



Exploring Gen Z Student Engagement with an Innovative Online Second-Hand Marketplace: A Study on HEI Students in Portugal

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Abstract

Title: Exploring Gen Z Student Engagement with Online Second-Hand Marketplaces: A Study on HEI Students in Portugal.

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Keywords: Generation Z, Higher Education Institutions, Online Second-Hand Marketplaces, Gen Z Consumption Behavior, Circular Economy, Online shopping, Sustainability, Portugal

This study examines the engagement of Generation Z students enrolled in Higher Education Institutions (HEIs) in Portugal with online second-hand marketplaces. Through a mixed-methods approach, the research identifies key drivers such as convenience and environmental consciousness that influence platform usage, while also exploring potential barriers. The findings reveal a significant inclination towards trading clothing items, aligning with the trends observed in broader second-hand markets. The study contributes to the literature on Gen Z consumer behavior and offers practical implications for the development of student-centric second-hand marketplaces.

Resumo

Título: Explorando o Engajamento dos Estudantes da Geração Z com Mercados de Segunda Mão Online: Um Estudo sobre Estudantes de Instituições de Ensino Superior em Portugal.

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Palavras chave: Geração Z, Instituições de Ensino Superior, Mercados de segunda mão, Comportamento do consumidor, Economia circular, Compras online, Sustentabilidade, Portugal.

Este estudo analisa o envolvimento dos estudantes da Geração Z inscritos em Instituições de Ensino Superior (IES) em Portugal com os mercados onlins de segunda mão. Através de uma abordagem de métodos mistos, a investigação identifica como principais factores, a conveniência e a consciência ambiental, que influenciam a utilização da plataforma, e explora as potenciais barreiras. Os resultados revelam uma inclinação significativa para o comércio de artigos de vestuário, alinhando-se com as tendências observadas em mercados de segunda mão mais alargados. O estudo contribui para a literatura sobre o comportamento do consumidor da Geração Z e sugere implicações práticas para o desenvolvimento de mercados de segunda mão centrados nos estudantes universitários.

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List of Abbreviations

CE – Circular Economy

HEI – Higher Education Institution

OECD - Organisation for Economic Co-operation and Development

DGEEC - Directorate-General for Education and Science

UNESCO - United Nations Educational, Scientific and Cultural Organization

1. Introduction

The rapid advancement of digital platforms has revolutionized consumer behaviour, particularly among younger generations. This study investigates the engagement of Generation Z students enrolled in Higher Education Institutions (HEIs) in Portugal with online second-hand platforms, particularly with a new and innovative online second-hand marketplace dedicated exclusively to students. The focus is on their motivations, barriers, and preferences for product categories to trade. Generation Z, born between 1997 and 2012, represents a unique cohort characterized by their digital nativeness, environmental consciousness, and distinct consumption patterns (Accenture, 2017; Amed, 2018).

Existing literature highlights that Generation Z consumers prioritise sustainability, convenience, and affordability in their shopping behaviour. Studies such as those by Colacchio et al. (2021) and Zaman et al. (2019) illustrate the growing trend of second-hand shopping driven by environmental and economic considerations. In fact, the concept of circular economy (CE), which promotes the reuse and recycling of pre-owned goods, is increasingly appealing to this demographic (ThredUp, 2021; Transparency Market Research, 2023).

This research aims to introduce Gen Z HEI students in Portugal to an innovative online second-hand marketplace dedicated to students, based on the model of the first existing one called “Hazaar,” invented by students in Birmingham. The following study aims to fill the gap in understanding the specific behaviors and preferences of Portuguese HEI students regarding a similar platform, with the primary objectives of identifying the main drivers that encourage them to use such a platform, exploring the barriers that deter them from engaging with the service, and determining the product categories that are most likely to be bought and sold among them.

By addressing these objectives, the study seeks to provide actionable insights for the development and management of student-focused second-hand marketplaces in Portugal.

1.1 Problem Statement and Research Gap

According to the Portuguese Ministry of Science, Technology and Higher Education, 446,028 students were enrolled in universities and polytechnics for the 2022/23 academic year. This is a 3% increase from the previous year, and represents the highest number ever of students enrolled in higher education in the nation. This growth continues a trend from 2015-2016, culminating in an overall increase of 24% over the years. As Portugal works toward its long-term educational objectives, which include having 50% of 30-34-year-olds with a higher education degree by 2030 and a 60% higher education attendance rate among 20-year-olds, these percentages are anticipated to rise (Portuguese Government, 2023). With 74,697 international students, whether full course or as a transfer student, making up 17% of the total enrollment, the segment of HEI students represents a sizable portion of the Portuguese consumer market. (DGEEC, 2023)

Regarding Circular Economy (CE) practices, younger and highly educated generations are among the major driving forces for a successful transformation to a CE. Looking forward, young people are essential to the smooth and successful transition to a CE, with higher educational institutions (HEIs) playing a vital role in this process. (Márcia N. Alves, 2024)

Although there has been research done on the online shopping patterns of Generation Z in online platforms (Accenture, 2017; Hieu, 2022; Laitkep, 2021; Mulyani, 2019) there is not a solid amount of literature on the consumer behaviour of HEI students Gen Z in Portugal specifically in second-hand-commerce, and this study contributes to the body of research.

This study aims to understand the level of Gen-Z university students in Portugal regarding online second-hand platforms. In particular, it aims to understand what are the drivers and obstacles for them towards an online second-hand platform targeted at students, meaning that just students can use it by signing up with their university's email addresses to access the marketplace and browse it, they can to complete the exchange in person, cutting down on wasteful packaging and travel, providing a secure and user-friendly way to handle transactions on campus within designated safe spaces. (Hazaar, 2021)

1.2 New product description

This section of the study serves the purpose of introducing the product itself; a second-hand online marketplace app tailored for students, containing literature for the purpose of studying.

