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A methodological approach to consumer research on second-hand fashion platforms in Italy

ONLINE CLOTHING RESELLING PLATFORMS: PERCEPTIONS AND PREFERENCES OF ITALIAN CONSUMERS

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Abstract – Group Report

The research focuses on second-hand fashion platforms (Vinted, Vestiaire Collective, Depop, Zalando Second-hand) in Italy from a consumer standpoint. The study assesses the platform's positioning, and most preferred characteristics, as well as the potential consumer segments in the Italian market. By conducting surveys with consumers, and applying market research techniques such as perceptual maps, conjoint analysis, and k-means clustering, we were able to learn consumers' perceptions, preferences, and their relevance to the platforms. The main discoveries are then used to suggest recommendations for the companies to improve their market presence and competitive edge.

Keywords: Market research, Perceptual maps, Conjoint Analysis, k-means Clustering, Clothing Reselling Platforms, Consumer Insights

Abstract – Individual Assignment

The research aims at investigating the perceptions and preferences of Italian customers regarding second-hand online clothing reselling platforms (Depop, Vestiaire Collective, Vinted, and Zalando Second Hand). First, we present a detailed theoretical description of segmentation research with the identification of four clusters of consumers' profiles within the second-hand fashion industry. Following that, we initiate the methodological section with the conduction of preliminary qualitative interviews with professionals in the fashion industry and second-hand consumers. Finally, we analyse the main takeaways, which will be combined with the results from further analyses to be produced (Perceptual maps, Conjoint Analysis) at a later stage.

Keywords: Market research, Perceptual maps, Conjoint Analysis, k-means Clustering, Clothing Reselling Platforms, Consumer Insights

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1 Introduction

This thesis aims to study the Italian population's perceptions and preferences toward second-hand online clothing reselling platforms like Depop, Vestiaire Collective, Vinted, and Zalando Second Hand. We will produce three different analyses: perceptual maps, conjoint analysis, and segmentation. In the next section, a comprehensive description of segmentation will be provided. Initially, we have defined the theoretical foundation on which we built our knowledge on the topic, and then, according to socio-demographic factors, we have identified four main clusters among second-hand consumers according to the motivations leading to purchase. After that, we undertake a first step towards implementing the methodological section, which regards mainly the conduction of qualitative interviews to experts in the fashion industry and second-hand consumers. This phase provided us with useful information that validated our previously made assumptions in the literature overview. In the last section, results are elaborated through a summary by highlighting main takeaways from the interviews.

2 Segmentation

As any other firm, secondhand fashion platforms compete to meet these customers' needs and desires and they can better understand their customers and target their marketing efforts by segmenting the market. As previously stated, the secondhand industry has grown steadily over the last five years. As a result, secondhand reached a broader and more diverse consumer audience. Despite some existing studies on consumer profiles (Markova and Grajeda 2018; BCG 2020) for second-hand fashion consumers, the topic represents an intriguing prospect both academically and business wise, particularly when it comes to assessing and scoping the study to single country consumers where such studies were not specifically aimed for (in our case, Italy). Additionally, Italy represents a good country to assess consumer segment due to wide-spread second-hand platforms adoption and market growth. Therefore, we decided to additionally implement a segmentation analysis, and the following paragraphs are aimed to provide an initial topic and methodology scoping.

According to Murray et al. (2017), segmentation can be defined as a marketing method used for differentiating customers based on their individual preferences and desires. Instead, according to Lilien et al. (2017), segmentation can be defined as that business and analytical process allowing marketers and firms to divide consumers into groups (segments), evaluating the attractiveness of each consumer group.

Although the goal of any segmentation is to achieve heterogeneity among customers' groups, this does not always happen in real life. In fact, members of different segments might often exhibit significant overlap in their responses and segmentation analyses might struggle to produce a one-of-a-kind solution. Therefore, to be useful, an ex-post segmentation should yield a manageable number of target segments (not more than eight), each of significant size (Lilien at al. 2017).

