Managerial Issues of the Czech companies reverse flows

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Abstract:

Paper presents results of survey concerning some managerial issues of reverse flows management as an important part of every company value creation, especially with the notion of growing entrepreneurial costs and possibilities to get value (in various forms) from different reverse flows and also as the result of environmental requirements on management which can lead to higher interest on reverse flows value. Reverse flow management is not very frequent topic in the Czech Republic and the author's aim was to examine present situation including the notion of value creation potentiality in reverse flows, perception of barriers in reverse flows management, the prevalence of managerial approaches etc. The survey was realised on a small sample (74 respondents in total, 59 relevant questionnaires for analysis) as the first year research entry to long-term work. Therefore the results cannot be generalised - they only show some direction of the status.

Key words:

reverse flows, reverse logistics, management, perception, activities, barriers, competitiveness

Introduction

Reverse flows embody less or more important part of corporate processes and concern every enteprise or organization. Though, the perception of their importance is with managers considerably different. If we abstract from companies, for which reverse flows are the core of their business, the part of the rest ignore these flows (exept for mandatory minimum) but some continuously become aware of the opportunities offered by reverse flows and there are also companies which consider reverse flows to be of strategic importance (Li, 2007) representing the competitive advantage or lead to the sustainable competitiveness (Mollenkopf and Closs, 2005). For some industries reverse flows can be critical for successful performace and survival (Rogers and Tibben-Lembke, 1998) and management of reverse flows is pointed out as one of the key managerial competencies. Proactive approach to reverse flows is hold mostly by companies, which have become conscious of value that can be obtained from these flows (De Brito and Dekker, 2003). As the support for this view findings from several empirical surveys can be mentioned. For instance Daugherty et al found that "…*efficient management of reverse processes can save as much as 10 percent from a company's total logistics costs*…"(2002, cited in Peterson, 2005, p. 6). Stuart et al citing Rosen et al (2002) mention that hidden costs of return processes can be a source of 30 to 35% potential profit (Stuart et al, 2005, p. 1).

The paper offers some results of an introductory exploraratory survey of reverse flows managerial issues. The survey is the starting point for more extensive empirical research targeted on discovering the real practice of reverse flows management in the Czech Republic with the aim to compare situation in this country with the more developped economies (in the area of managing the reverse processes) together with the comparison of theoretical knowledge. The scondary aim is more advantegeous, concretely to contribute to theory development at least in the Czech environment.

In the Czech Republic there is nearly no attention paid to reverse flows from academicians and the knowledge base is very narrow and not deep enough. This is probably reflected in managerial work, too, although the extent of knowledge gap is unknown. Survey examines chosen current practices, perception, attitudes and experience of managers to and with managing reverse flows on a small sample to get preliminary view of the situation. On the ground of limited extent of the paper not all issues covered by the survey can be presented. Despite small number of respondents which cannot lead to generalisation of answers results offer the picture of some problematic issues of reverse flows management and helpt to find out directions of the future research topics.

Literature review

The concept of reverse flows as a scientific term emerged in literature in the seventies of twentieth century (De Brito, 2003). There are several terms which overlap in a certain extent on the one hand but complement each other as well. The most general term is "returns" together with managerial aspects used as returns management or return handling (see e.g. De Koster, R.B.M. et al, 2002 or Rogers et al, 2002). While most of returns is a matter of logistics or supply chain, terms like reverse logistics (Tibben-Lembke, 1998; De Brito and Dekker, 2002) and supply-chain-loop (see e.g. French and LaForge, 2003) fill-in the list of concepts.

Reverse flows consist mainly of products and packaging (Tibben-Lembke and Rogers, 2002, p. 271), the term "product returns" is also used. In reality together with products and packaging also other flows – information, finance, e.g. return, which are necessary for managing reverse flows. While returns are usually not desirable by enterprises, managers try to capture as much value as possible. This is one reason why the concept of "product recovery" (but sometimes also packaging recovery) (see e.g. Guide Jr. et al, 2003) may be added. As a synonym for reverse the term "backwards" can be found in literature. Reverse flows are subject of interest of green logistics (e.g. Srivastava, 2007) because of growing environmental concerns and legal regulations which both press companies to recapture value from returns and in much narrower view also of waste management (De Brito and Dekker, 2003).

