

Louvain School of Management

Circularity in the Belgian resale fashion sector: a comparative study

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Summary

The resale of clothes has seen a rapid expansion in the last decade, making it a broad phenomenon primarily supported by young and female customers (Kestens, 2021). This paper questions whether two Belgian based resale organisations, the Think2 and Open Plaats, are using a 'circular economy' approach, and how much they adhere to circular principles. While identifying gaps in the approach of both organisations, some humble recommendations are made.

The paper first starts with a literature review to gain a full comprehension of what the circular economy is, in which context it was created and which principles it contains. It then selects the most relevant academic sources including the definition from Kirchherr et al. (2017) and the article by Dissanayake and Weerasinghe (2022) to evaluate the data retrieved from interviews with (former) employees of the Think2 and Open Plaats. These were conducted as semi-structured interviews. Further additional information was found in online sources including the Annual report (2021) of Open Plaats and academic articles sources (Farrant et al., 2010; Nørup et al., 2019).

It was concluded that both organisations do not have any significant 'reduce' policy in place, as defined by Kirchherr et al. (2017). This vital aspect of a circular economy for decreasing the impact we have on earth was not part of either organisational strategy. The development of such an approach or policy would be very welcome. Separately, each organisation has several other deficits and benefits that are specific to their organisational structure, which is international and large in case of the Think2 and small and local at Open Plaats. The former is characterized by its efficient sorting process and high sales rates but also features more transportation and thus, more emissions. The latter enables social employment for locals but has lower sales rates than the Think2.

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Chapter 1. Introduction

During the last decade, the resale model in fashion has been globally booming (Ellen MacArthur Foundation, n.d.). And indeed also in Belgium vintage clothes have seen a surge in attention, and have been worn and bought more often. Just in the period 2019 and 2020, the number of second-hand buyers has tripled. Especially, young and female customers drive this boom through online platforms such as Vinted. On top of that, these customers spend 50% more than the average Belgian person on garments. Thus, increasingly stealing sales of fast fashion retailers (Kestens, 2021).

This boom however is contradicted by the stagnant amount of textile waste in Belgium, which averaged 17,6 kg/person between 2008 and 2018 and still measured 17,5 kg/person in 2018, whereas in Germany this was only 3,4 kg/person in the same year (See Table 1). This illustrates that although indeed a boom happens in the resale fashion, it is not enough to counter the remaining waste levels. Indeed in 2019 in Flanders, only 3,7 kg/person is being resold/reused through informal and formal channels (Delanoeiye & Bachus, 2020, p. iii), which is a rather small amount compared to the textile waste in 2018. This questions if the resale boom is as big as the cloud it creates. Besides, the Ellen MacArthur Foundation (n.d.) found that booming models like resale and rental do not always result in environmental benefits. Basically, the Ellen MacArthur Foundation (n.d.) states that: "To successfully develop circular business models, their revenue must be decoupled from production and resource use. Currently, while they have great potential, these business models do not always achieve this decoupling and the environmental benefits that come with it."

1.1 Research Question

The previous statement of the Ellen MacArthur Foundation (n.d.) brings up the question of whether Belgium's resale businesses are as circular and environmentally friendly as thought. The research question for this paper is formulated as follows: Does the Think2 chain and the Open Plaats Non-Governmental Organisation or NGO, both active in Belgium, adhere to the concept of a circular economy? With the following sub-questions: In which regard does it correspond and which features are not encouraging a circular economy? What could be altered to make both business/organisational models more circular and sustainable?

1.2 Methodology

Firstly, a literature review will enable a profound analysis of the concept of a Circular Economy. Articles were selected by looking for the following terms in Google Scholar: circular economy, circular economy fashion (industry or sector), and fast fashion industry. Enabling to select valuable academic sources such as a definition, a framework and/or principles that are essential to the concept. Thereby, it will be possible to set up a questionnaire (See Appendix A) that targets exactly those important issues highlighted by the literature review. This approach will facilitate the analysis of the Think2 and Open Plaats in all their facets and by adopting a questionnaire with key aspects of the circular economy in the fashion industry, this paper is allowed to use a solid build evaluation tool that enables it to correctly analyse the business model of the envisioned organisations.

Data collection will then proceed by interviewing a (former) employee of the Think2 and Open Plaats and by using online available data. The interviews will be conducted by using semi-structured questionnaires based upon the selected literature, allowing for high-quality input, but still structured enough to proceed later on with a thorough analysis. Indeed, the questionnaire is not a rigid instrument, allowing for questions to shift in order. A semi-structured interview can get exploratory and non-structured responses (Clergeau et al., 2019). One person from each organisation was interviewed with the questionnaire. For Open Plaats this was former employee Astrid Mariens, who worked at Open Plaats until September 2021. For the Think2 an interview was held with a current employee, but the person in question asked not to be named.

Interviewee information was further complemented by personal communication by mail with Lore Nachtergaele, Open Plaats manager for the sorting process (personal communication, May 20, 2022), and with the Think2 employee, that had already been interviewed (personal communication, May 20, 2022). This additional communication was carried out to confirm already known information, verify other sources or get additional data.

The latter, online available data, will be composed of findings on websites, previously held interviews, financial data from the central bank (balance sheets), annual reports and other useful information. Especially, concerning sorting centres of the Think2 online sources (Farrant et al., 2010; Nørup et al., 2019) that were particularly insightful, as this data was not known by the interviewee (See Appendix C). However, the scope of the latter resources should not

be overestimated as the first exploratory searches were not very fruitful and the websites of both Open Plaats and Think2 have only so much information (Open Plaats, 2022a; Think2, 2022a).

Chapter 2. Literature Review

The literature review includes a first analysis of academic sources available online. These sources concern the circular economy and all its facets. It entails the following parts: The Linear Economic model (1) to show what the mainstream model of the economy is. Followed by a summary of sources about the Circular Economy (2) which also includes a detailed review of the Waste Hierarchy Principle (3) and the Systems Perspective (4). Also, literature that applies circularity to the fashion industry is explored (6) with further details on barriers and obstacles (7) and drivers and enablers (8). Finally, from all these sources the most important ones are selected to build up a frame of reference for evaluating (9) the data found on the Think2 and Open Plaats.

2.1 Linear economic model

To fully understand the circular economy concept and its aims, one should first explain and clarify the background in which it was developed. The current dominant economic model in the fashion industry is the linear model (Korhonen et al., 2018, p. 37). In other words, the common 'make, use, dispose' flow in which goods are at the end of their life cycle regarded as being worth nothing and often dumped or burned to get rid of. The owner decides where the goods, such as old tyres, end up. This model is primarily driven by a bigger, faster and safer mentality corresponding to emotion, fashion and progress.

Especially, the fast-fashion industry, with players such as H&M and Zara, is characterized by a pull approach where customers dictate trends that should be followed quickly. This is very polluting, in contrast to a push approach where manufacturers chose which designs and what quantities are produced (Vecchi & Buckley, 2016). The fast-fashion pull approach stands for an approach where the customers and the market orientate and dictate products' design, amount and production during a season resulting in high environmental damage (Niinimäki et al., 2020). This is achieved by small batches with a large variety, rapid prototyping, efficient transport, and items that are sale ready with price tags already attached when arriving in the stores (Skov, 2002). One such brand that is using those strategies is Zara which launches 24 collections in just one year (McKinsey&Company, 2016). Long and Nasiry (2022) found that a crucial driver of fast fashion for firms such as Zara is the will to offer a variety of clothes to clients, leading to a reduction in product quality. When market-wide variety thus goes up consumers also become more sensitive to new styles (Long & Nasiry, 2022). Further,

Chouprina (2014) summarized all the aspects of the fast fashion industry: swift collections change, absence of warehousing premises, cost-saving, “in the forefront” assortment, shopping agiotage, retail store appeal, minimization of sales and shopping activation.

Typically, fast-fashion customers think: “Why spend money on something that will last, at most, several seasons? Instead, acquire a number of items that are cheaper and offer a wide variety” (Joy et al., 2012). An illustrative quote for fast fashion from the article by Joy et al. (2012) is the following from a Hong Kong Office worker: “I fill up big garbage bags of things and then throw them away. It is a lot of wasted goods—some of which I may not even have worn more than once. I do feel guilty, but I have a small apartment and I cannot keep them.”

Thus, this model could be seen as a river where resources stem from sources or springs, get used along the way or are not even used, and end up being dumped into the sea (Stahel, 2016, pp. 435, 436) causing serious environmental harm including less diverse ecosystems and resulting in a shrinking of human potential habitation space, because of advancing deserts and rising sea levels (Korhonen et al., 2018, pp. 37–38). Indeed, the linear model thinks that resources are infinite which results in huge amounts of waste that are either incinerated or end up in waste dumps. The latter is especially true for the fashion industry (Dissanayake & Weerasinghe, 2022, p. 2).

The industry accounts for \$450 billion in global sales worldwide and is one of the most significant industries in terms of sales. Unfortunately, it is also the second most polluting industry. Its carbon emissions are even larger than those of all maritime transport and international flights combined (de Aguiar Hugo et al., 2021, p. 1). And according to the European Environment Agency (2019), it is also the fourth largest user of raw materials and water in the EU and globally (de Aguiar Hugo et al., 2021, p. 2; Dissanayake & Weerasinghe, 2022, pp. 1–2). Total water consumption of the sector has been estimated at a gigantic 93 billion cubic meters combined with 20 billion cubic meters of water for home washing. Totalling a staggering 113 billion cubic meters which intensely aggravates droughts (de Aguiar Hugo et al., 2021, p. 2; Dissanayake & Weerasinghe, 2022, p. 7). Additionally, of the total water pollution on earth, 20 % is due to dyeing and other treatments from the fashion and textile industry. Also, emissions of the industry run high with 1,5 billion tonnes of CO₂ equivalent only in 2015.

As already mentioned, textile waste is another serious issue for the respective industry: In the US, 11 million tons of textile went to landfills in 2015 alone. In 2018 in Belgium, total textile waste amounted to almost 200 000 tons and averaged 17,6 kg/person between 2008 and 2018 and which was still 17,5 kg/person in 2018, whereas in Germany this was only 3,4 kg/person in 2018 (See Table 1). This clearly shows that Belgium is lagging far behind concerning its textile waste reduction policy compared to Germany. Astoundingly, nowadays only 1 % of clothing waste is recycled back to clothing, 12 % towards low-value products such as mattress filling, wiping and insulation materials and 73 % is indeed landfilled or incinerated. Recycling is thus currently still primarily focusing on downcycling instead of recycling or upcycling (McKinsey&Company, 2016). Textile waste however not only includes post-consumer waste, but also pre-consumer including production waste (cutting), and unsold stock. This waste problem should, however, not be a large surprise seen the amounts of clothes produced. In 2014, the quantity of clothing produced was for the first time higher than 100 billion items. Thus, the equivalent to 14 items per person on earth! Unfortunately, the time an item is worn has also decreased significantly, namely by 36 % in the last 15 years. Items are thus disposed of before reaching their real end-of-life. Lastly, only 1% of clothes is being recycled in the US (Dissanayake & Weerasinghe, 2022, pp. 2, 7).

One last note on the fast fashion and the industry: De Aguiar Hugo et al. (2021, p. 1) argue that the larger fast fashion companies rather adopt a more defensive sustainability style than a more proactive approach such as smaller newcomers that have a sustainable mindset from the beginning. The latter can indeed incorporate innovations and sustainable supply chains from the beginning, whereas the older established brands are partly path-dependent and have certain risks such as “brand cannibalism and reduced performance” (de Aguiar Hugo et al., 2021, p. 1).