This product is inspired by Hazaar, the first marketplace app of its kind, designed specifically for students to trade pre-owned items within the student environment. Hazaar was founded in 2021 by Harriet Naym, a student at The University of Birmingham (Hazaar, 2021).

Operating as both an in-app and in-person marketplace, Hazaar enables students from partnered universities to buy and sell anything a variety of items, including clothes, textbooks, and household goods that they no longer need in an environmentally sustainable way. To be able to use this service, students sign up with their university's email addresses to access their university's marketplace and browse thousands of available items in a variety of categories, such as clothing, furniture, electronics, household items, musical instruments, décor, kitchen equipment, sporting goods, books, etc.... They can sell their goods, buy online, and then complete the exchange in person, cutting down on wasteful packaging and travel, promoting a circular economy. The uniqueness lies in its student-focused design, providing a secure and user-friendly way to handle transactions on campus within designated safe spaces, thereby ensuring safety and avoiding scams.

- 1) Fostering a circular economy:** helping students shift their consumption behaviors to reduce waste and create community-driven effort.
- 2) Reducing carbon footprint:** transactions on Hazaar eliminate the need for buying new, saving on postage-fees.
- 3) Enabling an affordable student life:** The marketplace offers budget-friendly prices, with a variety of categories featuring items like clothes and sports equipment, often priced under £10.
- 4) Providing a safe and convenient transaction environment:** students can meet in secure locations on campus to exchange items, where they spend time almost every day during the school.

1.3 Research Questions and Hypothesis

The research explores the factors and barriers influencing HEI GenZ students' engagement with a custom online second-hand marketplace in Portugal. Moreover, the study examines the product categories that Generation Z students are most likely to trade on such platforms. The study is structured around critical research questions that inform strategic decision-making processes for platform development and management in Portugal.

***Research Question 1 (RQ1):** What are HEI GenZ students' main drivers for using an online second-hand marketplace platform tailored for students in Portugal?*

Hyp 1: HEI Gen Z students who are likely to engage in a secondhand marketplace specifically designed for students are driven by the possibility of finding more **affordable options** compared to purchasing new items.

Gen Z students are particularly attracted to the economic benefits of second-hand marketplaces. Their price sensitivity compels them to seek more affordable purchasing options, where they frequently compare prices across platforms to ensure they are getting the best deals (Hieu, 2022). This behaviour is underpinned by a broader economic motivation to maximise value while minimising expenditure, as discussed by Laitkep & Repkova Stofkova (2021) and Guiot and Roux (2010). Styvén and Mariani (2020) also emphasize the role of economic incentives in second-hand purchases, noting that students are drawn to unique items that offer perceived higher value at lower costs.

Hyp 2: HEI Gen Z students who are likely to engage in a specifically designed second-hand market are driven by **environmental consciousness**.

For Gen Z, the trend cycle continues to quicken, posing a challenge for fashion brand marketers seeking to connect with younger consumers. Some of the motivations for using Depop come as no surprise — 75 per cent of those surveyed are looking to reduce clothing consumption (Colacchio et al., 2021). Another study published by Zaman et al. (2019) demonstrates that those who buy second-hand clothing can be divided into three different groups based on their perception of this type of purchase. Their research focuses on the reasons why people tend to buy second-hand clothing, and these are not limited to financial reasons, but also include environmental aspects, recycling, and trends that encourage the reuse of clothes that many people tend to forget in the closet. (Zaman et al., 2019) More Gen Z and Millennial consumers than any other generational group make purchases that are ethical or sustainable. (Reda & Kapoor, 2021) Gen Z. Moreover, it was pointed out that social and environmental issues are important to Gen Z and Millennial consumer groups (Amed, 2018). Finally, according to a survey conducted in 2021 by Simon-Kucher and Partners, younger customers are actively looking for solutions to reduce their environmental impact. (Simon & Partners, 2021)

Hyp 3: HEI Gen Z students who are likely to engage with an online second-hand market specifically designed for students are driven by the **convenience** of the buy-and-sell process.

According to Padmavathy et al. (2019), convenience has a big impact on online second-hand buyers, who place a lot of attention on the products' usefulness and user-friendliness. The same study shows that customers who wish to spend as little time and effort as possible when searching for products in online second-hand stores are motivated by ease, which enhances the allure and efficacy of the purchasing process. (Padmavathy et al., 2019) Perceived convenience and ease of use have a direct impact on people's preparedness to participate in such activities.

Hyp 4: HEI Gen Z students who are likely to engage with a second-hand marketplace specifically designed for students are driven by the perception of a **secure environment**.

The risks of online shopping, such as the possibility of financial loss or the exposure of personal information, are taken into account by Generation Z. These dangers may influence their purchasing decisions. (Hieu & Loan, 2022)

RQ2: *What are the challenges faced by Generation Z HEI students when using an online second-hand platform designed for university students in Portugal?*

Hyp 5: HEI GenZ students in Portugal are hesitant to engage with an online secondhand marketplace specifically designed for students due to **trust issues related to people**.

Hyp 6: HEI GenZ students in Portugal are hesitant to engage with an online secondhand marketplace specifically designed for students due to **trust issues related to products**.

