</td>
</tr>
<tr>
<td>Metode de marketing bine cunoscute</td>
<td>Marketing complicated by several factors</td>
</tr>
<tr>
<td>Marketing methods well known</td>
<td></td>
</tr>
<tr>
<td>Transparența procesului</td>
<td>Lipsa de transparență a procesului</td>
</tr>
<tr>
<td>Visibility of process more transparent</td>
<td>Visibility of process less transparent</td>
</tr>
</tbody>
</table>

**Exemplul european:** Europa a avut o mișcare „verde” puternică și sonoră. Astăzi, această mișcare a fost trasă prin acțiuni specifice pe care producătorii trebuie să le urmărească pentru a putea face afaceri în Europa. O țară lider în acest domeniu este Olanda, care a adoptat legislația logisticii inverse în 1999. Sub un program german, producătorii trebuie nu doar să dezvolte un plan de producție și distribuție a produselor, ci trebuie să planifice eventuala reciclare și reutilizare a acelor produse și a componentelor după ce ultimul utilizator a dispus de ele (acest lucru este valabil după încetierea primului ciclu de viață al produsului). Acest proces de planificare poate merge înăpoi până la proiectarea produsului pentru o ușoară dezasamblare și reciclare.

**The European Example:** Europe has long had a strong and vocal "green" movement. Today that movement has been translated into specific mandates that manufacturers will have to follow in order to do business in Europe. A leading country in this regard is The Netherlands, which adopted reverse logistics legislation in 1999. Under the Dutch program, manufacturers must not only develop a plan for manufacturing and distributing products, but must also plan for the eventual recycling and reuse of those products and their components after the last user has disposed of them (that is, after their primary life cycle has ended). This planning process may go all the way back to designing the product for ease of disassembly and recyclability.
In any case, producers (manufacturers) and importers have final "producer responsibility" for the collection, processing, and recycling of both "white goods" (such as refrigerators, coolers, freezers, washing machines, and hair dryers) and "brown goods" (such as TVs and loudspeakers). Typically, the actual collection is performed on a fee arrangement by retailers and municipalities. Consumers do not incur a cost.

A typical logistics path may be the following: used goods may be picked up from the user by a retailer. The used product is then picked up from the retailer’s distribution center by a third-party logistics provider (3 PL), and delivered to a processor. The processor then removes harmful substances, disassembles and separates parts and materials, and sells these parts and materials to firms specializing in remanufacturing products using these contents. Processors are required to attain a recycling rate of 75%; that is, 75% of the total weight of the collected, discarded goods must be made available for reuse.

Following the Dutch example, the EU has issued a directive on waste from electrical and electronic equipment (WEEE). The directive sets criteria for the collection, treatment, recycling, and recovery of WEEE. It makes producers (manufacturers) responsible for financing most of these activities. Householders can return WEEE at no cost. Currently many EU member states are working on national legislation to implement the terms of the directive. A major issue is how to promote environmental benefits without placing undue financial burden on producers.
Concluzii

Întrucât procesul LI nu a fost prevăzut în multe companii așa cum prevede scopul LI, companiile îl consideră dificil de planificat, implementat și controlat corespunzător. Fără o hârtă corectă a procesului de LI, componentele sale și relațiile dintre acestea nu pot fi determinate cu acuratețe. Doar dacă firmele înteleg complexitatea procesului LI, atunci ele sunt capabile să își identifice punctele forte și pe cele slabe și pot proiecta programe de acțiune pentru implementarea strategiilor logisticii inverse, altfel le va fi dificil să beneficieze de urma acestui proces.

Odată cu trecerea timpului, companiile vor trebui să își îndeplinească angajamentul față de bunăstarea mediului înconjurător. În prezent, acestea trebuie să respecte norme de mediu din diferite țări ale lumii și din întreaga UE. Numeroase state din întreaga lume au elaborat diverse legi și reguli pentru a încuraja reciclarea electronicelor uzate. De exemplu, în SUA, state ca Maryland, California și Maine au legi privind reciclarea calculatoarelor uzate. Această activitate de distribuție inversă poate fi crucială pentru supraviețuirea companiilor, întrucât este în joc prestigiuul acestora. Afacerile au succes doarece răspund atât schimbărilor externe, cât și interne și se adaptează într-o manieră eficientă pentru a rămâne competitive. Pentru a-și atinge obiectivele afacerii, o firmă trebuie să răspundă cererii în creștere din partea consumatorilor pentru „produse verzi”, să respecte regulile stricte de protecție a mediului și să implementeze planuri de răspuns asupra mediului înconjurător ca un bun cetățean instituțional.

Conclusions

As the RL process had not been mapped in most companies under the enlarged scope of RL, companies find it difficult to plan, implement and control the process properly. Without a proper map of the RL process, the components and their relationships cannot be accurately determined. Unless companies comprehend the complexities of the RL process, are able to identify its strengths and weaknesses and can map out action programs to implement RL strategies, it would be difficult to leverage on, and benefit from RL.

As time goes by, companies will have to gear up their commitment to environmental well-being. Even today, they have to comply with environmental regulations in various countries abroad, and soon in most if not all of the EU. A number of states all over the world have considered various laws and regulations to encourage recycling of used electronics. For example, in the US, states like Maryland, California and Maine have regulations covering recycling of used computers.

This reverse distribution activity can be crucial to the survival of companies, because the permanent goodwill of the company is at stake. Businesses succeed because they respond to both external and internal changes and adjust in an effective manner to remain competitive. To achieve its business objectives, a company must respond to increasing customer demand for “green” products, comply with strict environmental regulations, and implement environmentally responsible plans as a good corporate citizen.
References