2.2 Circular Economy

CE has seen a rapid rise in attention during the last decade as a way of overcoming waste and other externalities (depletion of resources and climate change) of the linear model (Dissanayake & Weerasinghe, 2022, p. 2), both in academics and on part of private firms including consultancy firms like Deloitte, EY and McKinsey Company (Kirchherr et al., 2017, p. 221). But it has a much longer history, already in 1981 when Stahel & Ready-Mulvey (1981, as cited in Stahel, 2016, p. 435) launched a similar idea of substituting manpower for energy in the construction sector, which saw high energy prices combined with high unemployment which would result in less resource use and more labour. Eventually, although the idea started in Europe, it was only picked up very broadly when it was adapted to Chinese regulations in 2009 (Geissdoerfer et al., 2017, p. 766). But also though more historic examples a circular model can be identified, such is the case with the collection of milk and beer bottles and old iron (Stahel, 2016, pp. 435, 437). Some of them have regained popularity like the 'Pfand' or bottle deposit scheme in Germany (Cwienk & Banos Ruiz, 2021).

This rise in CE has only been slow. On the one hand, because of the silo structure between academics, business and administrations. On the other hand, due to a narrow focus on GDP within most countries, which only measures financial flows and not the physical stocks within a nation. The mounting pressure due to several crises, including the contemporary Ukrainian crisis and other concerns such as safety and ethics have pushed the CE model to the forefront of policy options (Stahel, 2016, p. 436).

On top of that, the term is especially seen as a more hands-on and easier concept than the much broader and vaguer 'sustainable development' (Kirchherr et al., 2017, p. 221). The latter was first coined in 1987 and stands for "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Korhonen et al., 2018, p. 38). More specifically three main aims can be identified (Kirchherr et al., 2017, p. 223):

1. An environmental quality aim, that concerns the discussion on how to maintain, restore and protect the environment and manage the transition to a carbon-neutral economy by using CE.

2. An economic prosperity aim asks how the transition to a sustainable economy can protect, strengthen and/or transform the current economy.
3. Finally, a social equity aim that asks how this transformation can be implemented while also keeping in mind society, human well-being and jobs.

Although, Geissdoerfer et al. (2017, p. 765) also warn of the confusion between the two terms of circular economy and sustainability/sustainable development. They also underline the previous mentioned three aims or dimensions of sustainable development. These dimensions are not always underlined by authors writing about the circular economy. Their main interests are input, waste and emission output, whereas issues like land use, biodiversity and a social dimension are often neglected (2017, p. 765). Thus, often CE leads to a more pragmatic and narrowed down version of sustainable development.

Whereas the linear model, as mentioned above, can be described as being a 'river', the concept of Circular Economy or CE can be better understood as representing a lake in which resources are reused and waste is reduced significantly (Stahel, 2016, p. 436). In a way, the concept tries to decouple economic growth from material and energy use, so that the latter stagnates or even decreases (Hultberg & Pal, 2021, p. 686). Material flows are thus intended to circulate within a certain system over and over again, with only a minimum of new resources being added. In this regard, three strategies can be defined as "slowing (slow the resource use), narrowing (use fewer resources) and closing the resource loops (close the loop between post-use and production)" (Dissanayake & Weerasinghe, 2022, p. 2). A good example of a CE model would be the reuse of a glass bottle, as mentioned before, as this is less energy and resource-intensive than making a new bottle and only using a bottle once (Stahel, 2016, p. 436). As a result of these economizations, it is argued by Dissanayake & Weerasinghe (2022, p. 2) that CE business models can entail significant economic, environmental and social benefits.

2.2.1 The Waste Hierarchy

The Circular Economy, however, as a more pragmatic approach to sustainable development has already been defined in multiple ways. An early conceptualization was the 4R-framework (Kirchherr et al., 2017), which stands for **reduction** by reducing the materials used, **reuse** by the re-utilization of a good by another consumer or in another product or service, **recycling** by bringing back products to their basic materials and using those in new products and

recovery for underlining the energy left in waste (Demestichas & Daskalakis, 2020, p. 2; Janik & Ryszko, 2019, p. 524). Some scholars even increased the 4R-framework to a 6R or 9R-framework (Demestichas & Daskalakis, 2020, p. 2).

The study of Kirchherr et al. (2017, p. 226) shows however that of the 4R framework the most frequently reoccurring term in definitions of the circular economy is recycle (79%), followed by reuse (74-75%). Of those definitions, many do also not include a form of waste hierarchy in which reuse and repair prevail over recycle or recover. Thus, enabling firms or other organisations to adopt the path of least resistance with only smaller sustainability gains. Also, many definitions do not include the social equity aspects of the circular economy, nor do they have a reduce aspect and thus, focus only on a more narrow 3R-framework (Kirchherr et al., 2017, pp. 227, 229).

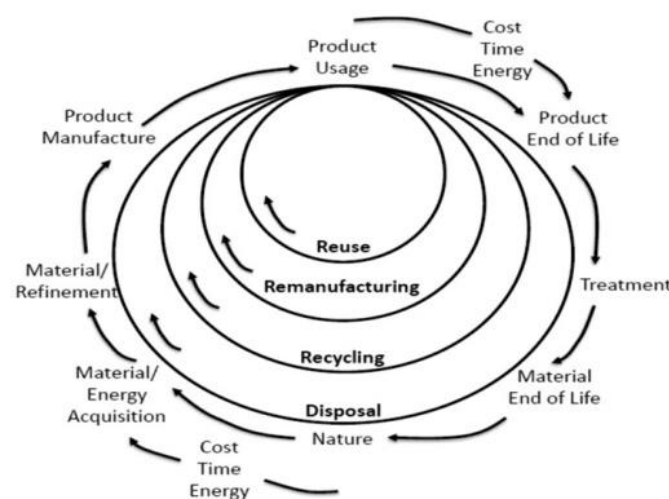


Figure 1. The Circular economy concept. Source: Mihelcic et al. (2003).

The waste hierarchy principle is indeed core to the CE as it defines which process is giving a preference above another as can be seen in figure 1. Mihelcic et al. (2003, p. 5315) state the following: “In most cases, the inner loops of reuse and remanufacturing are preferred, requiring less raw materials, energy, time, and cost.” For example, the reuse of a product is preferred above remanufacturing a product. Even less preferred would be recycling the product for the materials only. Furthermore, the disposal of a product or good would only be a last resort (Kirchherr et al., 2017, pp. 227, 229). Lastly, this waste hierarchy principle also implies that once a raw material is extracted and processed into a final good, the good should be used as long as possible (Korhonen et al., 2018, p. 39).

As a result, materials should always be used according to their highest potential value. However, one can note that the critique of Kirchherr et al. (Kirchherr et al., 2017, pp. 227, 229) is certainly justified as Mihelcic et al. (2003, p. 5315) also only use a 3R-framework including reuse, remanufacturing and recycling, thus ignoring the reduce aspect.

One flaw of the waste hierarchy is that it still allows for materials to end up as waste at the end, which is still having an impact on nature. Indeed, often materials or products are downcycled, instead of upcycled. For example, when bottles are recycled into t-shirts which cannot be recycled anymore or t-shirts into wipers. And even when one recycles a product, often some parts or materials are lost. Therefore, the cradle-to-cradle principle has been promoted by McDonough & Braungart (2003). The latter advocates for the use of resources for a specific product so that at the end of the lifecycle of that product the materials used can be reused in other processes without being downgraded.

2.2.2 Systems Perspective

Another core principle of CE has been launched in 2012 by the Ellen MacArthur Foundation (2012) called the systems perspective. This would be “understood as a system that is designed to be restorative and regenerative” (Charonis, 2012 as cited by Kirchherr et al., 2017, p. 227), in which all stakeholders are involved including designers, manufacturers, suppliers, retailers and consumers (Dissanayake & Weerasinghe, 2022, p. 17). Although, many sources mention the macro-level of these systems, even more, important and prominent is the meso-level, concerning regions, provinces, industry parks and cities. Indeed, underlining the importance of regional CE efforts in for example industrial parks, cities or provinces (Kirchherr et al., 2017, p. 227). This entails that the more local actions are the better for the circularity. Telling is the following quote by Mattila et al. (2010): “In a local recycling network that was very successful in waste and by-product utilization, the biggest environmental impacts occurred outside the local industrial park in its supply chain.”

Korhonen et al. (2018, p. 39), however, added an aspect to the CE model by underlining that a circular economic system on itself cannot be restorative and regenerative in the sense that it uses 100 % renewable energy and recycles all materials. Therefore they add that CE stays a linear model in which the throughput value of materials is maximized in a way that “limits the throughput flow to a level that nature tolerates and utilises ecosystem cycles in economic cycles by respecting their natural reproduction rates” (Korhonen et al., 2018, p. 39). Thus,

nature should be allowed to only cope with the amounts of pollution and emissions it can process by itself. By clarifying this, the authors give a more sensible and less idealized view of the CE concept.

2.3 Fashion and Circularity

The pollution and waste of the fashion industry in combination with the concept of a circular economy surely show and underline the necessity of transformation in this respective sector. But what does it mean in practice for fashion companies and the fashion industry in general? Indeed the concept of a circular economy has been suggested widely for implementation in this particular industry (Hultberg & Pal, 2021). Waste in CE is seen as a resource and something valuable, instead of something that is not worth anything anymore. This implies that waste should be redistributed and returned to places where it can be reused again in a new process. Furthermore, it implies that the fashion industry in general should focus a lot more on the longevity and sustainability of the products it creates (de Aguiar Hugo et al., 2021, p. 2). Upcycling or recycling, both become vital parts of the whole clothing circle. The former can be defined as using in a creative way “materials that would otherwise be discarded in new ways or for better purposes without degrading quality and composition” (de Aguiar Hugo et al., 2021, p. 8). However, nowadays the process looks rather different even for second-hand shops, where the best, donated pieces are being resold on western markets, lower quality in Eastern Europe and Sub Saharan Africa and the worst in the best case recycled, or otherwise landfilled or even incinerated (Farrant et al., 2010). National numbers for the UK show that only 3 % is resold in the UK itself, 75 % is being exported and 18 % is recycled (Bartlett et al., 2013 as cited by Boiten et al., n.d.).

