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OPTIMIZATION OF INVESTMENTS ON RETURN RATE REDUCTION: ANALYSIS OF E-COMMERCE'S RETURN RATE STRATEGIES AND REQUIRED FINANCIAL INVESTMENT

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Abstract

Fierce competition among online retailers and high customer expectations are driving product returns, and simultaneously shrinking fashion e-commerce's profits. Therefore, online retailers need to find a way to reduce return rates without compromising sales. Using a grounded theory approach, that combines literature-based knowledge with experiments and Reflaunt's data manipulation, the author presents a frame to investigate the financial sustainability of handling product returns and being proactive towards them, under the scope of early stage startups. In addition, the framework considers the long-term implications of such behavior and the impact it has on the company's performance. The author concludes with recommendations for Reflaunt, and early-stage startup businesses in general, and potential help of further research.

Keywords (Luxury and Fashion Management, Digital Operations, e-commerce, Products Return, RaaS)

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Section 1: INTRODUCTION

WHY THE TOPIC IS RELEVANT TO THE INDUSTRY

Product returns continue to be one of the main issues for the online retailing fashion industry. Within the last year consumers returned products worth 428B dollars (Shopify 2021), eroding profit margins, gutting conversion rates, and threatening the financial sustainability of e-commerce businesses. Not surprisingly, online players are implementing dedicated strategies, hiring additional personnel, and improving their overall expertise on the topic to handle reverse logistics and work proactively on preventing returns.

Despite the abundance of literature and research on the topic, there is no evidence of a differentiated approach and analysis on businesses of different sizes and at different stages. Given the significant cost of handling returns, as well as the high costs of implementing preventive strategies to reduce them, dedicated research on startup businesses would be helpful understanding whether it is profitable or not to perform those investments for companies at a very early stage.

Return rate reduction is one of the key goals of online fashion e-commerce, as a decrease in the percentage of returns directly implies a higher number of net sales hence greater conversion. Online retailers try to achieve this goal in many ways, by working proactively on returns and testing strategies on various aspects (e.g., return policy, cost and hustles related to returning a product, etc.) of the overall user experience.

Drawing on literature-based insights and casual research (i.e., experiments and manipulation of Reflaunt's data, referred to the period between June 2021 and November 2021), this paper analyses two direct implications of handling returns, the net loss/profit due to a proactive and preventive behavior towards them and the long-term effects of such behavior on the company's long-term performance. This research is important for both conceptual and

practical reasons. Conceptually, to gain an improved understanding on strategies to handle returns, being proactive towards them, and of the impact of fixed costs related to returns on the companies' revenues. Practically, this research is critical for early stage fashion e-commerce's, as they need to avoid allocating resources to strategies that compromise their profitability and focusing on this issue of returns when is too early to gain profits.

Section 2: CONTEXT

INDUSTRY AND COMPANY PRESENTATION

The fashion resale industry is still at an early stage and there is still quite some room for improvement and growth within it. The industry is also very young, its birth and expansion can be pitched in a 4-phases analysis (BusinessOfFashion 2021). Its creation dates to the late 90s and goes on until 2008. This first phase has been denominated *Creation* and it identifies the birth and expansion of eBay as the first player to introduce the online *Marketplace* as a digital environment for customers to buy and sell secondhand goods. With its new offer, it brought together for the first-time buyers and sellers and transformed the way transactions between private individuals for pre-owned items could occur. The offer was broad and not limited to fashion items, rather opened to several different categories of items. This phase has been classified as the first real exploitation of web-based commerce and as the time in which the digital user experience was being introduced. Following this phase, the *Legitimization* phase took place, marking the period between 2009 and 2013. Key to e-commerce businesses expansion within these years was the Global Financial Crisis, which set the ground and pushed the e-commerce growth. The financial crisis generated a lack of liquidity among individuals that increased the necessity for sellers to have additional or secondary sources of income and

for buyers of more affordable and accessible goods. Is during these years that many marketplaces were found. Establishing trust between sellers and buyers, by introducing authentication processes and tools that could reassure both parties, was crucial for their rapid growth and expansion. The third phase Fashion resale has undergone is called the *Differentiation* phase. It has developed between 2014 and 2019 and it has been marked by the acceptance of resale among consumers, as well as their increased familiarity with it. Furthermore, verticals started to emerge (e.g., streetwear) and this translated soon into an opportunity for new players to enter the industry and meet niche consumers' specific needs. This third phase has been characterized by rapid growth; founding rounds and scalability became key for new and young players to expand and grow their businesses. In addition, most of these players, thanks to their agile and flexible structure, were able to expand emerging markets, facing new challenges, and acting proactively towards them. Lastly, the fourth and last phase, currently ongoing, is called *Normalization*. It started early in 2020 and is being characterized by the reduction of the stigma around secondhand goods and the proliferation of several different platforms, which present a diversified offer depending on their business model. This has significantly increased the ease for consumers to get introduced to resale, as well as their involvement into it. Marketplaces' business models are evolving and maturing as never before, and brands are acting proactively towards resale. As happened in the second phase with the Global Financial Crisis, the Covid-19 crisis has played its role in the e-commerce businesses boom and expansion that has occurred throughout the last year and half.

Digital is expected to be the biggest opportunity for the fashion industry in 2021 and the following years. The digital growth is predicted to be of around 30% in Europe and in the US and around 20% (BusinessOfFashion 2021) in highly digitised markets (e.g., Chinese). Additionally, the Covid-19 crisis triggered the change in consumers' mindset. Customers are now more conscious about their purchases as the repeated lockdowns made them understand

that having a multitude of garments is useless. The trend has now shift towards "*less is more*", with more and more conscious consumers that avoid unnecessary purchases.

The industry boom is being propelled by 5 major drivers (BusinessOfFashion 2021), playing a crucial role in boosting its market size and value growth. The first of these drivers has been identified as the *platform sophistication*; resale platforms offer nowadays a broad selection of categories, brands, prices, etc., to interested consumers, overtaking traditional physical shops. Resale platforms, reshaping their front end and improving their back-end operations, have significantly improved the user experience and the overall customer journey. Another driver has been identified in *favourable demographics*, younger generations, especially Gen Z, are more and more interested in second-hand shopping. This growing and emerging segment of young consumers is driving resale as they are e-commerce / online oriented and care about conscious consumption. A third driver of the fashion resale industry is the *reduced stigma* among consumers. The stigma that has always been associated with second-hand shopping is vanishing and the improved customer experience offered by new platforms is making the process even smoother. Furthermore, second-hand shopping has started to be associated with sustainability and environmentally related motivations. Additionally, the phenomenon of *limited editions* and exclusive drops represents another important driver. Items available in limited editions only and the Drop culture have reshaped the industry and consumers approach to shopping. Therefore, the way sellers manage their offer has adapted accordingly, resulting in a shift toward resale platform by both parties. Lastly, *sustainability* is what unites consumers. Second-hand shopping, and fashion resale in general, is crucial within the circular economy. It implies a significant shift of demand towards second-hand pieces rather than first-hand and it allows garments' lifecycle extension. Furthermore, sustainability is expected to overcome traditional consumers' drivers (e.g., affordability) in the coming years. Even though the secondhand market of fashion is booming, and many more players are actively playing their