Of the many possible ways to segment markets, the following study will take into consideration ex-post segmentation methods that incorporate customers' needs and behaviours. We excluded a priori segmentation since the market research about customers groups was not correctly fitting the current study (BCG 2020). Previous academic or business studies will just be used to consider the descriptors to include in the study (BCG 2020; Markova and Grajeda 2018).

When using ex-post segmentation techniques, marketing analysts generally identify a series of descriptive variables (sex, age, location, frequency, needs etc). By using specific algorithms and correlated softwares, analysts then compute the distances between members based on the attribute responses, creating the formal clusters (segments). To be processed, attributes are often converted into numerical variables. Instead, in the case of feature-based distance, variables are built using metrics such as median, kurtosis, sum, or purchase frequency, all retrieved from historical data. These are then weighted, summed and normalised to create the variables from which distance is calculated (Murray et al. 2017).

To perform the current research segmentation, a cluster analysis was implemented, using a specific method: the k-means (centroid-based) technique. This one lies into the partitioning methods category. In this case, analysts divide the data into a predetermined number of groups before reallocating or swapping data to improve some statistical measure of fit (i.e., the ratio of with-in-group to between-group variation) (Lillien et al. 2017). In the specific case of k-means clustering, the data are clustering into different groups based on the characteristics and similarity of the data observed. The data analysts decide how many clusters need to be created for the clustering process to work. When a database contains multiple N observations, the partitioning method divides the data into user-specified K partitions, each of which represents a cluster/specific segment. In the case of the k-means technique, the algorithm takes the input parameter K and divides the dataset N observation into K number of clusters. These clusters will contain the N observations that have a high similarity within the cluster (intracluster) but low similarity between data objects outside the cluster (extracluster). The cluster's similarity is determined using a square error algorithm that uses the clusters mean value to divide the data into segments. Based on their distance from the cluster mean, the data observations are assigned to the closest cluster. The added data observations are then used to produce a new mean for each cluster (Lilien et al. 2017; Damghani et al. 2018).

This technique was chosen since it was previously and effectively used in several business cases applied to the fashion industry segmentation. For example, Dachyar et al. (2019) used k-means clustering for segmenting users of a 3 different local brand fashion e-commerce in Indonesia. The results showed 5 different customer groups based on their CLV ratings. The segments were named as best, valuable, potentially valuable, average, and potentially invaluable customers. Thanks to this analysis, it was possible to structure a new strategy focused on maintaining customer convenience and increasing customer trust.

Another interesting study is the one by Brito et al (2015). In this case, k-means clustering was deployed for segmenting online fashion e-commerce customers and assess customer preferences on the fashion platform. The study helped the company to redefine their communication strategy and match the products sold to the customer's preferences.

Ogle et al (2014) used k-means clustering to identify relevant consumer clusters among US teen girls purchasing apparel. In this research, they analysed the importance that teens assign to various product characteristics they evaluate in fashion products. At the end of the study, researchers identified three clusters namely called the Conventionalists, the Self-Satisfiers and the Embracers. These were defined according to their fashion involvement, social cause involvement, materialism and past socially responsible apparel purchasing behaviour. Similarly, Dachyar et al (2019) studied a fashion company in Indonesia, exploring possible market segment for the firm marketing strategy. The segmentation applied k-means algorithm to cluster consumers grouping them into five clusters. Another study (Ganhewa et al. 2021) analysed how to increase sales and demand though a better segmentation and targeting of the fashion retail market. The study was built using the Extra Trees Regressor algorithm, K-means algorithm, and Naïve Bayes algorithm, predicting the sales forecasts for products, customer segmentation consumer demand.

1.1 Consumer Profiles: who are the secondhand fashion consumers'

In order to perform the ex-post segmentation of online fashion reselling platforms, it is important to assess what are the most relevant demographic and behavioural factors to test. These descriptors will be then verified using a qualitative approach (interviews with customers and experts) in order to validate and use them for the quantitative surveys.

In the following section, we are going to analyse the literature about the topic.

