

The consumer's changing role – the case of recycling

Work-in-Progress paper

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Abstract

We claim that the **consumer** expression is tricky already when chains are used as a metaphor for forward and reverse flows. In a recycling context we also see that the consumer takes both the role of a buyer and a supplier, irrespective whether seen as a single household or as one "collective" actor. However, will the buyer/seller relationship be valid when talking of households as scrap collectors and -suppliers? We conclude that the household may very well qualify as a supplier, even though the seller concept is not really covered by traditional economic theory in the case of raw-material suppliers when the material is secondary or scrap.

Introduction

Economic theory and authorities looking after markets has the best for the customer as its motto. There is an agreement among researchers as well as practitioners, that no matter what business you are in, the focus on the end-customer should increase, which is expected to increase customer satisfaction and thus maintain or increase market shares. The re-direction of focus from increasing productivity to improving market position will expectedly render large impact on short- as well as long term business results. And most of us really agree to this paradigm, however that requires that the setting of the scene – the actors and their roles – are understood in a similar manner among us. We see the end-customer as the one who benefits the most and subsequently pays the highest price for a product. The customer does so because he/she values the product. In turn, when the end-customer starts to consume the value consequently starts to decrease. However, increasing recycling activities in society, and industrial systems, encourages us to question some of the preconditions for business models and – thinking, focusing on *the role and the position of the end-customer*.

Recycling is a phenomenon in which both households and industrial consumers are involved. For some products, like paper and scrap metal, recycling has been going on for decades. The recycling rates, i.e. the degree to which a material is recycled, differ, for instance in the EU, the recycling rates of both paper and steel reach above 50% respectively (Recycling Forum 2000). For other products, like electronics, there is less experience but still electronic products are recycled at an increasing pace. In Sweden, for instance, the amount of recycled products increased from 3 000 tonnes in 1994 and 8 000 tonnes in 1996 to 13 000 tonnes in 1998 (www.environ.se 2003). In July 2001 new legislation on extended producers' responsibility for electric and electronics products was introduced, which was expected to further increase the amounts of electronics scrap being recycled. All recycling activities create

material flows and exchange relationships beyond the ‘final’ consumption or use of products. This is likely to change the consumer role and position in a business network (Anderson et al 1998).

In theoretical terms and in many conceptual models the end-customer is seen as the final actor in a chain of activities in a production and distribution chain; as the ultimate buyer of goods or services. With a channel perspective there exists a first supplier and a last customer. *"The scope of the supply chain begins with the source of supply and ends at the point of consumption"* (Stevens 1989). The end-customer will buy when the finalised product has its highest value and the use of the product will decrease its value. The consumer will use the product till it is ‘worthless’ and eventually replace the product with a new one. Our conceptual thinking regarding the ‘final’ buyer or end-customer is constructed around such an idea of a chain of actors and their relationships, starting at raw material and ending with finished products. Further, each buyer/supplier relationship is based on interaction between two actors (Easton 1992). However the introduction of recycling not only in reality but also in our models, challenges the familiar concepts, see figure 1.

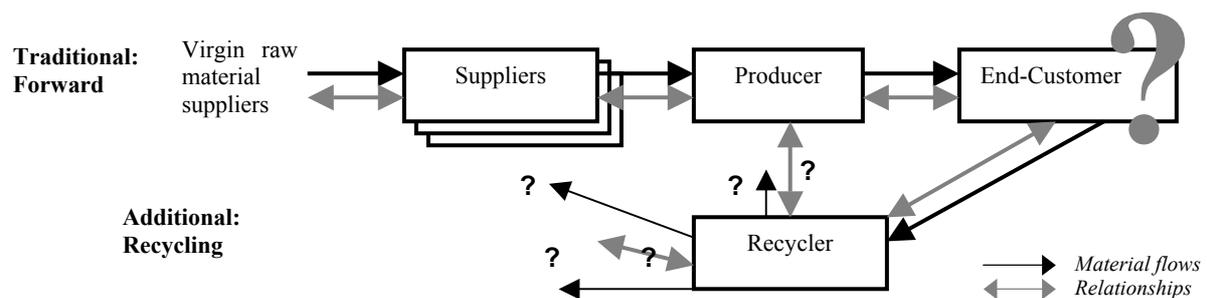


Figure 1: Recycling introduces new material flows and new relationships, thus reshaping the role and the position of the end-customer.