Trust plays a pivotal role in the adoption and use of second-hand marketplaces. Edbring et al. (2015) discuss the impact of trust barriers related to both people and products, noting that uncertainties about seller honesty and product quality can significantly deter usage. (Edbring et al., 2015) Guiot & Roux (2010) also highlight how the absence of warranties and the potential for deceit create a trust deficit that platforms must address to enhance user engagement. (Guiot, 2010)

Hyp 7: HEI GenZ students in Portugal are hesitant to engage with an online secondhand marketplace specifically designed for students due to **social stigma** related to buying secondhand.

Social stigma associated with purchasing second-hand goods can be a significant barrier. Borusiak, et al. (2020), Mukherjee et al. (2020), and Sandes & Leandro (2019) analyse how societal perceptions and the fear of judgment influence consumer behavior, suggesting that overcoming these social barriers is crucial for the acceptance and growth of second-hand marketplaces among Gen Z students. In fact, influencing customers' perceptions about the use and purchase of used clothing is one of the biggest obstacles in this field. (Kim, 2019)

Hyp 8: HEI GenZ students in Portugal are hesitant to engage with an online secondhand marketplace specifically designed for students due to **concerns regarding hygiene and cleanliness of products**.

Concerns over hygiene and the condition of second-hand products also present significant challenges. Fears related to cleanliness and the presence of contaminants can prevent potential buyers from engaging with second-hand items, emphasizing the need for clear product condition reporting and quality assurance. (Edbring, 2015; Sandes, 2019)

RQ3: *Which product category is the most marketed by HEI GenZ students in Portugal in an online second-hand platform tailored for them?*

Hyp 9: HEI Gen Z students will predominantly **buy** items in the “**Clothing**” category in an online second-hand marketplace specifically designed for students (including clothes, footwear, accessories).

Hyp 10: HEI Gen Z students will predominantly **sell** items in the “**Clothing**” category in an online second-hand marketplace specifically designed for students (including clothes, footwear, accessories).

A recent study by Statista, shows the most purchased and sold second-hand products online in Portugal in 2023. According to this study, apparel, footwear, and fashion accessories constituted the category of most purchased and sold second-hand products online, with shares

of 46% (purchased) and 54% (sold) among the respondents. Electronics (video games, cellphones, or computers) were in second place for products purchased, with a share of respondents of 31%. Third place for second-hand products purchased is Comics, with a share of respondents of 27%. Regarding second-hand products sold online, the second place was for Household products (furniture, kitchen sets, cutlery, or gardening equipment), followed by Electronics.

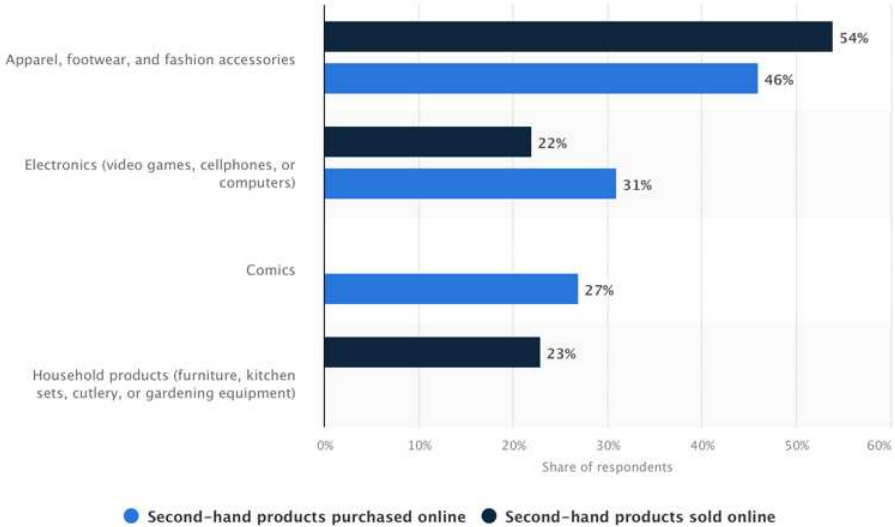


Figure 1: Most purchased and sold second-hand products online in Portugal in 2023 (Statista, 2024)

To comprehensively understand these dynamics and support the decision-making process regarding the online marketplace's introduction to the Portuguese market, it is essential to gather and analyse both secondary data and primary data through qualitative and quantitative research methods. This multifaceted approach will provide deeper insights into the feasibility, and potential impact of the platform, guiding the strategic decision on whether to proceed with its development and launch.

2 Literature Review

In this chapter, the existing literature review covering the three areas relevant to this study will be discussed. First, historical and current trends in student mobility in higher education are examined, highlighting their evolution and impact on academic and professional opportunities and the current situation in Portugal (OECD, 2022; UNESCO, 2018; DGEEC, 2023). Second, the behaviour of Generation Z consumers in online transactions, particularly in second-hand purchases, is analysed, highlighting their digital preferences and sensibilities (Accenture, 2017; Mulyani et al., 2019). Finally, the growing importance and economic impact of the circular economy and second-hand markets are discussed, highlighting their role in promoting sustainability and environmental awareness. (ThredUp, 2021; Research, 2023)

2.1 International Mobility in Higher Education

2.1.1 Historical and Contemporary Perspectives

Student mobility in Higher Education has a long history. However, reasons for being mobile have changed substantially in the past decades. In the past, universities in Europe were few and studying required students to be mobile. Today mobility offers a great range of academic opportunities and gives access to a great variety of possibilities to study and research. More than ever students have the possibility to study a desired field and to develop their knowledge at centres of excellence in their study field. Experiencing a study period abroad might enhance the employability of an individual or increase his or her opportunities for employment on the international labour market. Mobility plays an important role in developing and maintaining a democratic culture and creating the global society in a multicultural context. The presence of foreign teachers, students and staff supports the international atmosphere of Higher Education Institutions and gives students possibilities to learn to act in a multicultural environment. Mobility provides possibility to exchange scientific findings, to spread innovation and best practice. In an international environment the awareness of international developments is raised as well as the preparedness to take in new information. Furthermore, it enhances the ability to bring international elements to methods and content of teaching and studying. International

atmosphere has become one of prerequisites for development of the quality of higher education and research of today (S. Brus, 2007).