In terms of age, online second-hand items resale is mainly traded by younger generations: 59% of Gen Z and 57% of Millennials affirms to buy on second-hand items versus 38% of Baby Boomers. Gen Z and

Millennials are also the generations buying the most on second-hand online marketplaces (26% and 23% respectively versus 8% of Baby Boomers) (First Insight 2020). Statista research underpins Gen Z and Millennials as most users on resale fashion platforms and as major second-hand fashion purchasers both in 2020 and 2021 in Europe (Statista 2020a, Statista 2020b) and outside the EU (Statista 2021a, Statista 2021b). Similarly, females seem to be the gender driving the purchase of second-hand fashion with higher participation of women to fashion purchases than men (Markova and Grajeda 2018).

According to Markova and Grajeda (2018), we can also state that the majority of second-hand consumers are in middle- and low-income categories. No information about the relevance of the educational level was retrieved (see experts' interviews in Section 2.1 to justify the add-on). Consumers are also categorised in terms of frequency of purchase. Indeed, Boston Consulting Group (2020) analysed the behaviour of both sellers and buyers, assessing the frequency of purchase as another determinant element to evaluate consumer behaviour of second-hand purchase, although the study does not precisely define the frequency cohorts. Similarly, we can categorise second-hand consumers in clusters driven by motivations. Hur (2020) divides consumers into four groups according to the motivations driving the consumption:

- <u>Price-conscious</u>: consumers belonging to this cluster stand out for their high price-sensitivity and as being highly convenience-driven. Nonetheless, these individuals pay particular attention to the quality of the product, favouring the pre-loved segment over the new circuit for the possibility of purchasing goods with high quality/price ratio.
- <u>Style-conscious</u>: consumers interested in the style and aesthetic appearance of fashion items. The purchase and consumption of pre-loved clothing allow individuals to buy second hand clothing for finding unique and cool items and feeling cool.
- <u>Brand-conscious</u>: those looking into the pre-loved segment to buy premium or luxury products. They are looking into second-hand to get a designer item at a lower price, for the enjoyment and satisfaction in searching for branded items and for finding items that can show their status.

- Environmentally and ethically conscious: individuals adopting a conscious and responsible consumption model, paying particular attention to social and environmental purchases. They investigate the second-hand fashion market as an ethical and sustainable alternative to fast fashion and over-consumption.

2 Pre-recruitment Questionnaire and Preliminary Interviews

After setting a detailed foundation of our work by describing consumer motivations from different geographical perspectives, delineating the two analyses to undertake - Perceptual Maps and Conjoint Analysis – with their respective factors and attributes to test, and a final focus on segmentation which helped us understand the profiles of second-hand fashion consumers, the following chapter will explore the first step of our methodological analysis which revolves around the conduction of qualitative interviews.

Initially, we will describe the interviews' structures and the pillars categories around which questions are elaborated. This step will be applied to both interviews' scripts created, which can be differentiated by the type of respondent: experts and consumers. Consequently, the next sub-chapter will concentrate on analysing the qualitative feedback obtained through the interviewees, which will provide concrete insights on both external factors, like the second-hand fashion markets, and internal like the user experience on the platforms chosen to study and preferences.

2.1 Methodology

According to literature overview investigation and the research objectives, we decided to conduct a series of qualitative interviews with consumers and experts. Indeed, as discovered in the previous sections, consumer segments can be potentially described through their age, gender, income status, level of education, frequency of purchase and motivations of purchase. Additionally, they might evaluate different fashion platforms according to their (i) price convenience, (ii) items quality, (iii) platform quality and sophistication, (iv) platform reliability, (v) design and style, (vi) fun and entertainment, and (vii) sense of community. Finally, according to the previous research, elements to potentially test in a conjoint analysis in a similar context are the following: (i) brand level (ii) pricing (iii) variety (iv) delivery service (v) trust mechanism.

However, the literature merely represents a summary of previous discoveries, applied to different nationalities and using different marketing approaches. Therefore, investigating consumer personas and determinant factors to test using qualitative interviews becomes mandatory. Indeed, through the following analysis, we were able to verify the literature overview discoveries and reject those elements that were not pertinent with the research.