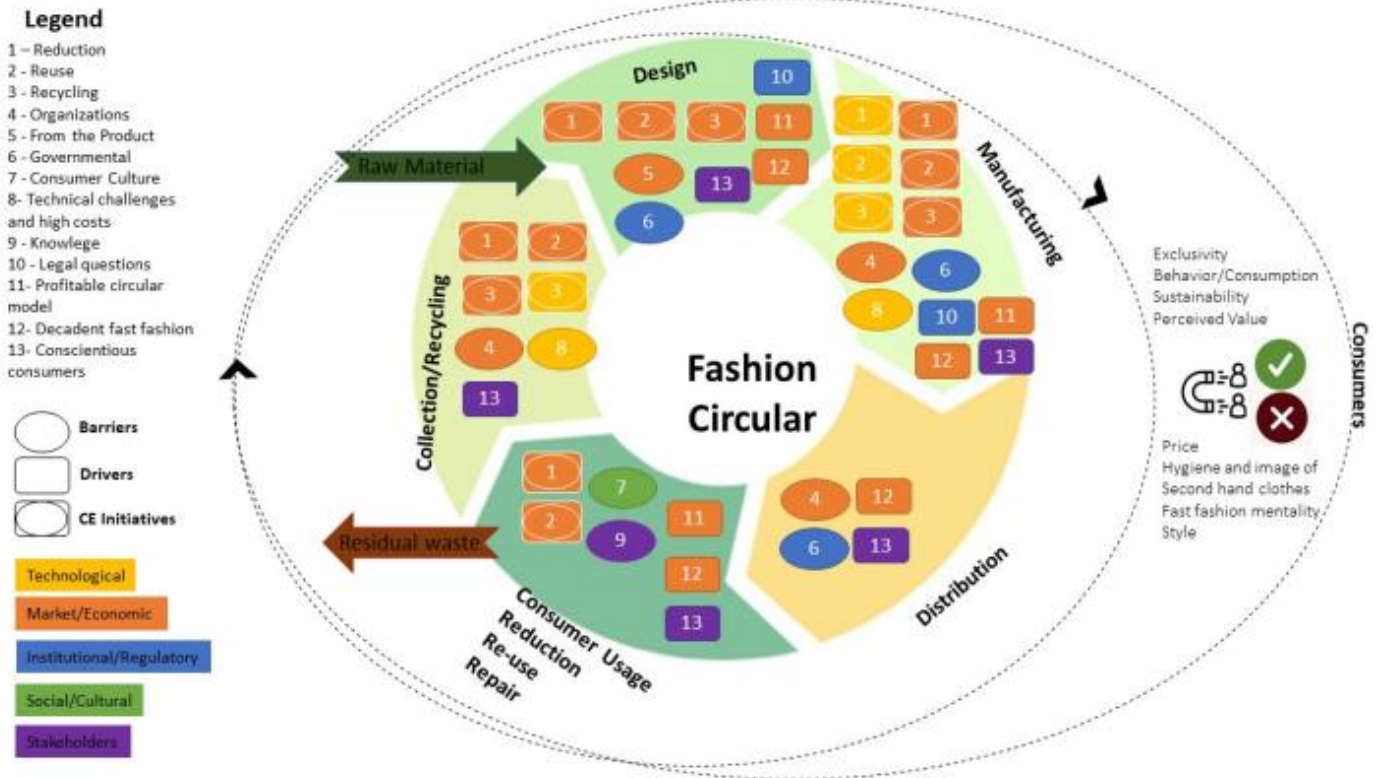


Figure 2. Initiatives, barriers, and drivers in CE are applied to various stages within the fashion industry. Source: de Aguiar Hugo et al. Aguiar Hugo et al. (2021, p. 5).

According to de Aguiar Hugo et al. (2021, p. 5), the distribution process of the fashion industry can still improve a lot in terms of emissions for example cleaner transport, proximity or more efficient routes should be considered. Furthermore, they found several strategies (Reduction, Reuse and Recycling) already described in the literature to improve the sustainability of the fashion industry. For this paper especially Reuse initiatives are very applicable (de Aguiar Hugo et al., 2021, p. 6): “Second-hand Clothes and Rented Clothes – second-hand clothing sales and rental stores extend the lifespan and reduce the production of more fashion items.” Second-hand clothes are clothes that have already been used before (Cervellon et al., 2012, p. 958). The disposal of second-hand clothes occurs when the original owner no longer needs/keeps an item and occurs in different ways (Herjanto et al., 2016, pp. 3–4): ridding when clothes are not useful anymore and typically end up in landfills, recycling when clothes are in good or okay condition and brought to a recycle shop or charity, donating when clothes are donated to a charity, a religious organization, sharing and exchanging can be identified as viable options when clothes are shared or exchanged within a network or community and lastly, reselling an

item oneself is also an option for individuals. Interestingly, not only the donation channel is a factor, but also personal characteristics play a certain role. For example, older people, women and religious people tend to donate clothes more than men who dispose of them rather by putting clothes in the trash bin (Herjanto et al., 2016, p. 4).

After donation, clothes need to be sorted before they can be sold. This process is crucial for reusing clothes. The more clothes are categorised as being valuable and still saleable, the less waste and pollution occurs. As mentioned earlier, lots of clothes end up as waste in Belgium, almost 200 000 tons in 2019 (Table 1). Thus, sorting those goods to look for potential useful materials and products can result in huge material gains. Recycling factories in Taiwan under the Taiwan Environmental Protection Administration sort around 30 % of their incoming clothes as reusable, whereas it is estimated that 50 % is reusable. Thus 70 % of all clothes collected end up as waste (Lin et al., 2020).

But also other strategies such as mending damaged clothing, slow fashion or textile recycling are all applicable to the two selected cases. Slow fashion or consumption reduction is particularly useful because it relies more on extending the lifecycle of clothing already owned by customers instead of buying new items in rapid succession (Fletcher, 2010).

2.3.1 Barriers and Obstacles

In the following section, an oversight is given of barriers and obstacles that might occur in the second-hand sector. Firstly, although the concept of slow fashion might seem attractive it also entails several barriers that need to be overcome. For example, de Aguiar Hugo et al. (2021, p. 8) acknowledge that a slow fashion strategy entailing for example smaller batches and more local materials often results in competitive problems and a significant loss in sales and profits.

In general, the fashion industry has other barriers too for a more circular approach: Logistics remains an issue as opening clothing rental and second-hand stores from a transport perspective can be very challenging (de Aguiar Hugo et al., 2021, p. 8). Especially in the fashion sector which is highly globalized and interconnected making it hard to ensure transparency about the origin, let alone about the circularity of goods throughout the whole supply chain (Dissanayake & Weerasinghe, 2022, p. 13).

Besides, the average business does not see waste as a resource yet. Making it hard to close resource loops (Dissanayake & Weerasinghe, 2022, p. 14). For example, this can be true for

second-hand stores that package their goods for example by using plastic and afterwards getting rid of the plastic by putting it in the bin.

Specific barriers for consumers are typically poor clothing representation and hygiene at second-hand stores. Lots of people still do not know where second-hand clothes come from and thus hesitate over the origin (de Aguiar Hugo et al., 2021, p. 8). Consumers have been quoted to find it 'weird' and 'creepy' to wear clothes that have been worn by somebody else. Furthermore, judgemental family and friends about second-hand clothes can also form an obstacle (Hiller Connel, 2009). Consumers also tend to sometimes lack interest or awareness about circular economy initiatives. Returning end-of-life goods to the producer after usage can still form a barrier and requires consumer commitment and a new level of relationship between producer and consumer. But when those return systems, including collection and sorting, are set up, retailers typically struggle with implementing them in a cost-effective way (Dissanayake & Weerasinghe, 2022, p. 14).

Unfortunately, the fast fashion trend also has an impact on second-hand stores themselves as they have a harder time finding second-hand quality clothing (Circle Economy, 2019). As mentioned earlier the 'make, use, dispose' tendency of fast fashion, results in lesser quality (Stahel, 2016, pp. 435, 436). This in return has an impact on donations made to second-hand retailers. For example, Oxfam Ireland reported that in 2017 donations increased by 2%, but only 10 % of all donations were of sufficient quality (Circle Economy, 2019). Thus for the 90 % of other clothes, there needs to be found an alternative market or option, otherwise, they are just incinerated or landfilled. However, a sole focus on waste is also not the only important thing. According to Roos et al. (2016), waste or end of life leftovers are only contributing a very small portion of the whole carbon footprint of clothes. Although distribution and retail are not among the largest polluters it is, however, significantly larger than the carbon footprint of waste/end-of-life. Thus, the focus should not only be on second-hand clothing but also focus on the 'make' and 'distribution' part of the whole life cycle of clothing in general (Brydges, 2021, p. 2).

2.3.2 Drivers and Enablers

On the other hand, also drivers of CE can be found. These can be regulatory, market/Economic, technology/innovation or through stakeholders (de Aguiar Hugo et al., 2021; Dissanayake & Weerasinghe, 2022, p. 15). One major driver is that sustainable initiatives

can create higher revenues for example by energy saving, reducing packaging waste and so on (de Aguiar Hugo et al., 2021, p. 10). This is often in combination with a new technology or an innovation that enables these savings.

As already mentioned in the barriers section, logistics is also key in the fashion industry, not only for the production supply chain but also for the reverse logistics process, as this is an essential part. Efficiently collecting used clothes is indeed an essential stepping stone. Unfortunately, these reverse logistics processes are still scattered around. Often charities, municipalities, social enterprises and waste collectors all act through a patchwork of initiatives. Streamlining this whole process by reducing the number of actors, providing incentives for returns and better visible returning points would definitely help (Dissanayake & Weerasinghe, 2022, p. 15).

Also increased consumer awareness is a driver and still improving a lot (de Aguiar Hugo et al., 2021). Not only stemming from environmental concerns but buying second-hand for instance can also be motivated by financial, frugal, material and psychological reasons (Machado et al., 2019, p. 384). But consumer awareness could still be levelled up so that consumption patterns change towards longer use, reuse and sharing of clothes. Indeed, one could further educate users on the impact that clothes have on the environment (Dissanayake & Weerasinghe, 2022, p. 16).

Regulatory drives implicate certain policy changes so that circular business models are supported by appropriate government incentives. Nowadays there is no mandatory return system for consumers and initiatives are still lacking in this regard. Furthermore, governments could provide capital for start-ups, VAT reduction and so on for a better environment to start a circular business (Dissanayake & Weerasinghe, 2022, p. 16) and help citizens start street fairs and other more social activities with a Circular model (Machado et al., 2019, p. 393).

2.4 Evaluation of Findings

The following section selects relevant articles and definitions for use as an 'evaluation tool' for the collected data through interviews and online sources. The article by Dissanayake & Weerasinghe (2022) and the Circular Economy definition of Kircherr et al. (2017) are selected.

Although not named a framework, the article by Dissanayake & Weerasinghe (2022) gives an elaborative view of all circular economy business models/policy/strategy options that are

currently available in the fashion industry. The paper is therefore a perfect basis for categorizing the existing models of both the Think2 and Open Plaats. The authors recognise the following strategies to implement circular economy principles:

- a. Resource efficiency: (1) use of renewable and sustainable raw materials, (2) waste minimization and (3) reduction of resource consumption;
- b. Circular design: (4) design for longevity, (5) design for customization, (6) design for disassembly, (8) design for recycling and (9) design for composting;
- c. Product Life Extension: (10) repairing services and (11) sharing platforms;
- d. End-of-life Circularity: (12) reuse, (13) remanufacturing and (14) recycling.

Furthermore, those models will be evaluated by using the Circular Economy definition of Kircherr et al. (2017) define CE as follows:

“A circular economy describes an economic system that is based on business models which replace the ‘end-of-life’ concept with reducing, alternatively reusing, recycling and recovering materials in production/distribution and consumption processes, thus operating at the micro-level (products, companies, consumers), meso-level (eco-industrial parks) and macro-level (city, region, nation and beyond), with the aim to accomplish sustainable development, which implies creating environmental quality, economic prosperity and social equity, to the benefit of current and future generations.”

Even though this is a rather long definition and entails many aspects of the circular economy. It is holistic and highlights all the important elements of CE including the waste hierarchy principle, the different operational levels of CE and the three sustainability principles. On top of that, the article has been cited 3284 times (Google Scholar, n.d.), which indicates the large influence it has.

Although other definitions and frameworks were considered, for instance, the ReSOLVE framework from the Ellen MacArthur Foundation & McKinsey Centre for Business and Environment (2015), which stands for regenerate (increase renewable energy), share (share products), optimise (increase the efficiency of a product and its resources), loop (remanufacture or recycle), virtualise (digitalise utility of products), exchange (innovate). The latter was harder to apply to our case, whereas the waste hierarchy principle of the Kircherr et al. (2017) definition offers a clear and transparent evaluation method.

Also, the following definition by Murray et al. (2017) was considered as an option: “an economic model wherein planning, resourcing, procurement, production and reprocessing are designed and managed, as both process and output, to maximize ecosystem functioning and human well-being”. It is much more a systemic-wide definition than a definition that is really applicable to an enterprise. Therefore, it is not as clear cut as the one of Kirchherr et al. (2017) for analysing the efforts of a firm. Although, it certainly has some valuable aspects to it.