In 1950, there were 107,589 international students worldwide; this number increased to 5.6 million in 2018 (G.A Barnett, 1995; (UNESCO, 2018). According to the Organisation for Economic Co-operation and Development (OECD, 2017) there has been a significant increase in student mobility across countries, rising from 0.8 million in the late 1970s to 5.6 million 48 years later. The OECD projects that by 2025 the number of international students will reach eight million (OECD, 2017). This increase has been driven by many factors, such as economic (e.g. costs of international flights), technological (e.g. Internet and social media) and cultural (e.g. the use of English as a common teaching language) (OECD, 2017).

Out of 225 million students, nearly 5.6 million students in 2018 were on mobility worldwide, compared to 4.2 million in 2013, an increase of 32% (T.I.M.E., 2021). The European Union represented in the same year, the 1st host region, with 2.2 million incoming students, followed by North America (1,2 million) and Asia-Oceania (1,7 million). Europe and North America alone accounted for 60% of inward mobility.

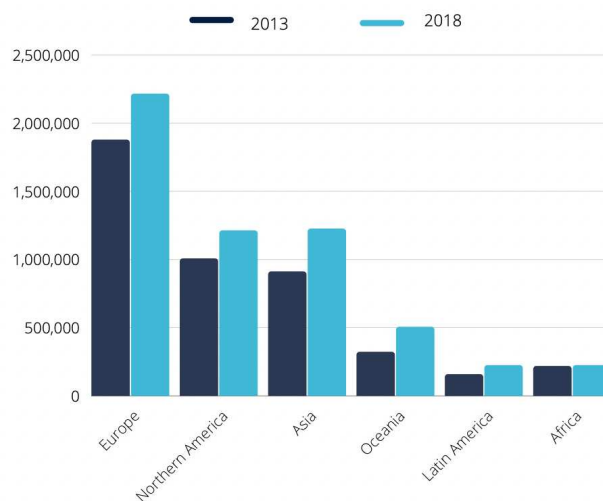


Figure 2 Incoming Mobility (T.I.M.E., 2021)

2.1.2 Landscape, Current Statistics and Trends in Portugal

According to the data disclosed by the Directorate-General for Education and Science (DGEEC), in the academic year 2022/2023, 446 028 students were enrolled in higher education institutions (HEI) in Portugal, a rise of 12 811 compared to the previous year 2021/2022, which

represents 3% growth. It is important to highlight that Portuguese higher education includes the university and polytechnic systems, which, according to the The Framework Law on the Education System, this leads to three types of academic degrees: Bachelor's Degree (*Licenciado* degree), 1st cycle degree programme, Master's Degree (*Mestre* degree), 2nd cycle degree programme, and Doctorate Degree (*Doutor* degree), 3rd cycle degree programme. (Framework Law on the Education System, Law nr. 46/86, 1986).

The same data set (DGEEC, 2023) shows that among these students enrolled, 74 697 of them are foreigners who picked Portugal for their higher education, whether full course or as a transfer student, and represent 17% of the total number enrolled. 17 822 students were enrolled in higher education institutions under international mobility programmes (e.g. Erasmus, Double Degree). In the case of students enrolled to attend a full course in Portugal, these mostly come from Brazil (17 028), Guinea-Bissau (6910), Cape Verde (6449), Angola (5292), and France (3406) (DGEEC, 2023).

2.2 Generation Z's consumption behaviour in online shopping

GenZ is the new generation of university students (Elif Taslibeyaz, 2024). 'Generation Z', or GenZ, is a term used to refer to young people born between 1997 and 2012, who comprise a significant part of today's university student body. Generation Z' was born into a world very different from that of many of their educators in terms of access to information and life experience. This has profoundly affected the way they seek, access, learn and experience information (Thomas, 2011).

According to the report “Generation Z to Switch the Majority of Purchases”, published in 2017 by Accenture, “Gen Z is the next big consumer market and purchasing powerhouse,” representing the next major powerful consumer group in the consumer market and is a generation that is controlling and reshaping the digital retail world of today and they are also interested in new shopping methods (Accenture, 2017). In 2018, it was estimated that the combined spending power of Gen Z cohorts in the United States is about \$150 billion. (Amed, 2018)