This phase was performed between February 24th and March 6th, 2022. At first, we interviewed experts following a semi-structured script. The calls had an average duration of 20-30 minutes and were performed between February 24th and February 28th. The experts' script (Appendix, Table 1) focused on the following aspects: (i) professional experience, (ii) relevant descriptors (iii) motivations (iv) attributes (v) preferences (vi) market perceptions (vii) additional value and future prospective.

The *Professional Experience* part was aimed to get more details on their expertise in the field, while Descriptors *and Motivations* questions were used to assess consumers segments characteristics. Instead, the *Attributes and Preferences* questions were aimed to understand what platform characteristics consumers evaluate the most while using such apps. In the *Market Perceptions* part, the objective was to get an overview of how experts think consumers perceive the different players in the market and what aspects they might evaluate when comparing one platform to another. Finally, *Additional Value/Future Prospective* questions were used to assess the impact of the study business and academically wise. We interviewed 7 experts in total.

After having performed experts' interviews, we launched a pre-recruitment questionnaire just for consumers. This was aimed to recruit potential buyers to interview. The pre-recruitment questionnaire included the following sections: (i) residency in Italy (participants needed to be resident in Italy for at least 5 years) (ii) having bought second-hand clothing in the last year (iii) having used at least two of the platforms under examination (iv) age, gender and education (v) frequency of purchase (vi) full name and email. After having reached a sufficient number of contacts we scheduled and performed the qualitative interviews (February 28th – March 6th).

The interview format was a semi-structured one. The authors conducted 11 qualitative interviews with customers following different arrangements (phone calls and video calls). The duration corresponded to an average of 20-30 minutes.

The consumers script (Appendix, Table 2) had five sections: (i) demographics, (ii) usage experience, (iii) motivations, (iv) attributes, (v) preferences (vi) market perceptions. For the first one, *Demographics*, the objective was to classify the interviewees by their age, gender, frequency of purchase and education.

In the second, *Usage Experience*, the aim was to understand the knowledge and usage consumers acquired with second-hand fashion apps. As for the third, *Motivations*, the intention was to assess the reasons why consumers used second-hand fashion platforms and why they used certain ones rather than others. Instead, the *Attributes* category aimed to grasp which were the most relevant attributes interviewees evaluated while using second-hand apps. Lastly, the *Preferences and Perceptions* section focused on understanding interviewees' perceptions about each app, the way they assessed them and their positioning in their minds.

The channels we used to come across the respondents of our interviews were LinkedIn and Facebook second-hand communities. We opted for these platforms as the size of the network and range of people that we could have encountered favoured the chances to select a diverse sample of people.

In the next chapter, an exhaustive analysis of the results obtained through the different interviews, of both experts and consumers, is going to be described.

- **Results**

The pre-recruitment phase and interviews were conducted between February 24th and March 6th. A total of 18 people, combining both experts and consumers respondents, were interviewed. The main takeaways are presented as follows.

Expert Interviews

We interviewed 6 experts. Their professional experience ranged from 2 years to 15 years. The professionals selected were employed in companies Market Research teams (3), Marketing Management departments (2) and Strategic departments (1).

Three of the respondents confirmed the relevance of age, gender, income, educational level, and frequency of purchase to assess the different consumer segments. Two experts suggested additional descriptors: distinguishing between buyers and sellers, assessing if respondents had children or not and including the educational level. However, the seller/buyer descriptor was rejected since the study focuses just on buyers. Whereas the children's descriptor was rejected due to the lack of consistency in the feedback received (another expert suggested to reject it). As a result of the experts' opinions received, we decided to include the educational level in the descriptor part.

Moving onto the motivations driving consumers' purchase of second-hand clothing, experts mentioned the following: Price Convenience (6), Sustainability (6), looking for Unique/Cool items (2), Quality/Price Ratio (2), Bargain Joy (1).