role, it is still at an early stage in most of the geographical markets. Its market size value has been estimated to be around 130B dollars in 2020 (ThredUp 2020). Although it might seem a high value, the untapped potential of fashion second hand is huge. During the year of 2020 the value of fashion garments that could have been potentially resold has been estimated around 2260B dollars, while the value of what has been resold is around 130B dollars (BusinessOfFashion 2021). This means that only 5% to 7% of the exploitable value has been leveraged, while the remaining 95% to 93% remained untapped.

As the industry was experiencing its growth, different providers started to emerge and establish their position. Due to its rapid evolution, several business models emerged within the scope of bridging buyers and sellers. There are nowadays different solutions for those seeking to resell fashion goods: Peer-to-Peer Marketplaces, Managed Marketplaces, and Resale-as-a-Service providers (BusinessOfFashion 2021). *Peer-to-Peer marketplaces* were the first type of marketplace to come to life. These are platforms that allow sellers and buyers to directly interact without leaving the platform. P2P companies do not usually hold inventory nor buy products upfront, their offer is based on providing customers with all the needed tools and infrastructures for them to buy and sell easily and smoothly. Most of the P2P platforms have had the tendency to skew towards affordable and low-priced items during the years. This has been done due to less requirements in terms of processes and managed features such as authentication tools. However, there are still some platforms that remained more High-end and Luxury oriented (e.g., Tradesy, Vestiaire Collective). *Managed marketplaces* started to appear during the second growth phase the industry has experienced (i.e., Legitimisation). These players operate as active intermediaries between the two parties, providing their customers with value-added services. These platforms have more complicated back-end processes than P2P marketplaces as their operational requirements are higher and involve additional services. Managed Marketplaces have had the opposite tendency than P2P marketplaces throughout the years, skewing more

towards High-end and Luxury items rather than low priced ones. *Resale-as-a-Service providers* emerged recently, when the industry entered in its last and current growth phase, Normalisation. These providers have the possibility to enable both brands and retailers going circular by bridging them with the resale market. RaaS providers usually provide operations management and support in all what concerns the back end and /or the front-end. There are several models and versions of these providers, there are RaaS providers with a structure like P2P marketplaces, providers with a hybrid structure and, lastly, managed versions. The main competitive advantage of these players is their technology expertise, which allows them to be flexible, adapt their offering depending on the partner they work with and gather much data through its services. Furthermore, RaaS providers offer operational support for brands and retailers looking to create their own resale channels. Although this point is crucial to establish partnerships with brands and retailers, it also represents a downside of the business. It might become a blocker for scalability if not all brands and retailers require operational support, and it often requires significant investments in order to provide the needed manpower.

Reflaunt is a tech startup which is disrupting the fashion industry by giving to fashion luxury brands and retailers the possibility to offer Resell As Service to its clients and embrace circularity. Its technology can be directly integrated within the brands' customer journey to allow their clients to resell their preloved pieces over a worldwide network of secondhand marketplaces in a few clicks. Reflaunt also provides insights to brands regarding the parallel secondhand market of their own pieces by giving them access to the data that gathered throughout. Reflaunt's mission is to make a real mark on sustainable fashion and circular economy and its unique approach to serve brands and retailers with a B2B focused technology, offering a chance to enter the second-hand market, gives its business model a clear and competitive advantage over competition. Reflaunt's business model enables the company to broad its customer base at no cost, targeting directly the brand's existing customers and

capitalizing on existing volume and marketing efforts, reaching global exposure. Additionally, leveraging the brand's reach, Reflaunt is favourably positioned to educate and activate a large percentage of new customers. The company can maximise the volume of items sold leveraging its network of partner marketplaces. Each item is automatically listed on a global network of 25+ marketplaces (each with their price points and their regional focus), enabling high sell-through, hence larges volume of items sold. Furthermore and most importantly, Reflaunt monetizes on two different sides of the business; it combines its resale transaction service, monetized through a commission model, with SaaS offering of a dashboard and multi-channel management, monetized through annual license fees. Lastly, partnering with experienced operators for the end-to-end order fulfilment, Reflaunt ensures high quality and efficiency of operations while minimizing fixed costs. However, relying on third party providers represents a potential threat to the business scalability, as many partners may not need the operational support the company offers.

Reflaunt enables resell through there different models, resell *smart button*, *concierge service* and *white label marketplace*. The *resell smart button* is integrated in the partner brand's e-commerce for customers to resell their past purchases. The *concierge service* (VIP service) consists of courier pick-up, quality checks, authentication, photo shooting, listing creation and curation, all provided by Reflaunt. Lastly, the *white label marketplace* is the creation and curation of a brand's own marketplace. Reflaunt's wide offer is one if its major strengths, but at the same time managing such a differentiated offer is complicated and requires manpower from different departments and some of them, when requests overlap, may be overwhelmed and underwater. In addition, the VIP offer involves encountering high logistic and operational costs early in the journey, without being sure those costs will be covered with the items' sale. Scalability and flexibility are key aspects of the business, as well as the amount of data gathered,

and the control given to partner brands over resale journey. However, the complexity of its offering might become a potential threat to Reflaunt's optimal growth.

Section 3: LITERATURE REVIEW

RESEARCH QUESTION PRESENTATION

Product returns continue to be one of the major challenges for the retailing industry. Both brick-and-mortar and online retailers incur substantial costs through taking back and restocking returned products. European online retailers experience product return rates of 40% or higher in product categories such as fashion (Accenture 2012). With high return rates comes the problem of huge reverse logistic costs, considering that handling each returned item costs online retailers between $6 and $18 (The Economist 2013). While the whole retailing industry is hemorrhaging profits owing to high return rates, this problem is particularly rampant in online retailing. Not surprising, retailers' product return management systems remains a pressing issue for online retailers (Bower and Maxham 2012). This is especially true for European Union (EU) online retailers that cannot recoup returns-related expenses by charging product return penalties owing to competitive pressure or legislation reasons. As of 2014 EU law stipulates that online retailers have to offer a no-questions return period of 14 days to their customers (The Economist 2013).