In a circular recycling world, the household is no longer **the end-customer**. Instead, an end-customer, ending the material flow can be a landfill site, or an incineration plant, depending upon whether energy is recovered from the process. The households’ roles in recycling systems might very well be labelled **suppliers**, and note to an industrial process!

However applying common terms for describing dyadic relationships becomes to some extent problematic; **sellers** in an economic meaning – traditionally synonymous to suppliers – will generally not be valid using a circular perspective. In addition, the newly appointed supplier cannot be treated in the same manner as we used to, which the following illustrates. *”The incorporation of return flows in supply chain management is easier said than done, as the behaviour of consumers introduces uncertainties in the quality, quantity, and timing of product returns.”* (van Hillegersberg et al. 2001, p.75). This ‘problematic’ behaviour with the new ‘supplier, its new tasks as part of an industrial process, and hence its possibilities to act within its role, summarises the problem we will address below.

The purpose of the paper is to discuss the changing role and position of the final-product customer as recycling is introduced into the value chain.

We will address this purpose through discussing some specific situations, where we will compare the changing situations for the previous end-customers with some often applied concepts. The situations are:

- The role in the physical flow; from only recipient to also supplier
- The financial aspects of this new role; a supplier who pays instead of getting paid!
- The recycler’s dependence of its supplier, and of its behaviour
- The changing position of the previous end-customer, as a result of the new role

The empirical illustrations of the questions above are primarily based on case study research from two different projects on logistics systems for recycling (Huge Brodin 1997, 2002). The research was carried out mainly during the latter half of the 1990’s. Paper recycling and electronics recycling was specifically covered in the research, regarding the different roles of end-customer/supplier to the system; recyclers; customers of the recyclers; and producers of final products, taking an interest in their products’ recycling (for legal as

well as for business reasons). The examples given below will focus on the *household* as the end-customer.

The role in the physical flow; form only recipient to also supplier

Through the introduction of recycling of more and more products and material, the former end-consumer is supposed to take an active part in the recycling process. Not only shall the consumer bring boxes and bags with rubbish and scrap to appropriate collection points. In addition, the consumer is supposed to: *sort* the products according to the technical requirements, *store* different fractions in appropriate containers; and *transport* the scrap fractions to different collection points. A number of problems are associated with these new activities.

The instructions for how to sort the different materials fractions are not always easy to interpret – and a consequence for the recycler can be low quality of the sorted material, if the fraction is not pure enough. The sorting sometimes requires additional activities such as cleaning of food containers. The new activities give the consumer a value-adding role through *differentiation*. All consumers are expected to act homogeneously as suppliers. This is not the case for traditional suppliers where we talk of specialisation and competence.

The storage of scrap waiting to be recycled was not considered in the design of most households. In newly produced kitchens there is more space as well as equipment for recycling, however this is something, which does not apply to most of our homes. The implication is inconvenience for the consumers, regarding hygienic and aesthetic environment and lack of storage space. The role given to the household is to an increased degree that of a *scrap warehouse*.

The third problem refers to the circumstance that different scrap fractions should be brought to different points of collection, for further transfer to recycling actors. In many cases

and for mature fractions of high volumes – in Sweden for paper, packages and glass – the collection points are often gathered close to merchandising areas, the local mall etc. However new fractions of low and unpredictable volume, should often be brought to central collection points directly by the household – eg consumer electronics, light bulbs etc. Scrap is not easy to wrap and often requires car transportation. In this case the previous end-customer is supposed to acquire the role of *the distributor*.

It is interesting to compare the role of the customer differentiating, storing and distributing with a traditional supplier who in all three cases has specialist resources.

The financial aspects of this new role; a supplier who pays instead of getting paid!¹

We are actually used to paying fees or tax for the service of getting rid of the scrap we produce. But the role brought on to the household through sorting, storage and distribution also implies extra costs for the consumers for getting rid of scrap. And the reason for requiring consumers to participate in the recycling process is for the fractions to become more valuable, thus increasing the value of the goods for the recycler... amazing, isn't it!

If we look upon the relationship between household and recycler, it is not that strange; the supplier trying harder and harder to improve their product for the specific buyer's satisfaction. However this usually renders some reward to the successful supplier; higher revenues, increased sales, better position for future procurement etc. In the case of recycling, the increased efforts of the household – leading to higher costs – do not necessarily efforts worthwhile – at least not in the short run. The customer is, as soon as the product loses its value, is expected to act altruistic for the benefit of all.