In the case of attributes, the focal point was to identify the attributes users considered while using such platforms. The factors mentioned by professionals will be listed according to the frequency they were cited in the interviews: Trust/Reliability (5), Quality Check and Guarantee (4), Variety (3), Usability (3), Pricing (3), Delivery Service (2), Visual Presentation of the Items (2), Effortless Shopping Experience (2).

This process helped in finding new factors – which were not initially considered - that could impact consumers in their journey on second-hand platforms. The findings relate to the following qualities:

Reputation, Quality check and Guarantees, Price convenience and Service pricing, Presentation of items. It was possible to verify Variety and Delivery as attributes.

The following section will be dedicated to give some qualitative insights coming from the one-to-one interviews.

Regarding the market perceptions' part, the focus was to grasp how the experts think consumers perceive the apps subjects of study in this research (Depop, Vestiaire Collective, Vinted, and Zalando Second Hand). According to experts, Vinted is associated with higher price convenience and less intermediation (buyers can contact other users directly). However, the lack of intermediation also brings a higher risk of fraud and less trust associated with Vinted. Other advantages are the high degree of variety, choice, and low commission costs. Depop is considered a minor player, with lower brand recognition and platform usage even in major markets like the UK and Italy. As the sellers' user base is mainly made by professional sellers and vintage stores, it is perceived as more trustworthy than Vinted. The fees and average items costs are higher than Vinted with a higher degree of intermediation. The content produced on the platform is looked upon as more entertaining and visually pleasant (the platform is designed like a social media). Vestiaire Collective is considered to be a niche platform for collectionists and luxury and designer clothing hunters. Its overall pricing is more expensive compared to the previous platforms described. It is perceived as being more trustworthy and secure. Zalando second-hand mainly attracts core Zalando customers who are concerned with sustainability. The main appreciated features of the platform are its pleasant platform aesthetic and navigability, favourable return policies and delivery services, and the items quality. Pricing might be higher than the other platforms, but overall, higher reliability and trustworthiness are associated.

In the last section, the experts confirmed the relevance and additional value of the study especially for the single business players interested in improving their performance or assessing potential product and market gaps.

Consumers Interviews

The interviewees age ranged from 20 to 59, and a robust female representation prevails, covering 9 out of 12 respondents. In terms of frequency of use, there is a higher depiction of people purchasing less than three items in the last 3 months (6). Just two people purchased between 4 and 6 (1) and more than 7 items (1). Regarding their education level, there is a higher representation of people having a bachelor's degree (6), the remaining ones have postgraduate education (3) or a high school diploma (2).

Going over the user experience, 13 apps were mentioned by the respondents: Depop, Vestiaire Collective, Vinted, Grailed, Zalando, eBay, Subito, Shpock, FreedUP, Asos Marketplace, Facebook Marketplace, Rebelle, and Wallapop. The most used is Vinted, known and used by each of the interviewees, Depop, recognised by nine and utilised by three out of the twelve individuals, Vestiaire Collective, acknowledged by eight and adopted by two out of twelve subjects, and finally Zalando with five and three respondents respectively acknowledgments and users out of twelve. Considering the three most mentioned apps above – as they are the most popular – it is possible to state that Vinted still holds onto its favoured position when it comes to being used for both selling and buying. As for the other two, there is no clear pattern to follow on any of the two tasks, so it is easy to conclude that clients might feel indifferent. Respondents have been using the mentioned second-hand apps for 1 to 7 years.

Regarding the motivations of second-hand fashion purchase, respondents mentioned the following ones: Sustainability (6), Price Convenience (all respondents), Price/Quality ratio (ed. possibility to buy a good quality item at a comparable lower price) (4), Items Uniqueness and Coolness (6), wider variety than in a thrift store (2).