Social media plays a crucial role in shaping the shopping behavior of Gen Z. They rely heavily on social media for product discovery and inspiration, often looking to platforms like YouTube, Instagram, and TikTok for recommendations (Accenture, 2017). While influencers have some impact, Gen Z tends to trust reviews and feedback from peers and other consumers more than

endorsements from well-known online personalities (Laitkep & Repkova Stofkova, 2021; Mulyani et al., 2019). Convenience is a critical factor for Gen Z when it comes to online shopping. They prioritize platforms that offer quick and easy navigation, fast payment options, and reliable delivery services (Hieu & Loan, 2022). This generation values the ability to shop from anywhere, highlighting the importance of mobile-friendly websites and applications (Laitkep & Repkova Stofkova, 2021). Features like user-friendly interfaces and efficient search functions significantly influence their shopping decisions (Padmavathy et al., 2019). Price sensitivity is another defining characteristic of Gen Z shoppers. They frequently compare prices across different platforms to ensure they get the best deals (Hieu & Loan, 2022). This generation is attracted to second-hand marketplaces not only for their economic benefits but also for the perceived value and uniqueness of the products (Styrén & Mariani, 2020). Trust in online shopping platforms is paramount for Gen Z. They consider the credibility of the seller and the security of the transaction when making purchasing decisions (Hieu & Loan, 2022). Negative experiences, such as financial loss or data breaches, can significantly deter them from engaging with a particular platform (Mulyani et al., 2019). Gen Z is notably environmentally conscious, often favoring sustainable shopping options. This consciousness extends to their preference for second-hand marketplaces, which they perceive as more eco-friendly compared to purchasing new items (Laitkep & Repkova Stofkova, 2021). The environmental impact of their purchases is a significant consideration in their shopping behavior. The availability of a wide range of products is appealing to Gen Z. They appreciate having multiple options and the ability to find unique items online, which adds to the allure of online shopping (Hieu & Loan, 2022). The importance of flexible delivery options and secure online payment methods cannot be overstated. Gen Z prefers platforms that offer swift delivery services and various payment options, enhancing the overall convenience of the shopping process (Laitkep & Repkova Stofkova, 2021). While price-sensitive, Gen Z shoppers are also impulsive, often making purchases based on mood or peer recommendations. They value the opinions of friends and family highly and are influenced by social interactions and trends (Accenture, 2017). In conclusion, Gen Z's online shopping behavior is shaped by a blend of convenience, visual engagement, affordability, environmental consciousness, and trust. These factors collectively define their unique approach to digital consumption, setting them apart from previous generations.

2.3 Circular Economy and Second-hand Industry Analysis

Increased production and consumption as a result of rising populations and economic growth have put stress on Earth's finite natural resources and have accelerated environmental problems and climate change. As a result of the need to tackle environmental issues, the circular economy (CE) emerges as an alternative and much-needed model to counteract the current damaging patterns of the take–make–dispose linear model and is, therefore, at the forefront of political discussions and initiatives. (Márcia N. Alves, 2024)

“The second-hand market is one of the fastest-growing economic sectors within the fashion industry (...)” (Reuters, 2020) and, according to the ThredUp 2021 Resale Report, in 2020 its global market value was estimated to be worth around 27 billion U.S. dollars, and it is expected to grow to 77 billion U.S. dollars by 2025 (Thredup, 2021). The purchasing of previously owned apparel goods has been seeing an unprecedented increase in sales in the last years driven predominately by the younger generations of consumers who have sustainable agendas to meet (Amed, 2018).

The overall industry of second-hand markets was valued at US \$162.5 billion in 2023 and is expected to grow at a compounded average annual growth rate between 2024 to 2034 of 16.4, and reach US \$ 843.5 Bn by the end of 2034 (Transparency Market Research, 2023). Regarding Portugal, it is projected that the revenue of retail sale of second-hand goods in stores in Portugal will amount to approximately 135.43 million U.S. Dollars by 2025. (Statista Research Department, 2023). In 2023, 62% of Portuguese respondent to a Statista study, declared that they purchased second-hand products in the past. When it came to selling second-hand, the share was even greater at 64%. (Statista, 2023)

The way individuals buy and sell goods has changed dramatically in recent years because to the rise in popularity of online flea markets. Items that have previously belonged to and been used by someone else are traded in second-hand marketplaces, commonly referred to as used or pre-owned markets (Chadwick J. Miller, 2022). Compared to earlier, online second-hand markets are now significantly more popular and widely used. This is because consumer behavior has changed, especially for younger generations who see buying used things as a trend in fashion (Hristova, 2019). Because of the development of digitalization, online marketplaces have become more and more popular. They allow customers to buy used goods in a variety of categories—including clothing, books, electronics, furniture, sporting goods, home care items, exercise equipment, bikes, and musical instruments—for a significant discount compared to the cost of new goods (Besedo, 2023). In Portugal, there are different platforms and applications

for buying and selling second-hand products, including Ebay, OLX, Facebook Marketplace, and most recent ones like Thingle. But more recently other notorious platforms have emerged, such as Vinted and Depop, which are more oriented to apparel products. These platforms allow users to buy potential high-quality products at a discount rate and at the same times allows sellers to dispatch used objects to make money and free up space in their homes. Although they serve the same purpose, each has each own unique features that inspire different levels of trust and usability from different people. The biggest success case in this industry is Vinted, the European market leader from Lithuania, which from 2017 to 2023 increased second-hand online shop revenues from EUR 10 million to over EUR 596 million and boasts millions of monthly downloads globally. (Vinted, 2024; Statista, 2024)

3 Methodology

The following section describes the methodological approach used to conduct the study and thus to address the research questions and validate or reject the hypotheses developed. The primary objective of this research is to enable a greater understanding of Gen Z higher education students in Portugal regarding their potential engagement with a new product, namely an online second-hand marketplace for students. The study focuses on the motivations and factors that drive this target group to use such a platform, as well as the obstacles and limitations they see in using such a service and the product categories they would most likely market in the online platform.