Primary motivation for reverse flows utilisation was scarcity of resources (De Brito and Dekker, 2002, p. 1). This motivation is stil more and more actual in connection with the growing pressure on efficiency and effectiveness together with environmental sustainability which leads to so called extended product responsibility (Gonçalves-Dias et al, 2006, p. 1). Take-back legal enforcement mostly in the form of reuse and recycling quotas, increasing recognition of the potential economic value stemming from returns (De Koster et al, 2002) and rising costs for landfilling (De Brito and Dekker, 2002, p. 1) and growing return rates of catalogue and online shopping (De Brito, 2003, p. 147) – these all are major reasons for the interest of managers in this topic.

Reverse flows are characterised for instance by Gonçalves et al as „… *those flows on the opposite way from the direct chain, where the disposable products after consumption face the adding of different types of values through the reintegration of their components or materials to the productive and business cycles.*" (Gonçalves-Dias et al, 2006, p. 2). Nevertheless we can argue that the chain is not direct always and need not to copy forward flows chains and value is not always added and also not always is created by the reintegration of components and materials.

Managerial issues and value capturing or creation are more comprehend in the definition of Rogers and Tibben-Lembke: „*The process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal.*" (Rogers and Tibben-Lembke, 1998, p. 2). Management of reverse flows thus encompasses all activities involved in managerial functions both in internal as well as external surrounding of companies, mainly in supply chains. Holistic approach to

management of reverse flows is therefore needed – especially for some complications or specialities that are connected to reverse flows. Just for illustration, Diener et al (2004) mention that the forecasting of reverse flows „… *is linked to and compounded by the uncertainties in the forecasts of the forward flows, typically encountered or seen as time lags in what happens in the forward chain…*" (Diener et al, 2004, p. 36). Cross-functional and crross-company character of reverse flows are another example of distinctness (Herold and Kämäräinen, 2004, p. 1). Recognition of different reasons of reverse flows origin and existence is very important as well, while they can represent drivers but also barriers of successful performance.

Reasons for reverse flows

This brings us to the question, why more specifically or concretely (upon above mentioned reasons) companies do involve in managing reverse flows. De Brito and Dekker devide motives into two groups: reasons why for recievers (drivers) and senders. Driving forces for recievers are categorised into: economics (direct and indirect – e.g. dwindling on the use of materials, adding value with recovery, reducing disposal costs, marketing, competition, image, customer), legislaton and corporate citizenship. Driving forces for senders are manufacturing, distribution and customer returns – quality, by-products, production leftovers, material surplus, product recalls, funftional returns, warranty returns, end-of life and end-of use returns etc. (De Brito and Dekker, 2003 in Dekker et al, 2003).

Barriers of reverse flows

As with every processes also reverse flows management does not exit without barriers that can have major or minor impact on many issues embracing everyday operational processes as well as sustainable competitiveness of company. Relatively comprehensive list of barriers is summarized by Rogers and Tibben-Lembke (1998) and are empirically investigated in mutual interactions among other by Ravi and Shankar (2005). The list is following (Ravi and Shankar, 2005):

- lack of information and technological systems
- problems with product quality
- company policies – Herold and Kämäräinen add *"…that returned products are often treated on an ad hoc basis and trated as waste" (*Herold and Kämäräinen, 2004, p. 1)
- resistance to change to reverse logistics
- lack of appropriate performance metrics
- lack of training and education
- financial constraints
- lack of commitment by top management
- lack of awareness about reverse logistics
- lack of strategic planning
- reluctance of the support of dealers, distributors, and retailers