Moving on to the attributes**,** consumers noticed and prioritised the following aspects: Delivery (3), Payment Ecosystem (3), Price Convenience (2), Items Quality (2), Variety (2), Trustworthiness and Easy Dispute Resolution (3), Usability/Ease of Use (1). This thesis helps in verifying just 6 out of 8. An extra characteristic was mentioned (Items Quality) and had to be added to the list. This helped in highlighting a specific factor which was not previously taken into consideration. Furthermore, they suggested adding additional features to improve the app performance: a quicker and faster delivery service, the insertion of an integrated payment system (e.g., PayPal) or a credit system ("in-app wallet") and a guarantee (against product quality and purchase scams). Further requests relate to the increase of product variety and an overall reduction of prices and purchase fees (referring to Depop and Vestiaire Collective mainly).

Lastly, in the preferences and perceptions section, consumers were asked to identify significant differences between the platforms, giving them a black space to evaluate differences and similarities among the platforms (Table 1). Starting with Vinted, the platform is perceived to have a good degree of item variety, great price convenience (cheapest platform among those examined) providing an efficient delivery service and a medium reliability (less than Zalando, better than Depop). For Depop, the qualities appreciated by consumers and associated with the brand deal with the degree of variety, great engagement, and sense of community. There is a higher attention to item selection compared to the previous platform, which seems to increase the perceived quality with a more efficient reviews system than Vinted. However, Depop results are more expensive than Vinted and Zalando Second Hand. Consumers' perceptions on Zalando and Vestiaire Collective were more challenging to register as they are less used compared to the previous apps. For Zalando, its aesthetic appearance, navigability, items quality and reliability are characteristics highly appreciated. For Vestiaire Collective, it is normally associated with higher quality and a premium price range (the most expensive platform in terms of both item pricing and fees).

Table 1. Platforms comparison summarised in a table.

	Vinted	**Depop**	**Zalando Second Hand**	**Vestiaire Collective**
Variety	X	X		
Usability		X	X	
Delivery	X			
Dispute	X			

Payment ecosystem	X	X		
Price convenience	X			
Review		X		
Quality		X	X	
Countries available		X		X
Item selection		X		

After describing this detailed overview of the qualitative interviews results that we have conducted, it is possible to move on to the next part, which is a more technical investigation of consumer perceptions. In this next chapter, we will explain how we have elaborated a quantitative survey through which we were able to acquire evaluations of the online second-hand platforms, the subject of the thesis, against the seven attributes defined in the literature review. The section will start with an outline of the sample, mainly focused on demographic factors. Then we will dive into the quantitative results obtained to get an in-depth understanding of the associations consumers make on the platforms.

3 Conclusions

The insights provided by this first step of our methodological section will be of fundamental importance for the next steps, specifically for perceptual maps analysis. What it is possible to conclude is that the thorough feedback obtained by the respondents gave us a preview of our later results to be achieved, focusing our attention specifically on the associations made by users to each one of the platforms identified as subjects of our study and, later on, to the weaknesses recognised within their operations. We will then be able to use these elements, with the addition of the outcomes from the other analyses to implement, to justify further recommendations for enhancing their operations.

4 Bibliography

Boston Consulting Group. 2020. *The Consumers Behind Fashion's Growing Secondhand Market.* Boston Consulting Group.

Brito, Pedro Quelhas, Carlos Soares, Sérgio Almeida, Ana Monte, and Michel Byvoet. 2015. "Customer segmentation in a large database of an online customised fashion business." *Robotics and Computer-Integrated Manufacturing* 36: 93-100.

Dachyar, Mattim, Fausta Maria Esperanca, and Rao Nurcahyo. 2019. "Loyalty Improvement of Indonesian Local Brand Fashion Customer Based on Customer Lifetime Value (CLV) Segmentation." *IOP Conference Series: Materials Science and Engineering.*

Damghani, Kaveh Khalili, Farshid Abdi, and Shaghayegh Abolmakarem. 2018. "Hybrid soft computing approach based on clustering, rule mining, and decision tree analysis for customer segmentation problem: Real case of customer-centric industries." *Applied Soft Computing Journal* 73: 816-828.