A mixed method approach to the research was adopted for this study's objective." Due to the categorization of certain numerical research as qualitative and others as quantitative, mixed research became a third type of research methodology (Maxwell et al., 2015; Symonds et al., 2010; Mulisa et al., 2022). Effective mixed research offers a useful framework that combines qualitative and quantitative methods. Both numerical and non-numerical data are often gathered, analyzed, verified, and evaluated in a methodical manner in mixed research projects. The qualitative technique aids in delving deeper into each occurrence and developing conceptual frameworks, whereas the quantitative approach aids in generalising study findings. (Amaratugna, 2002) Mixed research, according to Amaratugna et al. (2002), is most useful in cases like this, where respondents are exposed to a new product and when the researcher needs validation and confirmation as well as rich information and new ways of thinking.

Therefore a, qualitative research, with in-depth interviews, and quantitative research, with an online questionnaire, were used. For this research, only responses from higher education institutions in Portugal students belonging to Gen Z and currently studying in Portugal were considered valid.

3.1 Qualitative Research

Although it is frequently criticized for its subjective nature, generalizations, and challenges with replication, qualitative research, in which participants are exposed to a new product, offers a

number of benefits, including the acquisition of insights and the prior testing of hypotheses (Mayring, 2014; Bazeley, 2006). Using semi-structured interviews, this study performed ten in-depth interviews with students presently enrolled at Portuguese higher education institutions (e.g., Bachelor, Master, and PhD). Interviewees may become more truthful and express their subjective perspectives when using a semi-structured technique, which can reveal information about consumer behavior. (Flick, 2009)

3.1.1 Qualitative Research Design

For the purpose of the research, 10 in-depth interviews were conducted, which began with a brief introduction regarding the purpose of the research, mentioning the approximate length of the interview of 15-20 minutes and asking for consent to record in order to allow for a more detailed analysis, following Bogner and Menz's standardised process. (Bogner & Menz, 2009) Consent to record was obtained and interviews were recorded using Zoom or a mobile sound recording application, as recommended by Bryman and Bell. (Bryman & Bell, 2015)

The respondents were selected through a targeted strategy, using word-of-mouth within personal networks among Portuguese and international students enrolled in Portugal. This includes both full-time students and those in temporary programs such as Erasmus or Double Degree, who volunteered to participate in the in-depth interviews.

Those people were selected to represent potential users of an online second-hand marketplace for university students in Portugal, thus including students born between 1997 and 2012 and currently enrolled in Portuguese higher education institutions.

The interview was structured into seven main parts: an introductory section that briefly presented the purpose of the research, the estimated duration, and obtained consent for recording. This was followed by a set of questions designed to understand the participants' familiarity with and frequency of engaging in second-hand shopping. Another section introduced "Hazaar," showing participants pictures of the website and providing a brief description of its functionality, main features, and uniqueness. Participants were then invited to share their initial comments about the platform.

Details on the interview questions, the various sections, and their related hypotheses can be found in [Appendix I](#) and [Appendix II](#).

3.1.2 Qualitative Research Results

The table in [Appendix III](#) provides a demographic overview of the study participants. With seven female and three male students, the distribution of participants is weighted in favor of the female gender. The participants can be categorized into three different types of students: five are full-time students, four are Erasmus students, and one is enrolled in a Double Degree program. The fields of study they are enrolled in include Communication and Advertising, Medicine, International Management, Psychology, Management, Physiotherapy, Finance, and Architecture.

Regarding their age, the participants were carefully selected to belong to Generation Z, aligning with the target sample of the research, and their birth years range from 1998 to 2003. In terms of nationality, the majority of participants are from Italy, with four Italian students out of ten. The rest include one Portuguese, two Germans, one Brazilian, one Dutch, and one Spanish student. As for the universities, the participants come from a variety of institutions. Two participants are from Universidade Católica Portuguesa (UCP), two from Nova Medical School, one from Nova School of Business and Economics (Nova SBE), two from Universidade de Lisboa, two from Católica Lisbon School of Business and Economics (CLSBE), and one from Instituto Superior Técnico.

Overall, the study includes a diverse group of participants from various nationalities, fields of study, and types of student programs, providing a broad perspective on the potential users of an online second-hand marketplace for university students in Portugal, although limited to the geographic area of Lisbon.

[Appendix IV](#) contains the most relevant citations for the purposes of the hypothesis analysis. First of all, among the 10 students interviewed, 7 stated that they were familiar with second-hand shopping online, while 3 admitted to being unfamiliar or not familiar at all. Interestingly, all participants, including those who were less familiar with second-hand shopping, after introducing Hazaar, showed a positive, curious and interested attitude towards the online second-hand shopping platform for university students. The qualitative interviews provided valuable insights into HEI Gen Z students' motivations and barriers towards online second-hand marketplaces. From the participants' statements, it is possible to already address the validation or rejection of the previously mentioned hypothesis:

Hyp 1: Affordable Options. The desire to find cheap options was a significant driver for several respondents. C1: *"I really love shopping and buying new clothes, but I don't work so I don't have much money available. I would be extremely likely to use it for finding items I like at low prices"*, and C6: *"Finding items at low prices, made by students for students, is very motivating for me to use a second-hand marketplace like the one you showed."*

Hyp 3: Convenience of the buy-and-sell process. This driver was frequently mentioned, for instance, C2 stated: *"I find the platform very convenient since the access is through university emails and all the items available are presented in a catalogue."*, and C4 said *"I am motivated to use it because I find it convenient that I don't have to deliver a package if I am selling or wait for my package when buying."*

Hyp 8 Hygiene and Cleanliness Concerns: C3 admitted that she *"would be concerned about cleanliness and hygiene for personal care products, such as towels and sheets, or indument such as underwear or bikinis for example"*, adding *"I don't care about categories such as accessorises, items for room decoration, books or electronics"*, while C10 mentioned: *"I am worried about the condition and quality of the items, as well as issues of hygiene and cleanliness. I would probably prefer to buy some items new and would avoid purchasing items related to personal hygiene and cleanliness."* From these comments, it is possible to understand that most of the concerns regarding hygiene and cleanliness, according to some of the interviewed students, do not pertain to all types of products. Rather, these concerns are mainly focused on items that are more personal or related to personal care and hygiene.