In today's competitive market, to increase customer experience, most e-commerce companies are coming up with hassle-free return policies. Customers are usually allowed a return within a month or a similar time period. This policy has improved customer engagement, revenue, purchase rate, customer experience, and repeat buying behavior. Although e-tailers are taking criticism for the generous return policy since it can be abused in ways that erode firm profits (i.e., customers take advantage of retailers' liberal return policy and return the products

deliberately), using a restrictive return policy is not a solution because the restricted return policy could reduce customer satisfaction, increase the perceived risk, and thus negatively affect customers' decision making (Petersen & Kumar 2009). Therefore, as many e-tailers still offer free shipping and free return shipping, delighting customers but raising cost for the businesses, the problem of increasing product returns needs to be comprehensively addressed.

Returns impact many segments of fashion business such as customer experience, supply chain management, call center demand, inventory, and customer service. It eats a major share of the profit margin of e-tailers.

Numerous factors could contribute to the e-railers' high rates of product returns. For instance, due to the uncertainty of online shopping, the product does not meet the expectations. Customers' ability to adequately evaluate products before purchase is affected by the information provided by the retailer which thus affects the return rate (Bechwati and Siegal 2005). The costly problem of product returns has led retailers to invest in technologies such as zoom features to help customers to make better decisions and to avoid returns (De, Hu, and Rahman 2013). An additional source of information that is available on retailers' websites is online customer reviews (OCRs). OCRs complement retailer-provided information (Chen and Xie 2008), and may help to form customer expectations prior to purchase, and thus may affect return rates. Customers' decisions to purchase and return a product are based on their level of expectations about the product's performance and the uncertainty surrounding these expectations. Both customers' level of expectations about product performance and the attached uncertainty together determine customers' expected product utility (Rust et al. 1999). Customers decide to purchase a product if the expected utility is greater than the utility of not buying it (McFadden 1974). The level of expectations affects customers' purchase probability positively, whereas uncertainty reduces the purchase probability because customers are generally risk averse (Rust et al. 1999).

This has indeed been confirmed by the work Reflaunt has done throughout the last semester. At the beginning of June 2021, the return rate on sales was fluctuating around 25%; at the time no actions were taken to make the number of products returned decrease. The main reasons for return were *items do not fit, buyer no longer interested, buyer unsatisfied with item* and *items differ from description.* This confirms what outlined by the available literature as well and the fact that if expectations built by customers before purchase are not met upon it, the item will be most likely returned. After starting to analyze each return and respective reason, the company acted proactively doing follow ups on each return and handling them individually. The main actions taken were focused on giving more precise, detailed and accurate information on the product and its specificities. This would help customers built realistic expectations on the actual product, so that they would not be disappointed when receiving the product upon purchase. The initiatives taken mostly include uploading additional pictures of close-ups showing item's details, improving the item description outlining conditions and any defects. The aforementioned actions led to a return rate reduction of around 10%, with the return rate dropping from 25% to 15-17%.

However, the information provided at the moment of purchase does not resolve the product at full and so customers base their purchase decision on imperfect information (Shulman, Cunha, and Saint Clair 2015). After the purchase, the customer inspects the product and ultimately the product is revealed at full. If the product does not meet the expectations formed at the moment of purchase, the customer is dissatisfied and hence is more likely to return the product (Bechwati and Siegal 2005). That is, post-purchase satisfaction is a result of customer expectations formed at the moment of purchase, product performance, and the difference between them, similar to the expectation disconfirmation mechanism used to explain customer satisfaction (see Oliver 2009). A negative expectation disconfirmation (i.e., product performance lower than expected) lowers satisfaction and increases customer's return

probability and vice versa. In addition, motivations such as not being interested anymore or having purchased an item impulsively without the need of it could still push customers towards returning it.

What the available literature shows, as well as Reflaunt's outlined actions, is that implementing the right strategies and working proactively on return rate reduction can allow e-commerce companies to reduce their return rate. However, the return rate can only be reduced to a certain extent, once this point is reached (the percentage point changing depending on the specific industry and items' nature) lowering the rate further becomes really complicated, labor intensive and still there are some return reasons such as opportunistic behavior that cannot be controlled. Furthermore and most importantly, for startup businesses like Reflaunt, working on returns to reduce the relative rate implies high financial costs, which until certain sales volumes are reached, do not justify the expense.

Given the resources that need to be dedicated to return rate reduction, both financially and in terms of manpower, it is not sustainable for startup business to invest on it. When volumes are low, or still not high enough, the resources dedicated to accomplish the mission and reach a certain target are significantly higher than the profits obtained. This led to the conclusion that until certain volumes are generated, working on return rate reduction is not worth the investment. However, understanding from which point on could become profitable for companies to do such investments would represent a key insight. It could allow startup businesses planning their strategy on how to reduce their returns, but only implementing them when financially profitable. This reasoning, and the lack of literature on this specific aspect of the topic, led us to the following research question.

When does it become worth for fashion e-commerce businesses to invest on return rate reduction and when does the tipping point between the profits and expenses curves generated by return rate reduction occur?

The above question will be tentatively addressed in the following chapter via a P&L analysis that will show what is gained / lost with all the work that's behind return rate reduction (based on Reflaunt's database). Lastly, thorough values plots and estimations on volumes, we will obtain a formula and graphic visualisation that shows where the tipping point between profit curve and expenses curves is. This will visually show at which point profits generated by returns reduction overtake the financial losses generated by it. It hast to be noted that the current research scope is limited to the luxury fashion industry of secondhand pieces, therefore the findings are very specific and cannot be generalized to other industries.

Section 4: FIELD WORK

METHODOLOGY, DATA COLLECTION AND ANALYSIS OF THE RESULTS

Given the objective of this study, a model that would allow data manipulation and experiments has been used to support our thesis. In this chapter Causal research will be performed in order to understand the impact of independent variables on dependent variables. The research question, as well as the assumptions will be tested through experiments and data manipulations. Lastly, the data will be collected and analyzed to draw conclusions and recommendations.

As anticipated, Casual research has been conducted to address the research question, further investigate the topic of return rate reduction and the impact of the dedicated investments on the company's net revenues. The research has been structured on two different phases, the first one focused on data analysis and the second one on data manipulation and projections. The data analyzed was gathered throughout the last six months, starting from June 2021 to November 2021. June 2021 is also the month in which Reflaunt started working proactively on return rate reduction; since then, all returns have been analyzed one by one, noting down all the respective information and taking actions on an item level to tackle the issue and reduce the return rate.