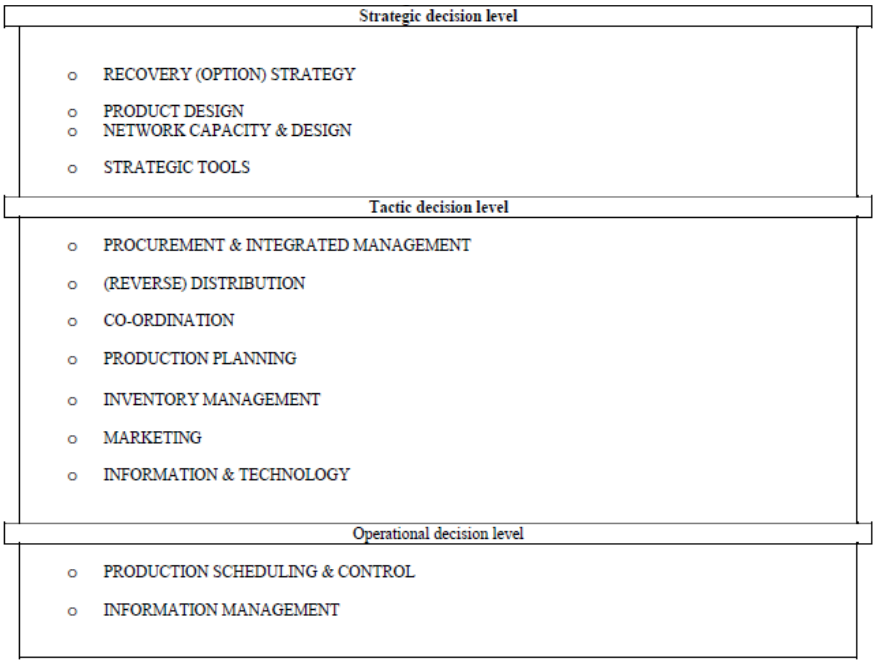
Schatteman claims, that still the traditional view that reverse flows add no value and create only additional costs, prevails (Schatteman in Gattorna et al, 2003 p. 271).

As we can see, only the last introduced barrier comes from external environment, the rest have their roots inside companies.

Although the survey inquired all above introduced barriers, in this paper only part of them is presented, that was of major interests of respondents.

Nevertheless, basic and general managerial issues are still the same. Managers must be conscious of the answers to the questions what, why, how and who (well developed by De Brito (2003) and De Brito and Dekker (2002 and 2003) and when and where, in other words and more concretely to work with concept like strategies, policy, planning, management

commitment, returns processing, leadership, information technology and information sharing, collaboration mechanisms, performance metrics, control, sourcing and others. In connection wit managerial isssues De Brito and Dekker (2002, p. 17) designed so called decision framework for all three levels of decioning and planning process.



Pic. 1 decision framework of reverse flows

Outsourcing of return flows

In forward flows the policy of outsourcing is one option which became quite popular during last years. Many activities that belong to forward logistics are outsourced to the Third party, mostly for the reasons of specialisation (lack of adequate skills or resources) and costs. Decision to outsource is typical long-term strategic decision (De Brito, 2003) and managers in this case must know benefits or threats or advantages and disadvantages very well. Outsourcing partners as specialists for providing particular activities together with the possibility to collect volumes from many partners (which leads to attaining the economies of scale) have often "…*unique channels for product disposition*…" (Stock and Mulki, 2009, p. 2) if needed, too.