But taking a more long-term perspective we have seen that improved recycling rates can mean better customer service in the form of number and proximity of the collection points

¹ We are aware of different payment and taxation systems for recycling but have left them out of this principal discussion.

(Huge Brodin 1997). Better recycling quality and higher recycling rates also increases the potential for the scrap material to become a valuable resource in the production of final products (ibid.).

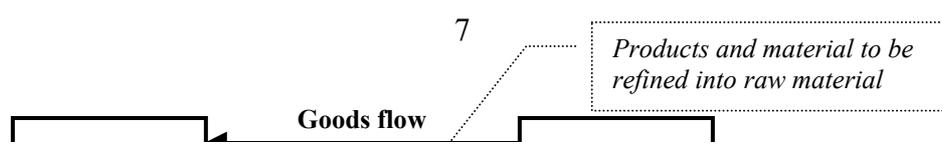
The customer is expected to pay for the highest value when buying and at the time the value is zero i. e. when the customer will pay even more to get rid of the product.

The recycler's dependence of its supplier, and of its behaviour

The role of active party contributing to an industrial process also changes the position of a consumer in the actor network (Håkansson & Snehota 1995) including recyclers, consumers as well as producers of final products. The activities of the household are now a substantial influence on the preconditions for the recycler. Beside legislation and contracts with municipal and regional governing actors, the behaviour of the consumer is the largest opportunity but also threat to the recycler's activities and their performance. If the consumers supply material for recycling in high and even volumes, the possibilities for the recyclers to increase their efficiency and hence their profitability can increase, compared to the consumers' supplying low and uneven volumes of scrap (Huge Brodin 2002).

Compared to the more usual supplier-buyer relationship, the buyer in this setting – the recycler – has few if any measures to make their suppliers perform better. It is the buyer – the recycler – who is more dependent of the supplier, which makes the position of the household comparably stronger in the relationship (Cook & Emerson 1978). The only way will be to encourage the supplier through higher delivery service vis-à-vis the – supplier!

But one can see this problem from the service perspective, as the recycler do. The consumer / the household is the customer of the recycler as the consumer of the recycling service provided by the recycler. This turn-around makes us better understand the rather strong position of the household vis-à-vis the recycler in traditional terms. What is new in the



situation is, that the physical supplier is the buyer of the service, while the service provider is the recipient of the goods, see figure 2.

Figure 2: Supply of goods and services between household and recycler

In addition the product is bought from an identifiable and chosen supplier. The consumer has several suppliers to choose from and interact with. For recycling, the recycler is most often chosen by another actor like the local community or a producer. The latter makes interaction more complicated.

The changing position of the previous end-customer, as a result of the new role

The customer actor has through recycling acquired a quite strong position in the network vis-à-vis the recycler – as a collective! The single household actor naturally, because of its relative size and importance, holds a singularly weak position vis-à-vis the recycler who is an industrial actor in an industrial network. Or as a buyer of products and of services, interesting network position!

We have a well-developed chain perspective with the customer (-best) in focus but what is a good perspective when the customer actually is a supplier as is the case with recycling? The traditional view of a customer in a supply chain where the customer is provided with service and knowledge from a (well) known supplier is contrasted with that of having an unclear, costly, unsafe, risky role as anonymous supplier to an unknown buyer of recycled goods an scrap.

Concluding remarks

Above we have discussed the changing role and position of the consumer in a circular flow of goods and material. The consumer role has changed due to recycling, giving the household the role of physical supplier to industry. We wonder if a more 'industrial' and professional behaviour of consumers as a collective could even more improve their position, and how this could be accomplished.

In recycling discussions the role of authorities become more or less influential on the results. Above we focused on the recyclers and the consumers, but an interesting issue to address would be the role of the authorities vis-à-vis consumers and recyclers; and also on their position in being able to manage the recycling net.

Our discussions above have evolved around the consumer role and position, however the concept of the consumer is wider and complex. Our ambition with the discussions above has been to contribute to an extended understanding of the concepts of consumers and customers, which most of us often take for granted without further explanations. We claim that it is time to learn more about what is a consumer how is its role: The 'proof' we have presented is from recycling when the consumer's role is that of supplier!

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