Within this first phase of the research, Reflaunt's data gathered in the past six months served as the basis for a P&L type of analysis focused exclusively on understanding the financial gain/loss due to the investments dedicated to return rate reduction (Table 1, appendix). The impact of the work done on reducing the return rate has been analyzed, first looking at profits directly generated from such work and then with a focus on the financial expenses, to ultimately compare the two and understand whether Reflaunt's merchandise value has been impacted positively or negatively. As it can be noticed from Table 1 in appendix, assuming

marketplaces' initiatives and policies don't have a direct impact on Reflaunt's return rate, the strategy implemented generated a reduction in the return rate from one month to another. The first step of the analysis has been focused on computing the percentage reduction in return rate, taking as initial value the month of June 2021 (Table 2, appendix). Multiplying the rate reduction (%) with the number of monthly sales, we obtained the number of marginal sales gained every month. These sales represent the number of monthly sales that did not translate into returns and were rather converted into final sales due to the work done internally. To understand the impact of those additional sales on the company's gross merchandise value, the net profit coming from each of those sales has been computed, assuming 3% Reflaunt's commission on the GMV, and then multiplied for the number of sales gained to get the total net profit generated. The part of GMV generated by these sales has been computed as well to show how they contributed to the monthly GMV.

Moving to the analysis of the costs arising from the strategy implementation, two major drivers must be considered. The first and main cost the company had to face is the cost of labor/manpower exclusively dedicated to the return rate reduction. The people dedicated to this task focused on analyzing every single return in detail, taking the needed actions, following up with the parties involved (i.e., warehouse, marketplace), and documenting all of it. With an estimation based on their working schedule (i.e., on avg. 22 working days a month, 8 hours a day) and time needed to handle one single return, it has been assumed that 18'' per return were needed. Assuming a cost of labor of 12€/h, it cost Reflaunt 3,60€ to handle each return internally. In addition, to have better visibility on the condition of each item returned, Reflaunt's team started to ask the warehouse to shoot one picture per return. Considering a cost of 3€ per picture shot, this represents the second major cost faced. Multiplying the labor cost and the cost of pictures with the number of monthly returns, and assuming that no other major cost has to

be taken into consideration, the total cost of implementing this strategy was obtained (Table 3, appendix).

Furthermore, the ones mentioned above are the costs of being proactive on returns, but in addition to them, each return represents for Reflaunt a fixed loss of 119,72€ (avg. shipment cost based on shipping and customs fees of the 32+ routes the company works on, assuming 30% of shipments being international and 70% of them within EU, hence no commission fees apply) due to double shipment (i.e., round shipment, to buyer and back). This is due to the cost of the shipment that the company pays in advance and that is not covered when the sale is lost due to return. This value is not taken into consideration at this stage of the analysis as it is a fixed cost, but it will be useful to further understand and discuss the impact of such a strategy in the long term.

The last step of this phase of the analysis consisted of computing the net profit/loss generated by summing the values computed above and understanding the short-term financial impact of such strategy. Following the logic that actions taken in one month (e.g., June 2021) reflect on the number of marginal sales gained the month after (July 2021), each month's total net profits were summed up with the previous month's total cost of return analysis (Table 4, appendix). As it can be noticed, the actions taken in regard to return rate reduction led the company to a net loss of more than 1.4k within the past six months. The net costs of dedicated manpower and additional pictures shot for better return handling have shown to be higher than the net profits directly generated by the same actions.

This brings us to validate one of the first assumptions made at the beginning of this research (i.e., unless volumes are sufficiently high, the costs of handling returns and being proactive in regard to them are higher than the profit generated by the same actions).

To address the research question, a step forward had to be taken as the current data was not exhaustive and would not lead to any long-term conclusion. Data manipulation and projections characterize the second phase of the research.

The current stage of the research is based on projecting the values obtained to a year in the future and analyzing the evolution and potential long-term impact of the strategy initially implemented to reduce the return rate. To do such projections, the CAGR of the number of monthly sales, as well as the CAGR of monthly GMV (USD) were computed based on the company's performance within the previous year. The CAGR of sales is approximatively 18%, whereas the CAGR of GMV is relatively higher with a value of approximatively 21%. Based on these growth rates and considering the *seasonality* factor, as a sales and GMV multiplier for a more truthful estimation, the number of sales and GMV were computed (Table 5, appendix).

To proceed with the research, it has been assumed that the return rate would reach a point (17,22% as per our assumption) in which it will remain constant, as external factors (e.g., opportunistic buyers' behavior, impulsive purchase) would not allow to lower it further regardless of the actions taken. As easily foreseeable, it can be noticed how the GMV evolution, and consequently net merchandise value, are directly correlated to the number of sales. The difference in value between GMV and net merchandise value is due to the fixed costs of returns the company faces every month and the net profit/loss arising from the investments dedicated to return rate reduction (Figure 1, appendix).

Following the same logic as above, and based on the projections previously computed, the total net profit generated by additional sales (i.e., marginal sales gained thanks to the work done on returns) and the total cost of returns analysis (i.e., the sum of labor cost and pictures shot in the warehouse) were computed. This computation allows estimating where, in terms of volumes, the tipping point between costs and profits directly generated by working proactively

on returns occurs. This result is shown in Figure 2 in appendix. As it can be seen from the evolution of profit and cost curves above, before reaching certain volumes in the number of monthly sales, the investments on return rate reduction lead to a net loss (the curve of total cost lying above the one of total profit). However, as initially supposed, it could be demonstrated that it comes to a point in which thanks to the volumes growth the net profits generated by such investments overtake the respective costs. This will happen within the next months, according to our projections, when the number of monthly sales will be above 840. These projections validate our research question and show that it becomes profitable for startup companies to invest in return rate reduction once the tipping point is overcome, as well as how net profits keep increasing from this point onward at a higher rate than the net losses.

Although the main purpose of the research was to address the initial question and find evidence on when the tipping point would occur, the scope of the analysis needs to be broadened to fully understand all the implications of such investments on the company's long-term performance. For this reason, the calculations shown above have been replicated and applied to a scenario in which no actions were taken in regard to return rate reduction. In such a scenario, the first implication would be for the return rate to remain constant, so it was assumed the rate would equal the initial value of 25,15% for the whole period considered (assuming that any minor fluctuation due to seasonality or other factors is ignored under the scope of the research). Based on this assumption, the number of monthly returns has been computed. Additionally, to understand the potential impact on net monthly sales and net monthly GMV generated, the net number of sales (i.e., excl. returns) and the net merchandise value (i.e., GMV - returns fixed costs – the cost of return analysis) in both scenarios have been compared (Table 6, appendix)

As it can be noticed from the graphs, the indirect implications of being inactive on returns are quite significant on the company's long-term performance. First, as already mentioned, not being proactive means not lowering the return rate; the resulting high return rate

would make the number of returns go up by around 40% compared to the other scenario. This directly impacts the number of net sales per month, which will decrease accordingly. In addition, the other consequence is that the increase in returns is reflected in the fixed costs associated with each of the returns, which will inevitably increase at the same peace. This also translates into a significant decrease in net merchandise value generated by the company in the long term (Figure 3 and 4, appendix).