Hyp 10: Predominantly Sell Clothing. Most of the students were inclined to sell their clothes on a similar platform. C3, for example, stated: *"I would definitely do sell old clothes I don't want anymore and household items once I leave my house here in Portugal"*, while C1 affirmed: *"I would use it to sell clothes I am not wearing anymore. I really enjoy buying and changing quickly my wardrobe, so I often do decluttering and try to make space in my wardrobe"*.

Hyp 5: Trust Issues (People), received contrasting opinions. C7 affirmed that *"she doesn't really trust online transactions, so that could be a limitation. Both for the person and for the*

product conditions.”, while C5 confessed that “Usually, in online transactions I consider trust in people and products a barrier, because I am dealing with someone that I don’t know, and it can be unsafe sometimes. But in this case, this wouldn’t happen, because I know that the person I am trading with is within the university environment”

Conversely, a hypothesis was less validated than the others, based on the interview responses:

Hyp 7: Social Stigma. This barrier was never mentioned, actually C9 affirmed that *“Social stigma is not relevant at all for me. Instead, I think that it’s trendy and cool now to buy secondhand clothes”*, and C2 confirmed, saying: *“I don’t care about social stigma and what people can say about me buying secondhand. I can just find positive aspects in doing it, so I don’t really care.*

3.1.3 Quantitative Research Insights

The interviews also revealed several important insights that were not explicitly covered by the initial hypotheses but could be relevant for future research and platform development:

1. **Need for International Students:** Many international students expressed a need to buy new items when they arrive in Portugal and sell them when they leave. This cyclical need highlights the potential for a robust second-hand market within the university community. For instance, one participant mentioned, *“When we move to another place to study, we all need the same stuff. And when we leave, it’s not convenient to bring back all the household items.”* (C3) Another student noted, *“It would be amazing to buy items from other students when I arrive and sell them when I leave.”* (C8)
2. **Excitement for In-Person Exchanges:** participant appreciated the idea of meeting in real life to exchange items, which adds a social element and enhances trust in the transactions. One student expressed, *“I am more motivated to buy online if the exchange is in person and I can see the person that is selling and the product in real life.”* (C1) Another shared this thought, stating, *“I could also meet new people and make new friends through this service.”* (C6)
3. **Inconvenience of Existing Methods:** there are several whatsapp groups for spamming and buying and selling second-hand items. These are indeed inconvenient due to the lack of a catalog of available items. As one participant pointed out, *“WhatsApp groups*

don't have a catalog and it's very complicated to keep track of the messages." (C5)

Another highlighted the practical challenges, saying, *"I don't read all the messages in the groups, there is not a catalog, and you have to find a place to exchange the item convenient for both of you."* (C3).

4. **Decluttering:** As mentioned by C1, *"I would use it to sell clothes I am not wearing anymore. I really enjoy buying and changing my wardrobe quickly, so I often do decluttering and try to make space in my wardrobe."* Another valid reason for using the platform is decluttering, which can be beneficial for students who frequently want to sell items they no longer use. This would help students keep their living spaces organized and provide a convenient way to recycle goods within the student community.

3.2 Quantitative Research

In this study, a quantitative research approach was subsequently used to collect data from a larger sample. Among the advantages of this method are the reliability, objectivity and comparability of the collected data, as emphasised in Yilmaz's (2013) study. (Yilmaz, 2013) Furthermore, this approach allows for statistical analysis of the data, making it possible to identify patterns and relationships within the dataset. However, a significant disadvantage is the lack of control over the speed of responses, which can lead to delays in data collection. Furthermore, the response rate may be low, which may affect the validity of the results. Problems of sample bias or sampling error may also arise, as the sample may not be representative of the study population (Groves et al., 2004).

Moreover, the integration of sophisticated statistical methods might augment the resilience of quantitative research. As per Hair et al. (2010), structural equation modelling (SEM) facilitates the analysis of intricate correlations among variables, hence offering more profound understanding of the data. Furthermore, increasing the precision and effectiveness of the research process can be achieved by using software tools for data analysis, such as R or SPSS. (Hair et al., 2010)

3.2.1 Quantitative Research Design and Measurement Scales

The questionnaire was created with Qualtrics and was made available online for one week, from Thursday 16 May to Thursday 23 May. It was disseminated through social media platforms such as WhatsApp, LinkedIn and Instagram. The questionnaire was written in English and was aimed at university students belonging to Generation Z, i.e. born between 1997 and 2012, currently enrolled in a Portuguese university. To ensure this, the questionnaire started with 2

screening questions. The length of the questionnaire was approximated by approximately 5 minutes.

To ensure the anonymity of the respondents, a self-designed, structured questionnaire was developed. The survey consisted of several blocks, each of which focused on different aspects relevant to the research questions and hypotheses. The initial block involved the introduction and informed consent of the participants. Thereafter, screening questions ensured that only eligible participants continued with the survey. The next sections of the questionnaire were designed to collect data on participants' experiences and motivations regarding second-hand online shopping. Participants were asked about their use of online platforms for buying and selling second-hand items, with specific questions on frequency and familiarity with these platforms. The measurement scales used in this section included Likert scales and multiple-choice questions to quantify participants' attitudes and behaviours. Next, students were briefly introduced to Hazaar, the first online marketplace designed for students. They were presented with two illustrations showing part of the Hazaar website, to give participants a visual understanding of the platform. This section aimed to gather initial perceptions and potential likelihood levels, providing insights into market acceptance (See figures 5 and 6 in [Appendix X](#)).