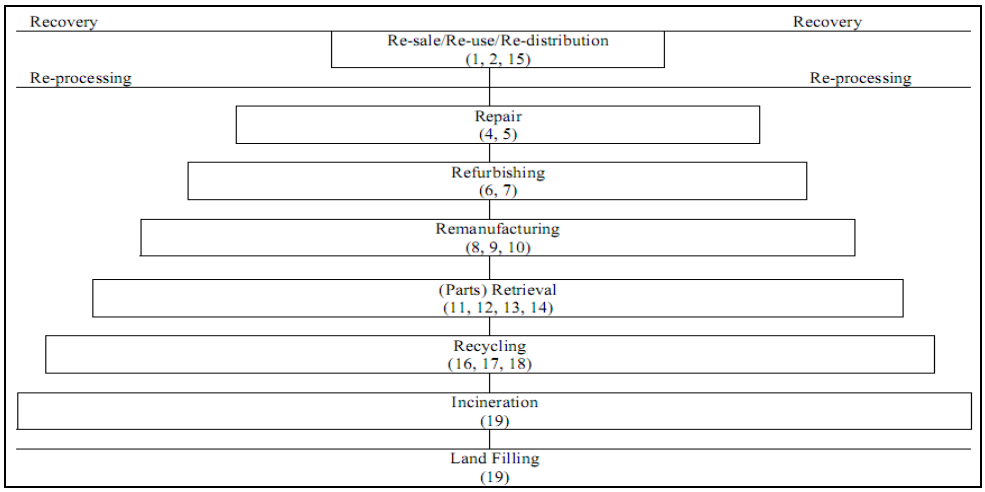
Return flows activities

The amount and scope of reverse flows activities depend on industry, company size, type of product, type of supply chain and plenty of other issues. The list of typical reverse activites is introduced for instance by Rogers and Tibben-Lembke (1998, p. 10), who devide activities into two groups – to product and packaging connected (see picture 1) and by De Brito and Dekker (2002, p. 16) (see picture 2), who proposed the pyramid of recovery option which represents options of recapturing or recovery potential value within given activites. The numbers in the picture indicate type of retursn or reverse flows connected to activites.

Common Reverse Logistics Activities

Material	Reverse Logistics Activities
Products	Return to Supplier Resell Sell via Outlet Salvage Recondition Refurbish Remanufacture Reclaim Materials Recycle Landfill
Packaging	Reuse Refurbish Reclaim Materials Recycle Salvage

Pic. 1 Reverse flows activites



1. Reimbursement, End-of-use (Re-sale, Re-use)
2. Commercial & Stock adjustments (Re-distribution)
3. Recalls (Re-processing)
4. Warranty, Service (Repair)
5. Faulty Products (Repair)
6. Commercial returns, Recalls (Refurbishing)
7. End-of-Use, Warranty (Re-furbishing)
8. Faulty products (Remanufacturing)
9. Commercial returns, Recalls (Remanufacturing)
10. End-of-Use, End-of-Life (Re-manufacturing)
11. Faulty products (Retrieval)
12. Idem
13. Commercial Returns, Recalls (Retrieval)
14. End-of-life, End-of-Use (Retrieval)
15. Raw materials surplus (Re-use, Re-sale)
16. Faulty Products, Production Leftovers (Recycling)
17. Commercial Returns, Recalls (Recycling)
18. End-of-Life (Re-cycling)
19. All Reverse Flow Types (Incineration, Landfilling))

Pic. 2 Reverse flows activites

Methodology

As introduced above, survey had an inroductory exploratory character with the aim to get the first insight into the current state of reverse flows management in the Czech Republic. Questionnaire was used as the tool to obtain data and information. Questionnaire includes 24 open, semi-opend and closed questions – in this paper the results of only 9 of them are presented. Questionnaires were distributed to managers (mostly supply chain managers or logistics managers, in some cases to top managers) of companies which are in the special enetrprise database of the Department where the author of this paper works. Finally 59

questionnares were ready for analysis. Respondents are from several different industries, from various regions of the country and belong to small, middle and big-sized enteprises.

Results

Results of nine questions from whole questionnaire map only small part of many issues of the present art of managing reverse flows. They are divided into several main topics according theoretical findings in the previous text.

Return flows management

Tab. 1 Management of return flows (RF)

	RF are part of corporate strategy plan 1		RF are part of functional/ departmental strategy plans 2		RF are part of tactical plans 3		RF are part of operational plans 4		RF are managed ad hoc – not part of plans 5	
responses in total	55		54		53		54		48	
	yes	no	yes	no	yes	no	yes	no	yes	no
frequency	37	18	31	23	30	23	40	14	18	30
%	67,3	32,7	57,4	42,6	56,6	43,4	74,1	25,9	37,5	62,5

Quite surprising are the results of question investigating scope of planning as the one of management functions. Despite empirical knowledge from extisting surveys from abroad, reverse flows of the Czech companies are part of plans on every hierarchy level to high extent. Managing returns ad hoc is practiced by distinct lower percentage of respondents copared for instance to the strategy planning. On the contrary, as expected, nearly ¾ of companies plan their reverse flows on the operational level.