Based on the above findings, the research question (i.e., *When does it become worth for fashion e-commerce businesses to invest on return rate reduction and when does the tipping point between the profits and expenses curves generated by return rate reduction occur?)* has to be addressed with two separate answers. Starting from the occurrence of the tipping point between profits and expenses generated by return rate reduction, it was demonstrated that it will occur when the number of gross monthly sales will reach a value of around 840 sales. Once this value will be overcome, profits will increase at a higher rate than losses and the profits curve will be well above the losses. In terms of worthiness of the investments on return rate reduction, as proved in the second step of the research, it might be worth for e-commerce fashion businesses to start investing in return rate reduction at an earlier stage than the one in which the tipping point between profit and losses occurs. This is due to the direct implication of such investments on the company's performance in the long-term. More in depth and tailored research would be needed to understand whether this is the case for most of fashion e-commerce's, or if it only applies to a small number of players with certain characteristics within the industry. In the case of Reflaunt, it was shown that investing on return rate reduction at a very early stage will result into better conversion rates and higher revenues in the coming years.

Section 5: RECOMMENDATIONS

BASED ON THE RESULTS OF RESEARCH

This research shows that before reaching certain volumes in terms of sales, the financial resources dedicated to return rate reduction by the company are higher than the profits coming from such investments. Reflaunt has been losing and will be losing money until it reaches an approximate volume of 840 sales per month. Once that point will be reached it will become profitable to invest resources with the sole purpose of reducing returns.

These findings would make us think that the best would have been for the company to wait for higher volumes to be generated before starting to invest in the aforementioned strategy. However, as the second step of the research (i.e., scenario analysis) showed, the major implication of working on return rate reduction is that by doing so companies manage to reduce their return rate month by month. This translate into fewer sales being lost and a higher GMV being generated every month, whereas if the company did not take any actions the return rate would remain high and the company's financial performance would be significantly impacted.

Having said so, Reflaunt might have started investing in reducing its return rate earlier than it should have, but it was revealed to be a good strategy for the company from a long-term perspective. Even though a few thousands of euros have been lost throughout the past six months due to the initiatives taken, the same initiatives will shortly translate into a significant number of marginal sales that will not end up being lost, as well as a higher net merchandise value generated at the end of each month. If the company did not invest at all, or invested at a later stage, its return rate would not be lowered by the time this reduction would have a significant impact on the future sales and revenues generated.

The main recommendation for Reflaunt is to keep up with the investments put in place and be patient until the tipping point between profits and losses would occur and all the efforts

put into this strategy would translate into higher long-term revenues. Although the strategy turned out to be right, something that could help the company be more profitable in the long term would be to optimize the way returns are handled internally, both in terms of time spent handling each return and in terms of the cost of additional pictures the warehouse staff is required to shot. Despite these minor changes in the way the strategy is carried out, Reflaunt has started working on returns with the right timing and this will soon be reflected in the company's financial performance.

Section 6: CONCLUSIONS

LIMITATIONS OF THE RESULTS AND GENERALIZATION OF THE FINDINGS TO THE INDUSTRY

The aim of this research was to understand when it becomes profitable for startup e-commerce businesses to start investing in return rate reduction strategies, depending on the volumes they generate. Extant literature emphasizes the presence of numerous drivers that push buyers to return their products. Studies have also been conducted to understand how return rates fluctuate depending on the actions taken by each company. However, there is no evidence within the current literature on whether it becomes profitable or not for companies, especially startups, to invest in strategies with the specific goal of reducing their return rate.

This study shoes when, based on real data coming from Reflaunt's experience, the aforementioned tipping point occurs and validates the thesis according to which working on returns with the right timing and the right strategy is key for the long-term business evolution.

Although this research is limited by the fact that it is based on Reflaunt's data, the findings in regards to the positive impact a reduced return rate has on the company's long-term performance can be generalized to the whole industry. It has been clearly shown that higher

return rates lead in the long term to significant losses in terms of net sales and net merchandise value generated (i.e., revenues).

As the comparison between different scenarios showed how significant the impact of implementing strategies to reduce the return rate could be in terms of long-term performance, all e-commerce businesses should be proactive towards returns. It is key for e-commerce companies to take the necessary actions, depending on the industry they work in, lower their return rate as much as possible and not incur significant loss in terms of nest sales and profits generated, as well as high fixed costs associated with each return.

Further research could investigate whether the findings can be confirmed for online retailers working in different industries. The data this analysis is based on comes from a specific type of company that operates within a very specific and niche industry. Hence, further research could bring additional value to the assumptions made and help as well generalize even further the above findings.

Bibliography

Kapferer, Jean-Noël , e Michaut Denizeau. 2019. “Are millennials really more sensitive to sustainable luxury? A cross-generational international comparison of sustainability consciousness when buying luxury.” *Journal of Brand Management.*

Amed, Imran, Anita Balchandani, Felix Rolkens, Robb Young, Jakob Ekelof Jensen, Althea Peng, e Saskia Hedrich. 2021. *The State of Fashion 2021.* Analytical, McKinsey BOF.

Chen, Cathaleen. 2020. *Tapping into the Future of Physical Retail.* Analytical, BOF.

Chesbrough , Henry. 2010. *Business Model Innovation: Opportunities and Barriers.* Analytical, ACADEMIA.

Kedia, Sajan, Manchit Madan, e Sumit Borar. 2019. “Early Bird Catches the Worm: Predicting Returns Even Before Purchase in Fashion E-commerce.” Analytical.

Walsh, Gianfranco, Michael Möhring, Christian Koot, e Mario Schaarschmidt. 2014. “Preventive Product Return Management Systems - A review and model.” Analytical .

Asdecker, Bjorn . 2015. “Returning mail-order goods: analyzing the relationship between the rate of returns and the associated costs.” Analytical .

Pei, Zhi, e Audhesh Paswan. 2018. “Consumers' legitimate and opportunistic product return behaviors in online shopping.” *Journal of Electronic Commerce Research, VOL 19, NO 4.*

Minnema, Alec, Tammo H. A. Bijmolt, e Sonja Gensler. 2016. “To Keep or Not to Keep.” *Journal of Retailing.*

Janakiraman, Narayan, e Lisa Ordóñez. 2012. “Effect of effort and deadlines on consumer product returns.” *Journal of Consumer Psychology 22* 260-271.

ThredUp. 2021. *thredUP Resale and Impact Report.* Analytical, ThredUp.

Deloitte. 2020. *Global Power of Luxury Goods.* Analytical, Deloitte.