Chapter 3. Findings

The third part of this paper summarizes the findings of both selected organisations. First, the Think2 is elaborated upon and afterwards information on Open Plaats is developed in detail. Both organisations are first given a rather general introduction section, followed by general findings, supply chain & operations and a sales part.

3.1 The Think2

Think2 is a resale chain and company active in Belgium and Germany of which the first store opened in 2007 (Think2, n.d.-a), with the mother organization being of Lithuanian origin, namely the Humana Second Hand Fundraising projects (Annexe du Moniteur Belge, 2007; Think2, 2022a), which is a public establishment and is itself owned by another NGO, named Humana People to People Foundation based in Switzerland (Grant Thornton, 2020). The latter is a not-for-profit organization specialised in second-hand clothing stores, backed up by its sorting centres. In general, it has more than 200/300 stores with around 3000 employees. In Belgium, it has 12 shops in the main touristic cities (See Appendix C and Table 2; Think2, 2022a). According to the Belgian company's website (Think2, 2022a): "Moreover, the company's mission is to be a chain that promotes sustainability, affordability, be socially responsible and an organization that gives back to the community. The company's contribution for donation in 2019 was € 600,000 and €289,920 in 2020." Total donations of the whole group in 2020 amounted to 3,5 million euros going to human and sustainable development projects over several continents (Think2, 2022a). The brand in Belgium sells its second-hand clothes on a 5-week cycle, by which at the end large promotions are given to their customers to sell the leftover stock available in the shop.

3.2 General Findings

The concept of the circular economy is well known by Think2 and they promote themselves as one of the actors that can certainly be of a positive impact on the planet. While also referring to a 3R framework, Reduce, Reuse and Recycle, they claim to also support this framework. According to their website, they "encourage our customers to avoid buying things that are not needed or spontaneous [...]" (Think2, n.d.-a). Furthermore, they underline that especially in the case of water usage, buying second-hand can alleviate water usage from production by prolonging the lifecycle of fashion items (Think2, n.d.-b).

In general, the Think2 is still growing heavily and steadily opening new shops (See Appendix C; Dhondt, 2021). The interviewed employee of the Think2 did not recognize any significant barriers for the Think2, although sourcing and collection of enough clothes can become a problem in the future due to the growing competition. Drivers for second-hand sales are social media including Instagram (See Appendix C; *Think Twice Belgium*, n.d.) and the presence of a large student population in cities (See Appendix C). This synthesises in the following quote by the interviewed Think2 employee:

“First and foremost, social media, like Instagram, is an important channel for our communication. [...] Especially for younger customers, this social media is quite important.”

Surprisingly, the interviewed Think2 employee believed in the fact that the Think2 is a company:

“The company [The Think2] stems forth from a gap in the market, as the Think2 has long been the sole large second-hand clothing shop in Belgium apart from the “Kringwinkel”. [...] Lastly, although Humana, the mother company, supports a lot of philanthropic causes, it remains a company.”

Although, numerous sources including the website of the Think2 (Think2, 2022a) tell otherwise, indeed, this employee was convinced that the organisation was, in fact, a company. However, the constitution certificate of the Think2 and the annual report of the parent organisation confirmed that Humana Second Hand Fundraising Projects is an NGO (Annexe du Moniteur Belge, 2007; Grant Thornton, 2020).

3.3 Supply Chain & Operations

All clothes from the Think2 come from the mother organisation Humana in Lithuania. These clothes are collected in several countries such as Finland, Belgium, Russia (before the current Russia-Ukraine war) and other countries. The collection process consists of different channels such as donations, retailers and enterprises that collect clothes themselves. After acquiring those clothes, they are gathered in sorting centres situated in Lithuania or Turkey. Donators in Belgium get a Think2 voucher of € 2 for donating a bag of clothes (See appendix C).

About the sorting process, not much is known in Belgium by the interviewed Think2 employee (See Appendix C):

“[The] Think2 is a very large international organisation and I do not know a lot about the sorting centre.”

From an article by Farrant et al. (2010), it was established that in sorting centres clothes are industrially washed, sorted and again distributed according to their quality to the second-hand shops, sold to enterprises that recycle the items in wipers or export them, landfilled or incinerated. Think2 notes on their website that “[their] wide selection of items from different decades and styles are carefully picked and selected” (Think2, n.d.-b).

This careful selection is reflected in the study by Farrant et al. (2010). They concluded that of 100 clothing items collected in Sweden and Estonia and sorted items in Lithuania (See table 3): 21% is going back to Humana second-hand shops in Sweden and Estonia, 7% to wholesale or also shops, 30% exported to Africa, 33% for recycling and 9% is landfilled. However, this study was conducted in 2010 with data from 2007.

These numbers have apparently changed over time and are different according to a more recent study by Nørup et al. (2019). This study, based upon data from 2015-2017, showed that only 6,0 % of items in 2017 are primarily landfilled or sometimes incinerated, in contrast to 9 % according to Farrant et al. (2010). Furthermore, it was found by Nørup et al. (2019) that in 2017 74,9 % of clothes were reused and 17,3 % recycled. The leftovers are 0,7 % non-textile reuse and 1,1 % non-textile recycle (Nørup et al., 2019).

Of all clothes handled by Humana, 31,9 % are destined for Humana and Think2 shops and are part of the reuse category (See Table 3). The other part (43 % of all clothes handled by Humana) is mainly destined for Pakistan, followed by Benin, Russia¹ and Togo (Nørup et al., 2019, Appendix D, Table D1). Humana and Think2 shops also return clothes to the central sorting centres. This is of the total amount of clothes processed by the organisation 3,8 %. In other words, 11,9 % of all clothes sent to the stores are sent back and go to the main sorting category which is not distributed among Think2 or Humana shops anymore, but among the countries mentioned above (See Table 3). This number corresponds approximately with the

¹ In 2017.

numbers in Belgium: an estimated 84,7 % is sold and 15,3 % is sent back to Lithuania (Authors own calculations based upon Think2 employee, personal communication, May 20, 2022)².

This paper uses the data from the study by Nørup et al. (2019) to compare the Think2 to Open Plaats as this is thus more recent data and corresponds with what the interviewee told us.

Transportation of clothes to and from Lithuania is done by truck. All transports in Belgium arrive in Antwerp, where clothes are stored in a warehouse and are further distributed among all shops. Apart from carbon emissions of transport, other by-products of these operations in Belgium are paper price tags and plastic rings to attach those tags, carton boxes, and furniture that is mostly second-hand too (See Appendix C).

3.4 Sales

As noted earlier, the Think2 uses a five-week sales system, where clothes are two-and-a-half weeks priced at standard prices given in Lithuania, after which the remaining clothes are decreasingly priced at a discount rate starting at -30%, to - 50%. Thereafter the euro-days start at €5, €4, €3, €2 and €1 (See Appendix C). Unsold clothes are sent to Lithuania for redistribution. Clothes that are sold can come back through a donation, but this is neither promoted nor followed up (See Appendix C).

One principle of shop management of the Think2 states that for all 100 sold items, 115 should be hung instead. This in combination with targets set by the mother organisation and respective bonuses results in a tangible pressure for employees to sell a required amount of items per week per shop (See Appendix C). About this, the interviewee noted that:

“ We do have targets that are vital for the Lithuanian mother company. Everything sold above the targets results in a bonus for every employee, depending on their position. This is certainly a motivation.”

² Numbers on sales in Belgium were given for 30th of March 2022 until the 4th of May 2022 for a whole five week cycle for one shop. During that period 5000 kg of clothes were delivered of which eventually 766 kg were sent back. Thus, 84,7 % was sold and 15,3 % was sent back (Think2 employee, personal communication, May 20, 2022).

Related to this is a certain consumption mentality of customers. The interviewed Think2 employee noted that (See Appendix C):

“I sometimes hear customers say: “I’ll buy it, it’s only €2.” So yes, this [clients buying unnecessary stuff] happens. Although, I do think that the advantages of second-hand clothing are by far larger than all the externalities of fast fashion.”

3.5 Open Plaats

Open Plaats is a not-for-profit organisation selling all sorts of second-hand items and is based in Ghent, Belgium. It operates two shops in or close to Ghent: one in the neighbourhood Brugse Poort and one just outside of Ghent in a suburb of Destelbergen (Open Plaats, 2022a). The organisation also has one warehouse. In 2020, they collected 756 919 kg of second-hand items including textile, books, furniture, utensils, bicycles and so on (Open Plaats, 2021). Furthermore, they offered 203 persons a social work opportunity where they can develop themselves into more competent labourers. Additionally, Open Plaats also works with 130 volunteers and a permanent staff of 16 employees (Open Plaats, 2022a) that support the main aims of the organisation which are the reuse of goods, social employment, and a social service focused on poverty reduction. In 2020, the latter entailed both food and financial support for 1615 persons (Open Plaats, 2021). The turnover of Open Plaats was € 643 537 in 2019 (See Table 3).

Open Plaats, however, does not function on itself. It is supported by the umbrella organisation Herw!n, which is an organisation focusing on the social circular economy. It supports 163 second-hand shops in Flanders which collect together every year about 83 000 tons of goods (Herw!n, n.d.). For these shops, it foresees a qualitative label, quality controls and also a house style (See Appendix B).

3.6 General Findings

The CE is well known by both Open Plaats and its umbrella organisation Herw!n. Herw!n (n.d.) for instance states that “social circular entrepreneurship is the new normal.” Also in the annual report of Open Plaats, a reference to the circular economy can be found. The report states that “reuse an important part is of the circular chain” (Open Plaats, 2021).

In 2020, Open Plaats opened a new shop in Destelbergen. And although the corona crisis certainly reduced the opening time of donation points because of lockdowns, every reopening

saw more donators coming to those points. Also, the average number of clients per day increased from 332,3 in 2019 to 352,9 in 2020. Unfortunately, the turnover because of closures was impacted and decreased from € 643 537 in 2019 to € 554 444 in 2020 (Open Plaats, 2021). Apart from the Covid 19 crisis which was a general barrier for all retailers, Open Plaats has its own barriers concerning its operations (See appendix B): (1) the number of clothes coming in is larger than what the shops can sell, (2) clothes with stains and/or of poor quality cannot be sold, (3) the amount of qualitative clothes for men is smaller than for women, (4) dirty clothes, (5) the sorting process is a space- and time-demanding operation. Astrid Mariens (See Appendix B) stated that concerning barriers:

“Not really for the promotion, but the amount of clothes coming in is certainly a challenge as this is way larger than what the shops can sell. [...] Often there is also garbage between the donations and [...] the whole sorting process is a space-demanding process, which ‘Open Plaats’ does not have [...].”

3.7 Supply Chain & Operations

3.7.1 Donations

Most collected clothes come from donation points in the shops, followed by pick-ups at people's places and lastly by textile collection containers located further away from shops. Although no numbers were given during the interview (See Appendix B), the annual report of 2020 states that collected goods have indeed been collected in the aforementioned order. More precisely 643 512 kg has been brought to shops, 241 039 kg was collected by pick-ups, and 16 137 kg by textile collection containers. The donation points in shops have seen a significant facelift in 2020 ensuring more customer engagement by letting customers sort the first part of donations themselves (Open Plaats, 2021, pp. 23–25). In 2021, 139392 kg of clothes were donated to Open Plaats (Lore Nachtergaele, personal communication, May 20, 2022). Donations are not reimbursed by Open Plaats (See Appendix B). Astrid Mariens (See Appendix B) stated, however, that:

“Open Plaats does have some smaller actions such as the day of the giver when every donator is given a small present. This small present can be for example a book when there are too many books in stock, or a small plant or voucher.”