Tab. 2 Rate of return flows policy innovativeness and change of management attitude to return flows

Rate of return flows policy innovativeness			Change of management attitude to return flows		
scale	frequency	in %	scale	frequency	in %
1 – very conservative	2	3,4	1 – no change	3	5,1
2	5	8,5	2	6	10,2
3	14	23,7	3	13	22,0
4	13	22,0	4	13	22,0
5	10	16,9	5	13	22,0
6	12	20,3	6	8	13,6
7-very innovative	3	5,1	7 – considerable change	3	5,1
responses in total	59	100,0	responses in total	59	100,0

Most of companies were reserved in answering both questions. As can be expected when using the scales, majority of answers is somewhere “in the middle”. Nevertheless, about 40% (scale 5-7) of respondents evaluate the innovativeness of their return flows policy as high to very innovative. It can show that the environmental pressures influence managerial attitudes also in the area of reverse flows. This corresponds with nearly 40% of answers in the question about the attitude when this part of respondents considers the change as big. On the other side the frequencies within very conservative policy together

with the scale 2 and no change (also together with number two on scale) are quite small that can be taken as positive trends.

Tab. 3 Role of reverse flows (RF) in strategy management and reasons of interest on reverse flows (RF)

	role of RF in strategy management				reasons of interest on RF			
responses	yes	%	no	%	yes	%	no	%
competitive reasons	39	76,5	12	23,5	40	78,4	11	21,6
speeding up the flow in distribution channel	18	50,0	18	50,0	10	29,4	24	70,6
value capturing/recapturing	32	76,2	10	29,4	23	59,0	16	41,0
assets recovery	26	66,7	13	33,3	20	60,6	13	39,4
margin protection	20	58,8	14	41,2	19	55,9	15	44,1
cost reduction	40	85,1	7	14,9	42	87,5	6	12,5
productivity increase	27	58,7	19	41,3	23	63,9	13	36,1
customer satisfaction	50	89,3	6	10,7	38	84,4	7	15,6
customer interest/press	31	73,8	11	26,2	29	78,4	8	21,6
services to customer	40	87,0	6	13,0	36	90,0	4	10,0
compliance with government requirements	10	26,3	28	73,7	8	22,2	28	77,8
environment concern	19	48,7	20	51,3	17	44,7	21	55,3

Customer is the biggest driver of reverse flows in surveyed companies. Customer satisfaction and service to customer were indicated by about 90% of respondents as the main reason of interest playing dominant role for managing reverse flows strategically. The second driver comes from the internal environment – the cost reduction – introduced by more than 85% of respondents. Competitive reasons are also very important driver with the frequency of more than 75% of answers. Also value capturing reached relatively and unexpected high rate of response. The lowest percentages were found with environment concern (although still with 40% answers) and compliance with government requiements.

Tab. 4 Top management perception of reverse flows

	frequency	%
a) marked contribution for competitiveness	15	25,4
b) important source of value	4	6,8
c) represent competitive advantage	11	18,6
d) necessity/a “must”	28	47,5
e) other	1	1,7
responses in total	59	100
a + c	2	3,4
a + c + d	1	1,7
a + d	5	8,5
b + c	1	1,7
b + d	1	1,7
c + d	2	3,4

Quite big gaps among frequencies were found within given possibilities of topm management percpetion of reverse flows. “A must” is the most frequent perception (nearly half of responses) followed by contribution for competitiveness (given by ¼ of respondents) together with competitive advantage (18,6%). Reverse flows as the source of value is not perceived very often (only four companies from total 59 stated this answer.