McKinsey. 2021. *The Future of Fashion Resale.* Analytical, McKinsey.

Farfetch. 2020. *Understanding the Environmental Savings of Pre-owned.* Analytical, Farfetch.

thredUp . 2020. *Resale Report.* Analytical , thredUp.

BCG-Altagamma. 2020. *True Luxury Global Consumer Insights.* Analytical, BCG-Altagamma.

BainCompany, Altagamma. 2020. *Worldwide Luxury Market monitor, slow motion but fast forward.* Analytical, BainCompany, Altagamma.

McKinsey. 2019. *Fashion Sustainable Luxury - Fashion's new must- have: sustainable sourcing at scale.* Analytical, McKinsey.

Accenture. 2013. *The Future of Circular Fashion Report.* Analytical, Accenture.

BCG. 2019. *Why Luxury Brands Should Celebrate the Preowned Boom.* Analytical, BCG, Vestiaire Collective.

Shopify. s.d. *The State of ecommerce returns 2021.* Acedido em 02 de December de 2021. https://www.shopify.com/enterprise/ecommerce-returns.

Taylor, Roxanne. 2012. *Accenture Reports Fourth-Quarter and Full-Year Fiscal 2012 Results, With Record Annual Revenues, EPS, Operating Margin, Free Cash Flow and New Bookings.* Analytical , ACCENTURE PLC.

The Economist. 2013. *Return to Santa.* Acedido em 21 de November de 2021. https://www.economist.com/business/2013/12/21/return-to-santa.

Bower, A.B., e J.G. Maxham. 2012. “Return Shipping Policies of Online Retailers: Normative Assumptions and the Long-Term Consequences of Fee and Free Returns.” *Journal of Marketing* 110-124.

Petersen, A.J., e Kumar V. 2009. “re Product Returns a Necessary Evil? Antecedents and Consequences.” *Journal of Marketing* 35-51.

Bechwati, N.N, e W.S. Siegal. 2005. “The Impact of the Prechoice Process on Product Returns.” *Journal of Marketing* 358-367.

De, Prabuddha, Yu Hu, e Mohammed S. Rahman. 2013. “Product Oriented Web Techonologies And Product Returns: An Explanatory Study.” *Information Systems Research* 998-1010.

Chen, Yubo, e Jinhong Xie. 2008. “Online Consumer Review: Word-of- Mouth as a New Element of Marketing Communication Mix.” *Management Science, 54 (3)* 477–491.

Rust , Roland T., Jeffrey J. Inman, Jianmin Jia, e Anthony Zahorik. 1999. “What You Don’t Know About Customer-Perceived Quality: The Role of Customer Expectation Distribution.” *Marketing Science, 18 (1)* 77-92.

McFadden, Daniel L. 1974. “The Measurement of Urban Travel Demand.” *Journal of Public Economics, 3 (4)* 303-328.

Shulman, Jeffrey D., Marcus Cunha Jr. , e Julian K. Saint Clair . 2015. “Con- sumer Uncertainty and Purchase Decision Reversals: Theory and Evidence.” *Marketing Science, 34 (4)* 590-605.

Bechwati, Nada N., e Wendy S. Siegal. 2005. “The Impact of the Pre- choice Process on Product Returns.” *Journal of Marketing Research, 42 (3)* 358-367.

Oliver, Richard L. . 2009. *Satisfaction: A Behavioral Perspective on the Consumer.* NYC: New York: M.E. Sharpe.

APPENDIX

List Of Tables

	# sales (inlc. returns)	Gross merchandise value (USD)	Avg. gross merchandise value per item sold (USD)	return rate	# returns
Jun-21	287	78.126,00 €	272,22 €	25,15%	72
Jul-21	331	109.234,00 €	330,01 €	23,73%	79
Aug-21	384	146.983,00 €	382,77 €	20,86%	80
Sep-21	483	184.120,00 €	381,20 €	19,89%	96
Oct-21	547	228.418,00 €	417,58 €	18,76%	103
Nov-21	664	276.267,00 €	416,06 €	19,70%	131

Table 1 – Reflaunt's sales and financial performance data from June 2021 to November 2021

	# sales (inlc. returns)	Gross merchandise value (USD)	Avg. gross merchandise value per item sold (USD)	return rate	# returns	rate reduction (compared with previous month)	# sales gained	Net profit generated per additional sale (USD)	Tot. net profit generated by additional sales (USD)	Tot. GMV generated by additional sales (USD)
Jun-21	287	78.126,00 €	272,22 €	25,15%	72	0,00%	0	8,17 €	0,00 €	0,00 €
Jul-21	331	109.234,00 €	330,01 €	23,73%	79	1,42%	5	9,90 €	46,53 €	1.551,12 €
Aug-21	384	146.983,00 €	382,77 €	20,86%	80	4,29%	16	11,48 €	189,17 €	6.305,57 €
Sep-21	483	184.120,00 €	381,20 €	19,89%	96	5,26%	25	11,44 €	290,54 €	9.684,71 €
Oct-21	547	228.418,00 €	417,58 €	18,76%	103	6,39%	35	12,53 €	437,88 €	14.595,91 €
Nov-21	664	276.267,00 €	416,06 €	19,70%	131	5,45%	36	12,48 €	451,70 €	15.056,55 €

Table 2 – Marginal sales gained and net profit

	# sales (inlc. returns)	Return rate	# returns	Cost of labor per return handled (USD)	Cost of ddditional picture shot per return	Fixed cost of return (USD)*	Tot. cost of returns analysis (USD)
Jun-21	287	25,15%	72	3,60 €	3,00 €	119,72 €	476,39 €
Jul-21	331	23,73%	79	3,60 €	3,00 €	119,72 €	518,41 €
Aug-21	384	20,86%	80	3,60 €	3,00 €	119,72 €	528,68 €
Sep-21	483	19,89%	96	3,60 €	3,00 €	119,72 €	634,05 €
Oct-21	547	18,76%	103	3,60 €	3,00 €	119,72 €	677,27 €
Nov-21	664	19,70%	131	3,60 €	3,00 €	119,72 €	863,33 €