The second method by pick-ups is carried out with small trucks in the direct vicinity of Ghent (Plaats, 2022). Lastly, textile collection containers are placed at public dumps. However, they have been closed longer than the other two donation options as donations were flooding the whole sorting process and the processing of clothes could hardly follow (Open Plaats, 2021, p. 26). That the collection of clothes is not at all a barrier in all operations of Open Plaats was also confirmed by Astrid Marien during an interview (See Appendix B). Additionally, at several moments, members of Open Plaats also stood at public dumps to raise awareness of wastage and the impact it has on the environment (Open Plaats, 2021, p. 26, See Appendix B).

One remark from the interviewee, Astrid Mariens, (See Appendix B) though would be that the quality of donated clothes also depends on the area where they were collected, interestingly she highlighted the municipality, Destelbergen, as a better source of quality clothes, compared to the neighbourhood Brugse Poort which is a part of Ghent, also has a higher average income, € 25 195, compared to Ghent, €19 825 (Gemeente-Stadsmonitor, n.d.). Although not statistically proven in this paper, the correlation between the two could be a question for further research.

3.7.2 Sorting

After acquiring clothes, they are gathered in small working spaces in the same building where the shops are located. These workrooms also serve as sorting centres. Thus, sorting is a very local process at Open Plaats with every category of employees also helping during the process. This process is carried out in different stages. First, a rough selection is held to keep out most clothes that are deemed too dirty, have very visible stains or a stench. Interestingly, Astrid Mariens (See Appendix B) noted that: *“This [first stage] entails the largest part of clothes that are deemed unsaleable.”*

Afterwards, clothes are passed on to a different room in which they are checked in more detail on certain criteria such as stains under the armpits. Sorting guidance and explanation are given through visual clues such as images. It certainly needs to be noted that clothes are not washed during the whole sorting and processing operation. It is thus demanded from donators to wash clothes (See Appendix B).

During the sorting process, clothes get divided into three categories at Open Plaats: (1) saleable and (2) non-saleable for Open Plaats. Saleable clothes (1) are sold in the shops.

Clothes that are non-saleable but of okay quality (2) are sold to enterprises for recycling into handbags and other goods or for export (See Appendix B). These purchasers are recognized recyclers by the Public Flemish Waste Material Society or OVAM (Lore Nachtegaele, personal communication, May 20, 2022; Open Plaats, 2021; OVAM, n.d.).

Of all clothes donated only 25 % are (1) suitable for sale in shops. The other 75% goes into bags destined to be bought by (2) textile processing companies that are recognised by OVAM. These companies take care of the further dispatching of the textile (e.g. cleaning cloths, export,...). Open Plaats itself no longer makes this selection. About 1/4th of the textiles offered in the shop are actually sold. What does not get sold is put in a rag bag and goes to the above-mentioned buyers (Lore Nachtegaele, personal communication, May 20, 2022).

Additionally, Open Plaats also has a volunteer that mends clothes. This would not be possible if it were an employee as this would certainly be too time and money consuming (See Appendix B). Finally, most clothes are donated in bags, according to Astrid Mariens (See Appendix B):

“These are first controlled on holes. Afterwards, the bags are sorted upon their largeness into two categories: small and large. The smaller ones are given away for free to customers and the larger ones can be bought for 25 cents.”

3.8 Sales

Importantly, textile is the most important part of turnover for Open Plaats with 37,6 % of the total turn-over budget (Open Plaats, 2021, p. 29). In stores, Open Plaats uses a four-week system with different colour codes on reusable price tags to know how many weeks an item has already been for sale in a store. Thus, every week items that have been in place for four weeks are taken out from one colour and replaced with new clothes. Furthermore, clothes are hung up in the shop according to the colour of the garment to make the shop look more attractive. Another sale method is applied when stocks are full: Then a sale of clothes per kilo is carried, but this happens only on an irregular basis. An online method for sales is no feature of Open Plaats (See Appendix B).

No slow fashion policy is installed nor a ‘reduce’ policy. The justification, therefore, is that second-hand clothes are already less taxing for the environment and the money is needed for the other missions including poverty reduction and social employment. Nor is there a

recollection system in place for clothes bought at Open Plaats, so that customers can return clothes after using them (See Appendix B). There are also certain yearly targets in place. However, Lore Nachtergaele (personal communication, May 20, 2022) nuanced that:

“As a thrift shop, you are dependent on what the bringers provide, so this also has a direct impact on the supply in the shops and the associated revenues per product group.”

In general, the main efforts are not going to marketing although some campaigns have been set up like ‘Kringbling’ and Open Plaats is also active on Social Media including Instagram and Facebook to promote clothing (See Appendix B).

Chapter 4. Discussion and recommendations

Comparing the Think2 and Open Plaats is no easy task. However, in the following chapter, their CE efforts will be evaluated and compared to one another. Before starting it should be noted that both organisations identify themselves as active CE players in the fashion industry and communicate in that way to their stakeholders (Herwin, n.d.; Open Plaats, 2021; Think2, n.d.-a, n.d.-b). Another similar characteristic is their positive growth, which has resulted in expansion for both organisations (See Appendix C; Dhondt, 2021; Open Plaats, 2021). This, however, has been more rapid for the Think2 standing at 10 stores now since being established in 2007 and Open Plaats which has now 2 stores, of which the second store reopened on a different location in 2020 with twice the sales surface as the previous one (Open Plaats, 2021).

What follows is first an analysis of both models through the lens of the article by Dissanayake & Weerasinghe (2022) and their proposed strategy options. Followed an analysis by using the definition by Kirchherr et al. (2017). Subsequently, the supply chain and operations are discussed of both organisations with special attention to the sorting process. Also, the sales methods of both organisations are reviewed. Finally, general recommendations and specific ones for each organisation are made.

4.1 Circular fashion strategies

From all the (aforementioned) circular fashion strategies that were summarised by Dissanayake & Weerasinghe (2022), the Think2 is primarily focusing on the (12) reuse of clothes. Also (14) recycling can be seen as part of their model, although this is only a by-product of their functioning. Thus, the Think2 focuses on end-of-life circularity.

Concerning Open Plaats, a similar conclusion can be made: (12) reuse of clothing is core to their business, as stated in their mission (Open Plaats, 2021) and (13) recycle is a by-product that generates a small additional income stream (See Appendix B). However, Open Plaats is also able to invest time through a volunteer in mending clothes which corresponds to (10) repairing services. Consequently, it combines an emphasis on end-of-life circularity together with a smaller product life extensions approach.

This is certainly a great effort of both organisations. However, one should note that these strategies only tackle the later stages of the life cycle of clothes. Importantly (Dissanayake &

Weerasinghe (2022, p. 17) noted that “design for circularity should be the centre of focus because it has been identified that around 80% of the environmental impacts are determined by the design stage.” Thus, both resource efficiency and circular design strategy are not part of both organisations' operations. However, this is and never was the purpose of these organisations. Their focus on reuse is already laudable and the following part will go deeper into that effort and how they attain it.

Indeed, when applying the 4R-framework in combination with the waste hierarchy principle that was included in the definition of Kirchherr et al. (2017), a similar conclusion can be made as in the previous paragraphs: There is primarily a focus on ‘reuse’ and ‘recycle’ within both organisations. However, one R has been neglected: Reduce should normally be preferred above the reuse of clothes. Thus, the questionnaire included a question about a slow fashion policy or the promotion of consumption reduction.

Even though, the Think2 website mentions a 3R framework, including ‘reduce’, ‘reuse’ and ‘recycle’ and according to their website, they “encourage our customers to avoid buying things that are not needed or spontaneous [...]” (Think2, n.d.-a). Neither correspondent stated that their organisation encouraged consumption reduction among their customers as defined by Fletcher (2010), justified by the already good intention and/or mission of their respective organisation (See Appendices B, C).

Also, the euro days at the Think2 when items are sold at an immense discount for only €5, €4, €3, €2 and €1 (See appendix C) and the per kilo sales at Open Plaats (See appendix B), do not encourage consumption reduction of second-hand clothing. Indeed, they allow for a consumption reasoning similar to the one that Joy et al. (2012) already found in fast fashion: “Why spend money on something that will last, at most, several seasons? Instead, acquire a number of items that are cheaper and offer a wide variety.” This quote goes in a similar direction as the following one of a Think2 employee (See Appendix C): “I sometimes hear customers say: ‘I’ll buy it, it’s only €2.’” Indeed, this has nothing to do with environmental reasons, it rather underlines the financial and frugal incentives to buy at second-hand stores as was already mentioned by Machado et al. (2019, p. 384).

Consumption reduction is further not encouraged by the pressure in the Think2 through a 115 replacement rule and additional weekly targets, as mentioned before (See Appendix C). Also, Open Plaats noted that there are annual targets in place, though not as strict as the Think2 (Lore Nachtergaele, personal communication, May 20, 2022) and reducing consumption would only bring their other missions (poverty reduction and social employment) in danger (See appendix B). Thus, these organisations are still very dependent upon their sales revenue which does not correspond with what the Ellen MacArthur Foundation (n.d.) promotes: “To successfully develop circular business models, their revenue must be decoupled from production and resource use.”

On top of that, both chains only sell every item for four or five weeks (See Appendices B, C), decreasing the chances for items to be bought. As a result, pieces end up being recycled, exported or incinerated/landfilled sooner than when they would hang for a longer period in the shops, which means a decrease in value (Kirchherr et al., 2017). This is especially true for Open Plaats, which only sells a fourth of all clothes that are hung in the shops for sale. Also, both organisations do not explicitly offer a recollection of their sold clothes (Appendix B, C).

4.2 Supply Chain and Operations

Except for the fact that donations are not reimbursed at Open Plaats and the Think2 or only for a small voucher or present sometimes, the supply chain and operations of both organisations are radically different. Whereas the Think2 only has one main supplier, its mother organisation, Open Plaats is collecting clothes itself from different channels (See appendix B, C). The difference lies thus in the structure of both organisations. The Think2 is the retail part of the larger international organisation Humana. This not-for-profit mother organisation does both retail in eastern Europe, the sorting process and the collection of clothes for the Think2 (Nørup et al., 2019). These stem from multiple countries and are collected in different ways including through donations, retailers and wholesale procurements. Afterwards, these clothes are sorted and washed in Lithuanian and Turkish sorting centres (See Appendix C). For Belgium, price tags are already attached when clothes arrive (See Appendix C), a practice that is also common in fast fashion (Skov, 2002).

Thus, this whole system of sorting centres and international distribution enables a very large, industrial and international processing of clothes. This equals the macro level on an international and intercontinental scale that was included in the definition of Kirchherr et al. (2017).

It can be assumed that the international aspect of the Think2 supply chain increases the carbon footprint significantly, as is for the entire Fashion industry (de Aguiar Hugo et al., 2021, p. 8). Indeed, according to de Aguiar Hugo et al. (2021, p. 5), the distribution process of the fashion industry can still improve a lot in terms of emissions for example by increasing proximity. Furthermore, Pålsson & Johansson (2016) note that “Freight transport is the largest source of environmental impact related to the logistics system” and “To reduce the transportation intensity factor, companies should restructure their supply chains to shorten transport distances.” On top of that, according to Roos et al. (2016), distribution and retail emissions are significantly larger than the carbon footprint of waste/end-of-life. Thus, as long as transport remains polluting, it cannot be seen as part of sustainable development as the aim of environmental quality cannot be fully reassured (Kirchherr et al., 2017). The emphasis should not only be on ‘reuse’ but also on the distribution and the ‘make’ part of the life-cycle of clothing (Brydges, 2021, p. 2; Nørup et al., 2019).