Outsourcing of return flows

Tab. 5 Outsourcing of reverse flows activities

activities within the reverse flows performed by company itself versus outsourcing				
activity	company itself		outsourcing	
	frequency	in %	frequency	in %
collection	28	71,8	0	0
purchase	44	89,8	0	0
selection/sorting	27	67,5	2	5,0
transport	18	35,3	5	9,8
remanufacturing	31	66,0	1	2,1
reuse of items	38	88,4	1	2,3
repackiging and resale	34	89,5	1	2,6
warehousing	38	76,0	6	12,0
destruction	15	35,7	3	7,1
charity	10	66,7	0	0
resale of components/items(materials/packaging	26	81,3	2	6,3

Outsourcing of activities is very rare by the respondents. Majority of reverse flows activities are performed “in-house”. Only warehousing and transport can be mentioned as those activities which are charged to external partners. Destruction and resale of components which also belong to more freqent outsourced activites, can be very specalized and therefore need different resources, skills, capacity and competencies.

Return flows activities

Tab. 6 Share of main reverse flows activities on reverse activities in total

	Resold to other customer		remanufactured		recycled		landfilling		repaired	
share in %	freq.	%	freq.	%	freq.	%	freq.	%	freq.	%
0	16	32,7	14	28,6	25	51,0	20	42,5	21	43,8
1-10	17	34,7	12	24,5	10	20,4	19	40,4	11	22,9
11-30	8	16,3	9	18,4	8	16,4	6	12,8	8	16,7
31-50	2	4,1	1	2,0	1	2,0	0	0,0	2	4,2
51-70	2	4,1	4	8,1	2	4,1	0	0,0	3	6,2
71-90	2	4,1	4	8,1	1	2,0	2	4,3	1	2,0
91-99	2	4,1	3	6,2	2	4,1	0	0,0	0	0,0
100	0	0,0	2	4,1	0	0,0	0	0,0	2	4,2
responses in total	49	100,0	49	100,0	49	100,0	47	100,0	48	100,0

As we can see from the results, companies spread their reverse flows activities among various possible ways of disposal. Although we can not simply conclude that one acivity is dominant over the others, remanufacturing is the most often used activity followed by repair and resale. Land filling, which is considered for the least value bringing activity from all recovery options, doesnot belong to frequent activity. In this case no company landfills all of its return flows, what is even more positive. And resale, that is relatively less cost demanding and more profitable is used by 6 respondents in higher than 50% share of all reverse flows activities.

Return flows internal barriers

Tab. 7 Internal barriers of reverse flows (RF) management

	barriers of reverse flows management					
	importance of RF not perceived	corporate strategy/policy	lack of systematic management	human resources	financial resources	character of product
responses in total	59	46	59	59	59	59
frequency	23	13	21	23	16	20
in % of responses in total	39, 0	28,3	35,6	38,9	27,1	33,9

Respondents do not see many barriers in managing reverse flows – in no type of barrier the frequency exceed 40% of responses in total. Human resources and management which do not pervieved the importance of reverse flows management are the most often mentioned barriers. Problems with human resources (overworking of current personnel, low involvement in solution or improvement of reverse flows etc.) were introduced also with the open question, where respondents could add other barriers. Lack of systematic management as the second most often given answer can be compared together with other answers – 13 respondents assigned this barrier together with the previous one (human resources) and 10 with the first barrier (low perception of reverse flows importance). Relatively big share of companies pointed out character of product as the barrier. If we link this answer with the answers to questions which are not presented in this paper, reason is quite clear. Seasonality of demand (and product sale), lowe quality of materials or components, very demanding customers looking for every possibility to cut prices (product returns) and lower possibilities for remanufacturing, recycling or reuse/resale are typical for problems connected with product character. Strategy or policy was not seen as the barrier so frequent and financial resources were considered as barrier only by one third of respondents. Nevertheless, it can mean that managers do not invest much into managing reverse flows.

Conclusions:

Survey, although in very small scope, shows some aspects of managing reverse flows in the Czech economy. Customer, costs and competion are the main drivers of interest to manage these flows. Even the situation with planning is more positive as it was expected. But, to manage reverse flows is still percieved by top management mostly as “a necessity”, although some companies see the possibility to capture value from reverse processes.

Since survey had to some extent character of quantitative research, some results give opportunity for future research. Especially questions why and how can probably bring much deeper knowledge about the real problems and blank spaces and on the other side benefits or positive features of reverse flows management in our country.

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