Table 3 – Cost of return rate reduction strategy implementation

	# sales (inlc. returns)	Gross merchandise value (USD)	Avg. gross merchandise value per item sold (USD)	Return rate	# returns	rate reduction (compared with previous month)	# sales gained	Net profit generated per additional sale (USD)	Tot. net profit generated by additional sales (USD)	Tot. GMV generated by additional sales (USD)	Cost of labor per return handled (USD)	Cost of ddditional picture shot per return	Tot. cost of returns analysis (USD)	Net loss/profit
Jun-21	287	78.126,00 €	272,22 €	25,15%	72	0,00%	0	8,17 €	0,00 €	0,00 €	3,60 €	3,00 €	476,39 €	0,00 €
Jul-21	331	109.234,00 €	330,01 €	23,73%	79	1,42%	5	9,90 €	46,53 €	1.551,12 €	3,60 €	3,00 €	518,41 €	-429,86 €
Aug-21	384	146.983,00 €	382,77 €	20,86%	80	4,29%	16	11,48 €	189,17 €	6.305,57 €	3,60 €	3,00 €	528,68 €	-329,24 €
Sep-21	483	184.120,00 €	381,20 €	19,89%	96	5,26%	25	11,44 €	290,54 €	9.684,71 €	3,60 €	3,00 €	634,05 €	-238,13 €
Oct-21	547	228.418,00 €	417,58 €	18,76%	103	6,39%	35	12,53 €	437,88 €	14.595,91 €	3,60 €	3,00 €	677,27 €	-196,18 €
Nov-21	664	276.267,00 €	416,06 €	19,70%	131	5,45%	36	12,48 €	451,70 €	15.056,55 €	3,60 €	3,00 €	863,33 €	-225,58 €

Table 4 – Net profit / loss due to returns' analysis

	# sales (inlc. returns)	Seasonality	Gross merchandise value (USD)	Avg. gross merchandise value per item sold (USD)	Return rate	# returns	Net Gross Merchandise Value (USD)
Jun-21	287	-	78.126,00 €	272,22 €	25,15%	72	49.835,86 €
Jul-21	331	-	109.234,00 €	330,01 €	23,73%	79	73.479,35 €
Aug-21	384	-	146.983,00 €	382,77 €	20,86%	80	106.403,25 €
Sep-21	483	-	184.120,00 €	381,20 €	19,89%	96	135.759,05 €
Oct-21	547	-	228.418,00 €	417,58 €	18,76%	103	173.085,28 €
Nov-21	664	-	276.267,00 €	416,06 €	19,70%	131	205.956,49 €
Dec-21	787	1	376.888,00 €	479,11 €	18,47%	145	289.774,36 €
Jan-22	839	0,9	470.626,00 €	561,11 €	17,98%	151	368.006,50 €
Feb-22	994	1	483.124,00 €	486,21 €	17,22%	171	379.599,27 €
Mar-22	1177	1	583.983,25 €	496,09 €	17,22%	203	459.413,04 €
Apr-22	1534	1	776.488,20 €	506,17 €	17,22%	264	611.660,69 €
May-22	2181	1	1.126.309,86 €	516,45 €	17,22%	376	888.335,18 €
Jun-22	2067	0,8	1.089.154,91 €	526,94 €	17,22%	356	859.103,64 €
Jul-22	1959	0,8	1.053.225,64 €	537,65 €	17,22%	337	831.631,53 €
Aug-22	1625	0,7	891.171,41 €	548,57 €	17,22%	280	704.114,47 €
Sep-22	1925	1	1.077.216,57 €	559,72 €	17,22%	331	852.759,66 €
Oct-22	2508	1,1	1.432.311,55 €	571,09 €	17,22%	432	1.135.182,43 €
Nov-22	3566	1,2	2.077.593,22 €	582,69 €	17,22%	614	1.648.417,82 €
Dec-22	4224	1	2.511.321,42 €	594,53 €	17,22%	727	1.993.711,69 €

Table 5 – Sales and GMV projections

	# sales (inlc. returns)	Gross merchandise value (USD)	Return rate	Return rate - w/o action on returns	# returns	#returns - w/o action on returns	Net Merchandise Value (USD)	*Net Merchandise Value (USD) - w/o action on returns	# net sales	*# net sales - w/o action on returns
Jun-21	287	78.126,00 €	25,15%	25,15%	72	72	49.835,86 €	49.835,86 €	215	215
Jul-21	331	109.234,00 €	23,73%	25,15%	79	83	73.479,35 €	71.795,38 €	257	248
Aug-21	384	146.983,00 €	20,86%	25,15%	80	97	106.403,25 €	98.454,70 €	320	287
Sep-21	483	184.120,00 €	19,89%	25,15%	96	121	135.759,05 €	123.270,89 €	412	362
Oct-21	547	228.418,00 €	18,76%	25,15%	103	138	173.085,28 €	154.500,93 €	479	409
Nov-21	664	276.267,00 €	19,70%	25,15%	131	167	205.956,49 €	186.793,09 €	569	497
Dec-21	787	376.888,00 €	18,47%	25,15%	145	198	289.774,36 €	258.415,31 €	694	589
Jan-22	839	470.626,00 €	17,98%	25,15%	151	211	368.006,50 €	327.009,59 €	748	628
Feb-22	994	483.124,00 €	17,22%	25,15%	171	250	379.599,27 €	331.700,01 €	901	744
Mar-22	1177	583.983,25 €	17,22%	25,15%	203	296	459.413,04 €	401.667,35 €	1068	881
Apr-22	1534	776.488,20 €	17,22%	25,15%	264	386	611.660,69 €	535.011,84 €	1392	1148
May-22	2181	1.126.309,86 €	17,22%	25,15%	376	548	888.335,18 €	777.378,16 €	1978	1632
Jun-22	2067	1.089.154,91 €	17,22%	25,15%	356	520	859.103,64 €	752.998,17 €	1875	1547
Jul-22	1959	1.053.225,64 €	17,22%	25,15%	337	493	831.631,53 €	729.356,39 €	1777	1466
Aug-22	1625	891.171,41 €	17,22%	25,15%	280	409	704.114,47 €	618.127,92 €	1474	1216
Sep-22	1925	1.077.216,57 €	17,22%	25,15%	331	484	852.759,66 €	748.348,49 €	1746	1441
Oct-22	2508	1.432.311,55 €	17,22%	25,15%	432	631	1.135.182,43 €	996.569,15 €	2275	1877
Nov-22	3566	2.077.593,22 €	17,22%	25,15%	614	897	1.648.417,82 €	1.447.722,19 €	3234	2669
Dec-22	4224	2.511.321,42 €	17,22%	25,15%	727	1062	1.993.711,69 €	1.752.539,38 €	3832	3162