On the other, Open Plaats is focusing on very local sources (donations) for its clothes, sorts its clothes in local stores and sells them in local stores if labelled of good enough quality (See Appendix B). The operations of Open Plaats are thus in every aspect very local and allow for well supported social employment. This thus corresponds also to the macro level on a city scale that was included in the definition of Kirchherr et al. (2017).

When comparing the final amount of clothes sold by both chains we see that the Think2 distributes 31,9 % of all its clothes to its stores and manages to sell 28,1 % of all its clothes in its European stores itself. Open Plaats hangs approximately 25 % of its collected clothes in its two stores and sells an estimated 6,25 % of all its clothes (See Figure 3 and Table 3). This is an astounding difference in both total clothes offered to clients and especially in the percentage of clothes finally sold. And could be explained by numerous factors, although these are rather hypotheses that are relevant for further research:

1. The origin of clothes is different. Whereas Open Plaats collects its clothes itself (See Appendix B), Think2 also procures them from enterprises (See Appendix C; Nørup et al., 2019). Possibly the procured clothes are already of better quality. However, this cannot explain the large difference in sorted clothes destined for European or Belgian shops as only 4,1 % of all collected clothes were pre-sorted by other enterprises or charities (Authors own calculations based upon data from Nørup et al., 2019).
2. The difference in size between both organisations results in different outcomes. The Think2 in cooperation with Humana can get washed clothes directly delivered (See Appendix C), enabling it to sell also previous dirty items. On top of that, consumers might be more hesitant to buy clothes that are not washed (de Aguiar Hugo et al., 2021, p. 8). Larger sorting centres can also result in larger efficiency gains. Also, the importance of professional sorters should not be underestimated, Nørup et al. note (2019): “It is not viable to expect volunteers, people in social jobs or even the general

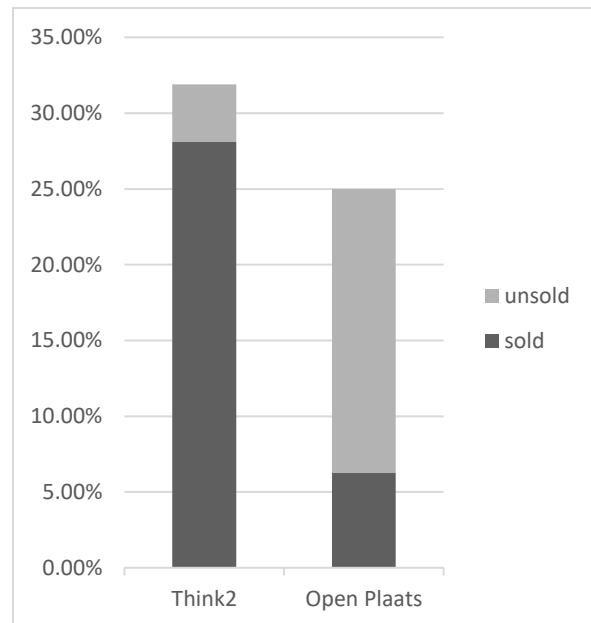


Figure 3. Clothing sales figures of Think2/Human and Open Plaats in stores based upon total amount of clothes collected. Based upon data from Nørup et al. (2022) and Lore Nachtergaele (personal communication, May 20, 2022). See also table 3.

public to meet this requirement, [...]. Tactile skills obtained through many years of experience and personal knowledge are just as important as instruction[s] [...].”

3. The marketing strategy, location and public image of both organisations could also impact the share of clothes sold. Although this is a field for further study, it can be noted that Think2 shops are always located in the centre of cities (Think2, 2022b, p. 2), whereas Open Plaats its shops are located not in the city centre of Ghent (Open Plaats, 2022b).

Furthermore, because the Think2 is part of such a large organisation it can also see much better where clothes finally end up within its organisation (Farrant et al., 2010; Nørup et al., 2019). Although, the interviewed Think2 employee did not know the exact origin, processing and other procedures (See appendix C). Indeed Open Plaats works with OVAM-certified partners and recyclers for further processing of unsold or not suitable clothes. As a result, 75 %, plus 18,75 % of unsold clothes, end up outside of Open Plaats’ organisation (Lore Nachtergaele, personal communication, May 20, 2022).

Although people in social jobs and volunteers were earlier mentioned as a risk in the sorting process, these people are at the same time an advantage for Open Plaats as they work often for free for a low wage (Open Plaats, 2021). Furthermore, social employment adds weight to the social equity part of the definition by Kirchherr et al. (2017). Additionally, Open Plaats also has a volunteer that mends clothes which is a perfect example of a repairing service (See Appendix B). Also, the Think2 contributes to social equity by donating large amounts to its mother organisation which uses these funds for philanthropic purposes (Think2, 2022a).

4.3 Drivers and Barriers

The interviewed employee of the Think2 did not recognize any significant barriers for the Think2, although sourcing and collection of enough clothes can become a problem in the future due to the growing competition. Drivers for second-hand sales are social media including Instagram (*Think Twice Belgium*, n.d.) and the presence of a large student population in cities (See Appendix C). And although the corona crisis certainly reduced the opening time of donation points because of lockdowns, every reopening saw more donators coming to those points. Also, the average number of clients per day increased from 332,3 in 2019 to 352,9 in 2020. Unfortunately, the turnover because of closures was impacted and decreased from € 643 537 in 2019 to € 554 444 in 2020 (Open Plaats, 2021). Apart from the Covid 19

crisis which was a general barrier for all retailers, Open Plaats has its own barriers concerning its operations (See appendix B): (1) the number of clothes coming in is larger than what the shops can sell, (2) clothes with stains and/or of poor quality cannot be sold, (3) the amount of qualitative clothes for men is smaller than for women, (4) dirty clothes, (5) the sorting process is a space- and time-demanding operation. The third barrier could be explained by the fact that men do not tend to donate as much as other population groups (Herjanto et al., 2016, p. 4). Or because as Astrid Mariens (See Appendix B) noted because: “[...]men wear clothes longer and buy fewer clothes than women [...]”

4.4 Recommendations

4.4.1 General

It was established, that both organisations do not feature a ‘reduce’ policy towards customers nor do they have a business model focusing on it: Neither organisation has an explicit recollection policy (See Appendix B, C). This should be altered as ‘reduce’ is the main priority of the 4R framework when one adheres to the waste hierarchy principle (Kirchherr et al., 2017), thus this should be the preferred method of implementing the circular economy.

Customers could be informed about the impact of buying something even if it is only second-hand. Essentially, the question remains does one need this. An option would be to promote the ‘Buyerarchy of needs’ (Lazarovic, 2021 as cited by Pease, 2021). This concept lets consumers think about their choices preferring to use what you have, alternatively borrow, swap, thrift, make, or buy in that respective order.

4.4.2 Open Plaats

Concerning Open Plaats, multiple recommendations can be made to improve the sorting process and sales. As was noted, Open Plaats sorts around 25 % of its clothes as suitable for sale, but only a fourth of these clothes, 6,25 %, is actually sold (Lore Nachtergaele, personnel communication, May 20, 2022). First of all, the time that clothes are for sale is only limited to four weeks (See Appendices B), this could be increased to give customers longer the chance to buy an item. Or an online platform could be established where items are longer for sale. Secondly, it was noted that the locations of Open Plaats are not optimal compared to those of the Think2. Locations or a new shop could thus maybe help increase the amounts of clothes sold as also the instream of clothes has been indicated to be rather high (See Appendix B).

Concerning locations, stores could be opened specifically for clothing instead of offering a wide variety of products. Thus, following the Think2 in its more concentrated and clear profile. Also, marketing-wise extra (social media) campaigns could be set up to attract new customers.

Centralize the sorting process of the Kringwinkel umbrella organisation so that also the washing of clothes can be an option in the future for Open Plaats. This could be organized per city/region small enough so that the social target groups are still able to get a job/traineeship there, but large enough to enjoy certain efficiency gains. Indeed, the fragmentation that is typical for reverse logistics processes should be tackled. Streamlining these processes including sorting by reducing the number of actors would definitely help (Dissanayake & Weerasinghe, 2022, p. 15). Positively, this could hold on to what Haggblade (1990) already has argued that the second-hand clothing market contributes positively to the local economy of a society by including the sorting and grading to a local level. This, however, is not at all the case for the Think2 which has its major sorting centres in Turkey and Lithuania. Although this indeed helps to get economies of scale set up, it also increases CO2 emissions.

4.4.3 Think2

The large international web of which the Think2 is a part makes it hard for even an employee to know how sorting centres operate (See Appendix C). This could be improved by providing enough detailed reports for internal and external use. Furthermore, compared to Open Plaats, the Think2 is a rather international organisation, with supply chains and sorting centres running through Europe (Farrant et al., 2010; See Appendix C). It could thus further localize collection and sorting to reduce the carbon footprint of its logistical component (Pålsson & Johansson, 2016).

Chapter 5. Conclusion

Open Plaats and the Think2 deliver a great effort in enabling the reuse of clothes in a first step towards a circular economy. Especially, when one knows that globally only 1% of clothing waste is reused as clothing and only 12 % is recycled into low-value products with the rest (73 %) being landfilled or incinerated (Dissanayake & Weerasinghe, 2022, p. 13). Seen through this lens it is laudable that the Think2 enables the reuse of 28,1 % and Open Plaats of 6,25 % of its collected clothes. However, both organisations neglect the 'reduce' aspect which is underlined as the most important aspect of a circular economy by Kirchherr et al. (2017). Furthermore, they also only focus on the later stages of the life-cycle of clothing, whereas most gains can be made at the design stage (Dissanayake & Weerasinghe, 2022). Creating enough consumer awareness about clothing longevity and its importance would be a good first step. The adaptation of a 'Buyerarchy of needs' (Lazarovic, 2021 as cited by Pease, 2021) could be a step in the right direction.

Separately, each organisation has its deficits and benefits: Open Plaats is characterized by a smaller organisation entailing two second-hand wide variety stores and one warehouse selling items such as furniture, clothes and so on. This enables it to offer local social employment and be helped by volunteers. The downside is that sales are not at the same level as the Think2. The latter as part of Humana has on the other hand a very large organisation enabling it to implement a large variety of specialisations for collecting, sorting and selling clothes. This however also has its current downside: large distances that need to be covered by trucks to distribute clothes.

Further research in this field of study could go deeper into the fragmentation of the second-hand market in Flanders which is comprised of both public and private organisations and recommend more efficient and more sustainable solutions (Delanoeije & Bachus, 2020, p. 12), map thoroughly the entire supply chain of the Think2 in Belgium, research the link between certain socio-economic neighbourhoods and the quality of donated clothes in these respective communities and lastly, further studies of consumption reduction at a consumer level could shed further light on good practices to reduce consumption and waste, why more qualitative clothes for women are collected instead of for men.

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Tables

Table 1

A. Total average waste per person for Belgium and Germany (2008-2018)

Belgium

	2004	2006	2008	2010	2012	2014	2016	2018
Total waste in tons	106 766	626 807	166 129	257 223	175 440	206 022	169 949	199 456
Population in million	10,4	10,5	10,7	10,9	11,1	11,2	11,3	11,4
waste in kg/person	10,2	59,4	15,5	23,6	15,8	18,4	15,0	17,5

Average between 2008 and 2018: 17,6

Germany

	2004	2006	2008	2010	2012	2014	2016	2018
Total waste in tons	222 336	181 797	212 632	238 080	310 449	343 757	391 752	338 342
Population in million	82,5	82,4	82,1	81,8	80,4	81	82,3	82,9
waste in kg/person	2,7	2,2	2,6	2,9	3,9	4,2	4,8	4,1

Average between 2008 and 2018: 3,4

Based upon the author's calculations, data source Eurostat (2022).