First Insight. 2020. *The State of Consumer Spending: Gen Z Shoppers Demand Sustainable Retail.* Accessed March 04, 2022. https://cdn2.hubspot.net/hubfs/160569/1.14.2020%20The%20State%20of%20Consumer%20Spending%20Gen%20Z%20Shoppers%20Demand%20Sustainable%20Retail.pdf.

Ganhewa, N.B., S.M.L.B. Abeyratne, G.D.S. Chathurika, Dilani Lunugalage, and Dilshan De Silva. 2021. "Sales Optimisation Solution for Fashion Retail." *2021 3rd International Conference on Advancements in Computing (ICAC).*

Hur, Eunsuk. 2020. "Rebirth fashion: Secondhand clothing consumption values and perceived risks." *Journal of Cleaner Production* 273.

Lilien, Gary L., Arvind Rangaswamy, and Arnaud De Bruyn. 2017. "Chapter 3: Segmentation and Targeting." In *Principles of Marketing Engineering and Analytics*.

Lilien, Gary L., Arvind Rangaswamy, and Arnaud De Bruyn. 2017. "Chapter 6: Conjoint Analysis." In *Principles of Marketing Engineering and Analytics*.

Markova, Ivana, and Julia Grajeda. 2018. "Consumer Attitudes and Purchase Intentions toward Second-hand Clothing Online and through Social Media Platforms: Does Gender and Income Matter?" *San Francisco State University.*

Murray, Paul W., Bruno Agard, and Marco A. Barajas. 2017. "Market segmentation through data mining: A method to extract behaviors from a noisy data set." *Computers & Industrial Engineering* 109: 233-252.

Ogle, Jennifer, Karen H. Hyllegard, Ruoh-Nan Yan, and Mary A. Littrell. 2014. "Segmenting the teen girl apparel market: differences in fashion involvement, materialism and social responsibility." *Young Consumers* 15 (2): 153-166.

Statista. 2020a. *Apparel Market in Europe.* Accessed March 04, 2022. https://www-statista-com.eu1.proxy.openathens.net/study/27600/apparel-market-in-europe-statista-dossier/.

Statista. 2020b. *Apparel Market in Europe.* Accessed March 04, 2022. https://www-statista-com.eu1.proxy.openathens.net/study/27600/apparel-market-in-europe-statista-dossier/.

Statista. 2021a. *Secondhand apparel market value worldwide from 2012 to 2023.* Accessed March 04, 2022. https://www.statista.com/statistics/826162/apparel-resale-market-value-worldwide/.

Statista. 2021b. *Age distribution of secondhand e-commerce app Xianyu users in China as of May 2021.* Accessed March 04, 2022. https://www.statista.com/statistics/1268285/china-age-distribution-of-recommerce-app-xianyu-users/.

5 Appendix

Table 1: Interview Questions – Professionals

Professional experience	- Years of experience - Current Role

Age, Gender, Income, Frequency of Purchase, Education level	- Do you think that these descriptors are pertinent and useful in describing the consumers?
Motivations	- What are the main reasons why consumers purchase on secondhand platforms?
Attributes	- According to your experience on the topic and in the field, what do you consider the most important attribute that users evaluate when using secondhand platforms?
Preferences	- According to you, what is the top-ranked attribute, determining the choice between one platform and another?
Market Perceptions	- According to you experience, how do consumers perceive the following secondhand apps (Vinted, Depop, Vestiaire Collective, Zalando Second Hand)?
Additional Value and Future Prospective	- Do you think that studying such characteristics will bring additional value to the research on this topic?

Table 2: Interview Questions - Users

Demographics	- Age - Gender - Education - Frequency of Purchase
Usage experience	- Have you ever purchased on a second- hand platform? - Which platforms do you know? - Which ones do you use?

	- How long have you been knowing and using these platforms?
Motivations	- What are the main reasons why you purchase on these platforms?
Attributes	- Now, let's focus on the experience with your favourite app. Could you please describe it in detail? - What characteristics you value the most? - Is there any feature that you would like to be added to these apps?
Market Perceptions and Preferences	- Are you able to identify differences between the different platforms previously mentioned? - Why you use certain platforms and not others?