Table 6 – Scenario projections, no actions on returns taken

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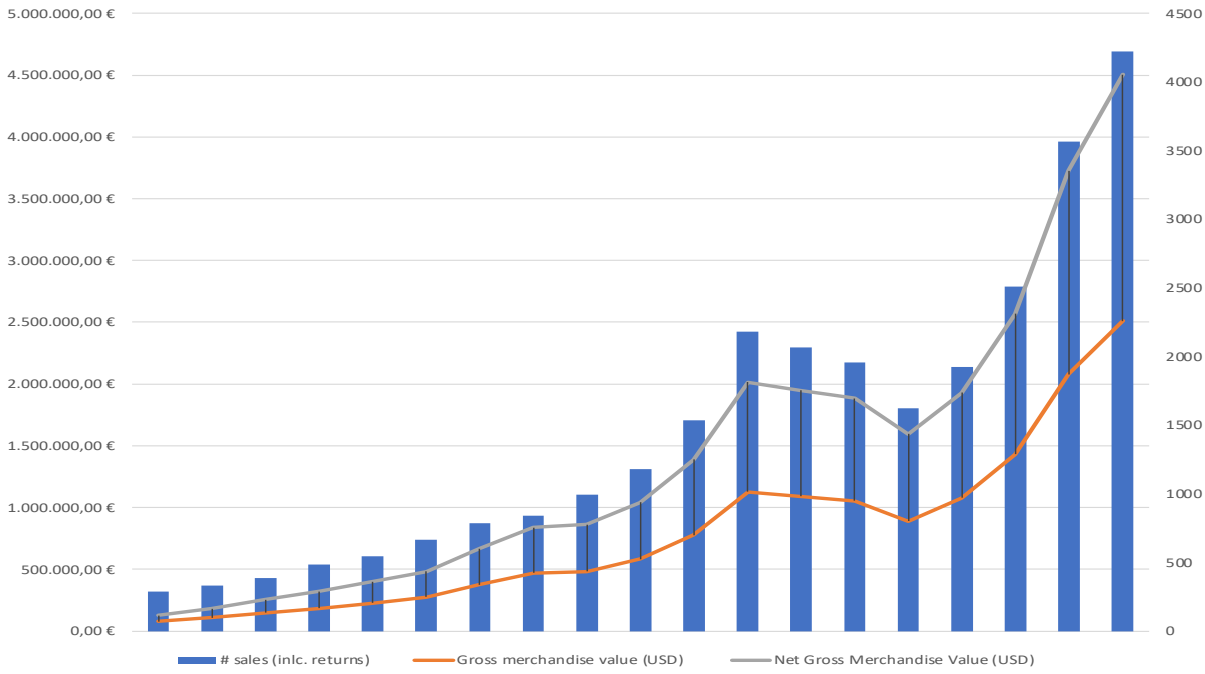

Figure 1 – *sales and GMV evolution*

Figure 2 – Tipping point between cost of investments on return rate reduction and net profits directly generated

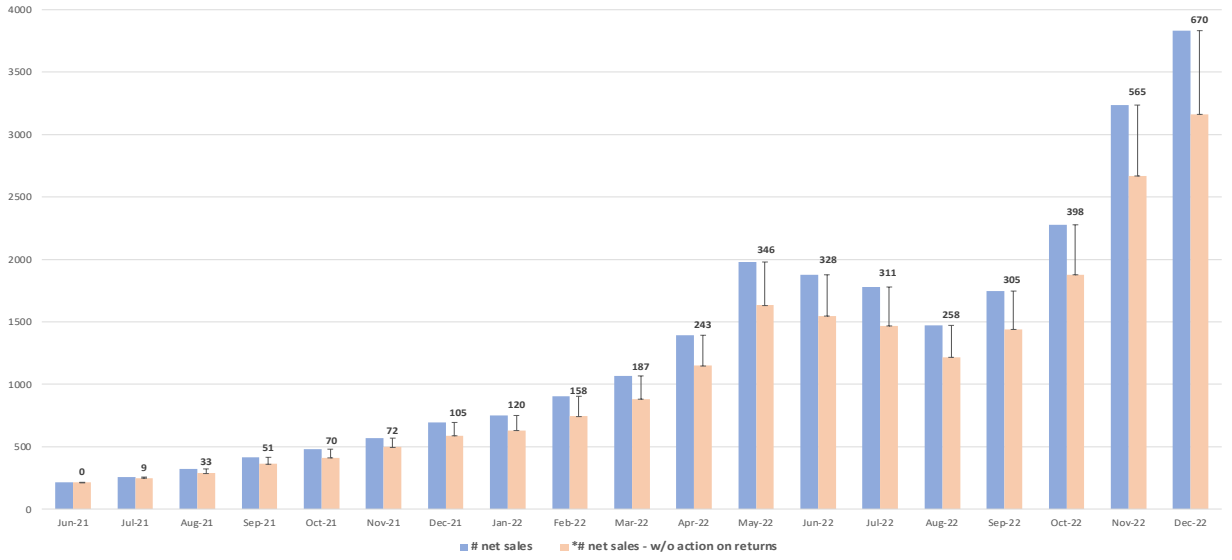

Figure 3 – Scenario analysis, number of net sales lost per month

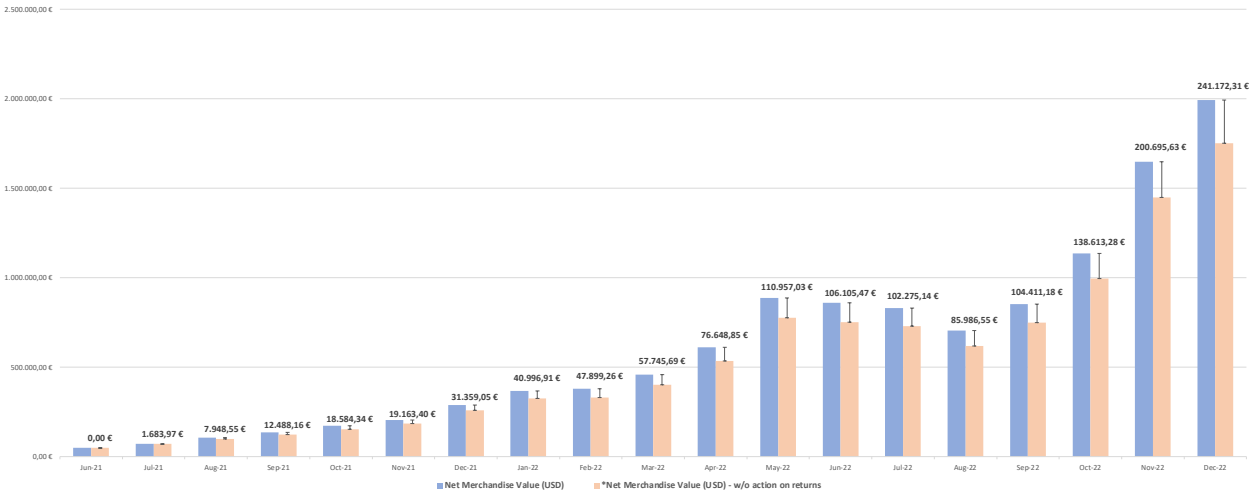

Figure 4 – Scenario analysis, net merchandise value lost per month