Table 2

Details of the case studies

Name	Ownership	No. of Stores	No. of employees	Turnover in 2019 (Mil. Eur.)	Activities	Mission/Motivation
Think2	Company/NGO ³	12	/	€ 2 287 100	Thrift Shop	Sustainability, affordability, socially responsible
Open Plaats	NGO	2	200 including volunteers	€ 643 537	Thrift shop, social service	Selling second-hand goods, social employment and poverty reduction

Data of the Think2 is based upon Annexe du Moniteur Belge (2007) and the National Bank of Belgium (n.d.). Data for Open Plaats is based upon Appendix B and Open Plaats (2021).

³ Think2 itself is a company, but the owner is an NGO named Humana Second Hand Fundraising projects (Annexe du Moniteur Belge, 2007; Think2, n.d.-a, p. 2, 2022a).

Table 3

Clothing streams of Think2 and Open Plaats

	Reuse			Recycle	Waste	Non-textiles	
	In stores		Other			Reuse	Recycle
	Sold	Return/Unsold					
Think2	31,9 %		43 %	17,3 %	6,0 %	0,7 %	1,1 %
	28,1 %	3,8 %					
Open Plaats	25 %		/	75 % *		/	/
	6,25 %	18,75 %					

* plus 18,75 % of unsold clothes going to wholesale

Data of the Think2 based upon Nørup et al. (2019). Data for Open Plaats is based upon personal communication with Lore Nachtergaele (May 20, 2022).

Appendices

Appendix A

Interview Questionnaire

General

- How is your organisation structured?
- What is the mission/motivation of your organisation?
- What is the turnover?
- Did you or your organization at any time encounter barriers while promoting second-hand clothes?
- What are enablers or drivers of second-hand clothing in Belgium? For example consumer interest, price, ...

Supply Chain and Operations

- Where do your clothes come from? Another continent, country, province, city?
- How do you collect them?
- If they are donated by people, are those people reimbursed or repaid in a way?
- Is the collection process outsourced? If not do you need to promote the collection of clothes?
- Where are the clothes sorted?
- Who is sorting those clothes?
- How much is non-reusable of all donated or collected clothes?

- What happens to clothes that are deemed too damaged/ unrepairable? Are they incinerated, landfilled, downcycled, or recycled into clothes again?
- How are clothes transported to their final destination?
- What are the by-products of the whole supply chain process? For example, is there a special kind of box used for transportation or cover?
- Are clothes also being washed before they are sold?

Sales

- What is the general sales approach? Is there a slow fashion policy?⁴
- Is there a certain pressure to sell as much as possible?
- How are pieces handled that are not sold at the end of a certain period?
- How are pieces priced?
- Is there a special sales period? Or do stay prices the same?
- Are there sometimes certain marketing campaigns set up?
- Are all items for sale online? Are there plans to sell online?

⁴ A policy focused on reducing consumer consumption

Waste

- Do you collect sold clothes afterwards?
- What happens to those collected clothes?
- Do you encourage clients to return used clothes?
- Do you mend clothes that are damaged?

Appendix B

Interview with Astrid Mariens, a former employee of the 'Kringwinkel Open Plaats', held on the 6th of May, 2022 in Ghent.

The interview was conducted in Dutch and translated by the author.

General

- *How is your organisation structured?*
 - o Every shop of the Kringwinkel organisation is a separate NGO, for example in Ghent you have 'Open Plaats' and 'Atelier'. They have their own organisation, method of working, shops and sorting centre(s). Above that, there is an umbrella organisation, which used to be called ... but is now 'Herwin'. So I (Astrid Marien) worked at Open Plaats, which has three shops and one warehouse in Ghent. But Atelier for example has ten shops. The umbrella organisation foresees a qualitative label, quality controls and also a house style. By doing this, it is assured that every separate NGO is at least recognizable by the general public as part of the same brand. This also implies that not every second-hand shop can be a 'Kringwinkel', but needs to be admitted to use the brand. Also, every shop that is a Kringwinkel is an NGO, which implies that profits are always reinvested into the organisation. Apart from that most shops also receive government funding for their functioning.
 - o What makes 'Open Plaats' certainly stand out from other 'Kringwinkel' shops, is that it also has a social service, that strives for poverty reduction including general, food (food packages) and financial aid. Especially, the location of the Brugse Poort in Ghent explains this feature, which is necessary for that *neighbourhood*.
- *How many people are working for Open Plaats?*
 - o *Around 200 persons, however, this also includes volunteers and people with a task sentence.*
- *What is the mission/motivation of your organisation?*
 - o There are multiple missions of which the most important are social employment, sustainability and poverty reduction.
- *Did you or your organization at any time encounter barriers to promoting second-hand clothes?*
 - o Not really for the promotion, but the amount of clothes coming in is certainly a challenge as this is way larger than what the shops can sell. And has always

been a challenge. Often there is also garbage between the donations and some nice clothes are coming in with stains, which cannot be sold in the shop. This also poses another problem: the whole sorting process is a space-demanding process, which 'Open Plaats' does not have because it is situated in the city centre. The limited space requires a good flow of the sorting process because the space limits the options.

- *What are enablers or drivers of second-hand clothing in Belgium? For example consumer interest, price, ...*
 - o [No Answer]

Supply Chain and Operations

- *Where do your clothes come from? Another continent, country, province, city? How do you collect them?*
 - o The largest part stems from collection containers in the shops and also pick-ups at peoples' places which are organised for free and is done for furniture, toys and clothes. Fairly recently also collection points have been installed at certain locations where there is no shop. Lastly, sometimes a van of 'Open Plaats' goes to the public dump, to raise awareness among citizens about recycling and second-hand options and also collects clothes there.
- *If they are donated by people, are those people reimbursed or repaid in a way?*
 - o No, this is not the case at Open Plaats. However, Open Plaats does have some smaller actions such as the day of the giver, when every donator is given a small present. This small present can be for example a book when there are too many books in stock, or a small plant or voucher.
- *Is the collection process outsourced? If not do you need to promote the collection of clothes?*
 - o No, the collection of clothes is going just fine. However, qualitative clothes for men do form a challenge to collect as men wear clothes longer and buy fewer clothes than women, we think. So the offer of men's clothes in the shops is always smaller than that for women.
Although lots of clothes are donated and collected, of which a large part is sometimes dirty or stained which cannot be resold, these can also include quality clothes for men which is surely a bit sad.
- *Where are the clothes sorted?*
 - o In all the shops of 'Open Plaats', clothes are sorted in the shops themselves in small working spaces that are not accessible to customers. So the sorting process is executed at a local level. I (Astrid Marien) also worked in another second-hand shop in Vilvoorde, where there is one large textile sorting centre apart from the shops.
- *Who is sorting those clothes?*
 - o The sorting of clothes is done by either the target group, volunteers, or persons with a work sentence:
 - Target group employees are people working under article 60, which are persons that receive a monthly living wage. This enables them to

- improve certain capabilities and their Dutch skills in a supportive environment. After which they can proceed to the regular working market after a while (6 months, a year).
- Also included are people with a work sentence coming from a verdict of a judge.
 - Having volunteers also helping out is particular for 'Open Plaats' as the organisation was founded by volunteers, which is not the case for other Kringwinkel-labelled shops.
- *How much is non-reusable of all donated or collected clothes?*
 - Between one third and half of all donated clothes are not useful. But this also depends on the location where clothes are collected. For example, clothes from Destelbergen are generally qualitative in a better condition than others and of a better brand. One result is that clothes stemming from Destelbergen are preferred above clothes from other neighbourhoods.
 - *What happens to clothes that are deemed too damaged/ unrepairable? Are they incinerated, landfilled, downcycled, or recycled into clothes again?*
 - Depends. Regular clothing is judged quite severely, but for example, better brand clothes are sometimes still sold with the information given to the customer that the item is damaged.
 - Clothes are generally sorted into three categories: saleable, non-saleable but okay quality, and non-useable. Clothes of the first category are sold in shops of Open Plaats. Clothes that are non-saleable but of okay quality are sold to enterprises, who process these clothes into handbags or export them to other countries⁵. However, this is certainly one of the larger challenges for second-hand shops. Non-useable clothes are transported to the public dump yard and incinerated. Finally, also clothes that are not sold are bought up by an enterprise or end often up at the public dump yard and are also incinerated.
 - *Do you often get designer clothes donated?*
 - There is a difference between expensive brand items and designer items. But these categories are in general not found regularly. However, in the shop of the Brugse Poort, there is a separate section for better brands called Kringbling.
 - *How are clothes transported to their final destination?*
 - [No answer]
 - *How are clothes processed?*
 - First, a rather rough selection is held based on smell, large stains and dirtiness. This entails the largest part of clothes that are deemed unsaleable. Afterwards, clothes are passed on to a second atelier/room, where they are inspected thoroughly based on criteria. For example on stains under the armpits or the inside of items. Lastly, the pieces are hung on cloth hangers and priced.
 - In the sorting space or ateliers, there is in general a lot of attention to sorting in the right way, as this is quite important. For example, in the sorting spaces, lots of images are provided of what is of good quality and what is not. This is

⁵ The final destination of these clothes was not known by the interviewee.

rather visual instead of using words as sometimes the people who work there do not understand Dutch perfectly.

- *What are the by-products of the whole supply chain process? For example, is there a special kind of box used for transportation or cover?*
 - There are indeed many plastic bags in which clothes are donated. These are first controlled on holes. Afterwards, the bags are sorted upon their largeness into two categories: small and large. The smaller ones are given away for free to customers and the larger ones can be bought for 25 cents. Also, buttons and pieces of cloth, that are donated, are sometimes being sold. Sometimes these nice buttons come from torn down jackets and are thus recycled and sold in cd-boxes. In general, one can say we are all the time looking for ways to reuse things because of environmental reasons, but also because of a financial gap. This incentive is certainly a good thing. Lastly, donations sometimes arrive in carton boxes too, these are however mostly thrown away in the paper garbage.
- *Are clothes also washed before they are sold?*
 - No, that would be good, as it would greatly reduce the number of clothes thrown away, but this is too labour, water, energy and time-intensive. Also, there is a general lack of infrastructure to accommodate such activities. That is why donators are asked to wash clothes before donating. This is however in contrast with toys that are normally being washed.

Sales

- *What is the general sales approach? Is there a slow fashion policy?⁶*
 - Not really, because instead of the H&M we are selling second-hand clothes. So just by buying clothes at our shops, a customer contributes to the general environment. So indeed, Open Plaats will certainly try to sell as much as possible. Besides, it also needs the means for its social mission including keeping those socially vulnerable target groups at work and making sure working conditions are okay.
 - Also, there is a monthly sale system in place: every week new clothes are being added with a price tag of a certain colour. Clothes that have been for sale for four weeks with another price tag colour are being removed and sold/brought to the dump. However, sometimes clothes are sold based on weight for a certain price per kilogram. Especially, when stocks are full, but this is not carried out on a regular base. Clothes that are sold to enterprises are typically sold for a symbolic price estimated at 10 cents per bag, which those enterprises buy in large amounts.
 - Finally, clothes are sold and hung up according to colour, as clothes are always unique pieces this makes it easier to at least make the whole shop look a bit more attractive and peaceful. Otherwise, it would look too chaotic.
- *Is there a certain pressure to sell as much as possible?*

⁶ A policy focused on reducing consumer consumption (de Aguiar Hugo et al., 2021, p. 7).

- Yes, there is as the turnover of the shops is needed for the other missions of Open Plaats.
- *Are there certain campaigns set up to sell as much as possible?*
 - Yes, sometimes there are posters made when designer clothes are being sold. There are also some mainstream posters of Open Plaats hung up in the neighbourhood. On social media, Open Plaats is active by posting pictures of clothes online on Facebook and Instagram. Furthermore, sometimes folders are being distributed to donators when they donate. And lately, there was also a campaign for 'Kringbling'.
 - But in general, there is not a large effort going into marketing campaigns.
- *How are pieces handled that are not sold at the end of a certain period?*
 - See the answer to the aforementioned question.
- *How are pieces priced?*
 - Small carts are attached to the security badges on the clothes with prices and a special colour for the four-week system.
- *Is there a special sales period? Or do stay prices the same?*
 - Sometimes with those kilo-days (as mentioned earlier).
- *Are all items for sale online? Are there plans to sell online?*
 - Online is not being used to sell items as Open Plaats is only a smaller NGO, although some other larger NGOs like the Ghent based 'Atelier' do use a webshop to auction special items.

Waste

- *Do you collect sold clothes afterwards?*
 - We are not emphasizing that.
- *What happens to those collected clothes?*
 - Not applicable.
- *Are clients encouraged to return used clothes?*
 - Not really as for most customers it seems quite obvious to return stuff.
- *Do you mend clothes that are damaged?*
 - Normally not, but an exemption is that some clothes that are damaged but still valuable are still repaired/mended by a volunteer. In general, there would not be enough time or money for such operations, but as this is a volunteer such an effort is doable.

Appendix C

Interview with an employee of Think2 in Belgium⁷. The interview was conducted on the 11th of May, 2022, at a Think2 Office.

The interview was conducted in Dutch and translated by the author.

General

- *How is your organisation structured?*
 - We work with shop assistants, that are the people that work in the shops. Every shop has then a shop manager, although some shop managers have two shops and sometimes there are two shop managers for three shops.
 - The Area managers work then from in the 'office' or the Belgian headquarters in Antwerp which is mostly paperwork. Lastly, there is also a retail manager which coordinates all shops in Belgium and is the head of Think2 Belgium. The retail manager and the area managers are primarily supported by people in Lithuania, from the mother company Humana. Humana has more than 300 shops in the whole world, including Kenya, Ukraine and Germany. All shops in Ukraine are closed, but the employees are still receiving salaries.
 - The general manager also visits every Belgian shop at least once a year, especially when new shops are opened.
- *What is the mission/motivation of your organisation?*
 - The company stems forth from a gap in the market, as the Think2 has long been the sole large second-hand clothing shop in Belgium apart from the "Kringwinkel". Apart from that, the environment is also an important factor. Lastly, although Humana, the mother company, supports a lot of philanthropic causes, it remains a company.
- *What is the turnover?*
 - That is hard to say because not all the costs happen in Belgium. For example, all clothes stem from the mother company in Lithuania and the costs of buying, sorting and so on are carried by the mother company. So the effective profit can only be calculated in Lithuania.
What I do know is the average turnover for one shop which is per week between € 100 000 and € 200 000. But indeed this is not the effective profit. The fluctuation depends upon the marketing period. For example, during the sales week in which prices are really low, the turnover is also smaller (close to € 100 000) even though a lot of items are being sold. On the other hand, during a 'new collection' week turnover can hit around € 200 000.
Also, the seasons are an important factor. During the winter months, January and February, shops are not that busy, but closer to the summer they get a lot more clients.

⁷ Anonymised on request of the interviewee.

- *Did you or your organization at any time encounter barriers to promoting second-hand clothes?*
 - Not really, the Think2 is doing a fantastic job for the moment. During the covid-pandemic, lots of shops had a hard time, but this was not the case for Think2. One upcoming barrier that we face and that will further grow on the market is the competition of other retail chains, particularly in finding sources of second-hand clothing. Every Think2 shop sells around 200-800 items a day, so supplying those shops with enough clothes can become very challenging.
- *What are enablers or drivers of second-hand clothing in Belgium? For example consumer interest, price, ...*
 - First and foremost, social media, like Instagram, is an important channel for our communication. We also used to hand out a lot of flyers and posters, but this has become less and less. Definitely, social media is the most important nowadays, through which we organize style competitions (outfit-of-the-week) and use it for announcements. We receive a lot of responses through it: lots of people share for example an outfit on Instagram, which we repost. Especially for younger customers, this social media is quite important.
 Apart from that, we see that if a city has a considerable student population, this also increases sales. Cities like Ghent and Antwerp are good examples.
 Besides, we have noted that also an older more fancy group has come shopping with us in shops that are located nearby or in shopping streets with better quality shops.

Supply Chain and Operations

- *Where do your clothes come from? Another continent, country, province, city?*
 - All clothes are gathered in Lithuania and come from donations, overstocks, enterprises that collect donated clothes and end of collection items from retailers. Finland is a major source of clothes and Russia used to be one, but not anymore with the Ukraine crisis. However, there are also sorting centres in Turkey. So in the end, clothes come a bit from everywhere.
- *How do you collect them?*
 - The clothes we collect here from donators are sent to Lithuania but afterwards are not redistributed in Belgium, but to other countries.
- *If they are donated by people, are those people reimbursed or repaid in a way?*
 - No, not in cash, but people can get a €2 reimbursement voucher for donating a bag of clothes. Especially, during busy periods/summer and spring season donations are higher as people make space to buy new clothes.
- *Is the collection process outsourced? If not do you need to promote the collection of clothes?*
 - [No answer]
- *Where are the clothes sorted?*
 - The profound and large quantity sorting is done in Lithuania and Turkey, but we do however sometimes find politically contested prints or images on clothes

- that need to be sorted out. This was for example the case with a confederate flag and a motor gang t-shirt. Also, clothes that are damaged are still taken out.
- *How much is non-reusable of all donated or collected clothes?*
 - That I do not know.
 - *What happens to clothes that are deemed too damaged/ unrepairable? Are they incinerated, landfilled, downcycled, or recycled into clothes again?*
 - That I do not know. Primarily, because Think2 is a very large international organisation and I do not know a lot about the sorting centre.
 - *How are clothes transported to their final destination?*
 - Through trucks that drive between Lithuania/Turkey and Belgium. In Antwerp, those loads are left at a warehouse, which afterwards are distributed to the Belgian shops using small vans.
 - *What are the by-products of the whole supply chain process? For example, is there a special kind of box used for transportation or cover?*
 - The white bags in which the clothes arrive is made from recycled plastic. Those are afterwards washed and reused for transport of new clothes. Also all decorations, furniture and so on are second-hand. Although, we do have some new first-hand decoration items.
So we do not have a lot of plastics, except for the small plastic rings that are used to attach the price tags. In return, most shoes and handbags do arrive in carton boxes that are not always reused and do end up in the paper bin.
 - *Is there a certain categorisation of clothes?*
 - Yes, clothes arrive in A or B categories. However, I (employee) have personally experienced that the best pieces are found in B bags. Although those b-bag clothes are sometimes worn off a bit more than A-bag clothes.
 - *Are clothes also washed before they are sold?*
 - Yes, they are washed industrially.

Sales

- *What is the general sales approach? Is there a slow fashion policy?⁸*
 - There is not a slow fashion approach. I mean we do not state that people shouldn't buy clothes when they do not need them as buying second-hand is already a good thing, but we do give recommendations on clothing in general when it is calm in the shops.
- *Is there a certain pressure to sell as much as possible?*
 - Yes, especially with the 115 % rule. This entails that for every 100 items that are bought 115 need to be hung up in the shop again. This is to make sure that the offer is diverse and large enough at all times. Apart from that, we do have targets that are vital for the Lithuanian mother company. Everything sold above the targets results in a bonus for every employee, depending on their position. This is certainly a motivation.
- *How are pieces handled that are not sold at the end of a certain period?*

⁸ A policy focused on reducing consumer consumption

- At the end of every sales period, all unsold clothes are bagged again and sometimes sold or go back to other shops to be distributed among other Think2 shops in other countries. Depends on the demand of the second-hand market. I (employee) can neither confirm nor deny that certain unsold clothes or damaged clothes end up in landfills or are incinerated. This is primarily because Think2 is a very large international organisation and I do not know a lot about the sorting centre.
- *How are pieces priced?*
 - Clothes are already priced when they arrive here in Belgium. But those prices are fairly standard. A normal t-shirt goes for € 9 and a t-shirt from a brand for €12. However, prices do end up being pricier when costs become higher. One of our competitors, the vintage factory, for example, is more specialized in better quality items, although we also offer such pieces from time to time.
- *Is there a special sales period? Or stay prices the same?*
 - We work with a five-week system which starts on a Wednesday after which we have two-and-a-half weeks normal prices and the next Thursday the sales start with every two days a change in prices: -30%, -50%, €5, €4, €3, €2, €1. On the last day, we close at three o'clock and start putting all the new clothes in place. So every five weeks we have a new collection.
 - A new collection gets always well noticed by our customers online on social media. Lots of people tag each other and so on.
- *Are there sometimes certain marketing campaigns set up?*
 - [No answer]
- *Are all items for sale online? Are there plans to sell online?*
 - Yes, there is an online web shop think2.eu, but we are not responsible for this and is coordinated from in Lithuania. They also do sales, but no euro-days like us. They do have nice items but are selling the more representable clothes. It is certainly doing great, even if it has only been launched in January.
- *Do clients sometimes buy stuff that they do not necessarily need? Which is similar to fast fashion?*
 - This indeed happens sometimes. I sometimes hear customers say: "I'll buy it, it's only €2." So yes, this happens. Although, I do think that the advantages of second-hand clothing are by far larger than all the externalities of fast fashion. As they want to produce as cheap as possible with certain implications (pollution, social inequality) as a result. This certainly makes our Think2 model more social and ecological responsible than that of fast fashion brands like H&M.

Waste

- *Do you collect sold clothes afterwards?*
 - This probably happens, but it is rather hard to know what happens with clothes afterwards, as all sold items are unique pieces.
- *What happens to those collected clothes?*
 - [No answer]

- *Are clients encouraged to return used clothes?*
 - Not explicitly.
- *Do you mend clothes that are damaged?*
 - Not that I know of. Generally no. we do sell trousers with a missing button and support customers that want to mend clothes by providing buttons that we find, but that is it. It is not part of the services that we offer.
- *Are there any improvements that you have seen yourself in terms of sustainability?*
 - Maybe the price tags that are made from paper can be replaced by recycled paper.

Abstract : The resale of clothes has seen a rapid expansion in the last decade. This paper questions whether two Belgian resale organisations, the Think2 and Open Plaats, are using a 'circular economy' approach, and how much they adhere to such circular principles. A literature review is conducted to identify key principles of a circular economy and apply these to data collected through online research and two interviews with one employee of the Think2 and one former employee of Open Plaats. It was concluded that both organisations do not have any significant 'reduce' policy in place, as defined by Kirchherr et al. (2017). Furthermore, when compared they are compared: the Think2 has larger carbon emissions due to its international character and Open Plaats has a rather low percentage for sale.

Résumé : La revente de vêtements a connu une expansion rapide au cours de la dernière décennie. Cet article pose la question de savoir si deux organisations belges de revente, Think2 et Open Plaats, utilisent une approche d'économie circulaire et dans quelle mesure elles adhèrent à ces principes circulaires. Une revue de la littérature est menée afin d'identifier les principes clés d'une économie circulaire et de les appliquer aux données collectées par la recherche en ligne et de deux entretiens avec une employée de Think2 et une ancienne employée d'Open Plaats. Il a été conclu que les deux organisations n'ont pas mis en place des politiques de "réduction" significatives, telle que définie par Kirchherr et al. (2017). En outre, lorsqu'elles sont comparées : la Think2 a des émissions de carbone plus importantes en raison de son caractère international et Open Plaats a un pourcentage de ventes plutôt faible.

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