The objective of the research was to assess the motivations and barriers associated with the use of such an online second-hand marketplace designed for students. To do so, statements related to the 10 hypothesis previously mentioned were presented, and respondents expressed their agreement on a 5-point Likert scale, ranging from 'strongly disagree' to 'strongly agree'. This approach aligns with best practices in survey design, ensuring that the data collected is reliable and valid. (Dillman, Smyth, & Christian, 2011)

A dedicated block was designed to understand the participants' preferences regarding different product categories in the context of buying and selling. Participants were asked to identify the product categories they expected to find on a platform such as Hazaar and to rank these categories according to their likelihood of buying or selling. This segment included the following categories: electronics (video games, cellphones, or computers), clothing (clothes, footwear, accessories), household products (furniture, kitchen sets, cutlery, etc..) and books (academic books, comics, etc...). These questions facilitated the identification of the most popular products and potential areas of interest for the marketplace. Product category rankings

play an important role in understanding consumer preferences by simplifying the evaluation process and enabling consumers to prioritise their choices based on perceived value and usefulness. (Dzyabura & Hauser, 2019) Such rankings help consumers to efficiently choose between options, improving the analysis of their preferences and needs (Guadagni & Little, 1983; Kahneman et al., 1999).

In addition, demographic information was collected in the final section of the questionnaire. This included questions about gender, age, nationality, field of study, educational attainment, occupational status, and monthly income.

4 Data Analysis

The following chapter presents a comprehensive analysis of the quantitative data collected through the quantitative research. The collected data were analysed using SPSS software. The first key step was the preparation of the data, which includes organising the data, cleaning them and transforming the raw data into a form suitable for statistical analysis. Next, a descriptive statistical analysis was conducted, followed by a frequencies and demographic data analysis. Finally, to answer the research questions, the hypothesis were analysed, through two linear regressions and two Friedman tests, always checking the significance level of the p-value, to validate or reject the hypothesis.

4.1 Dataset Descriptives

The sample for this research consisted of 169 individuals, of whom 132 fully completed the questionnaire. This number stems from the fact that the first screening question was passed by 144 individuals who began the survey, indicating they are currently enrolled students at Portuguese universities, corresponding to 85.2% of all respondents (see Table 1). For the purposes of the research, the target sample included only students belonging to Generation Z, i.e., those born between 1997 and 2012 (inclusive). The conclusion was that the second screening question was passed by 91.7% of the currently enrolled Portuguese university students (see Table 2), resulting in 132 individuals completing the survey.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	144	85,2	85,2	85,2
	No	25	14,8	14,8	100,0
	Total	169	100,0	100,0	

Table 1: Frequency analysis of respondents currently enrolled in Portuguese Universities

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	After 2012	2	1,2	1,4	1,4
	Between 1997 and 2012 (inclusive)	132	78,1	91,7	93,1
	Before 1997	10	5,9	6,9	100,0
	Total	144	85,2	100,0	
Missing	System	25	14,8		
Total		169	100,0		

Table 2: Frequency Analysis of respondents' year of born

4.1.1 Demographics

Looking at the demographic characteristics of the respondents, we can say that all those who completed the questionnaire are students belonging to Generation Z, i.e. individuals between 18 and 27 years of age. With regard to gender, 59.8 % of the valid respondents were female, while 38.6 % were male. Amongst the 132 respondents, the majority, corresponding to 53.8%, are of Italian nationality, 22.7% Portuguese, 10.6% German and the rest other nationalities.

Q14_Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	51	30,2	38,6	38,6
	Female	79	46,7	59,8	98,5
	Prefer not to say	2	1,2	1,5	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 3: Frequency analysis of respondents' gender

Q16_Nationality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Portuguese	30	17,8	22,7	22,7
	Italian	71	42,0	53,8	76,5
	French	3	1,8	2,3	78,8
	Spanish	3	1,8	2,3	81,1
	German	14	8,3	10,6	91,7
	Dutch	1	,6	,8	92,4
	Brazilian	1	,6	,8	93,2
	Other	9	5,3	6,8	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 4: Frequency analysis of respondents' nationality

4.1.2 Familiarity with online second-hand shopping

Among the 132 participants, their familiarity and previous experience with online second-hand shopping was investigated. A total of 69 participants, corresponding to 40.9% of the valid sample, consider themselves familiar with this type of shopping. Of these, 2.4% consider themselves extremely familiar, and 15.4% very familiar.

Q7_Familiarity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not familiar at all	24	14,2	18,2	18,2
	Slightly familiar	39	23,1	29,5	47,7
	Moderately familiar	39	23,1	29,5	77,3
	Very familiar	26	15,4	19,7	97,0
	Extremely familiar	4	2,4	3,0	100,0
Total		132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 5: Frequency analysis of respondents' familiarity with online second-hand shopping

Participants were then asked about their previous experiences with online second-hand shopping platforms. Ninety-four participants, corresponding to 55.6% of the total, used second-hand platforms to buy, while 56.8% had previously used them for the purpose of selling. We note a balance between respondents who used them to buy and sell, with a slight majority for the purpose of selling.

Q3_used_to_buy_before

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	94	55,6	71,2	71,2
	No	38	22,5	28,8	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 6: Frequency analysis of respondents who have used online second-hand platforms to buy

Q4_used_to_sell_before

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	96	56,8	72,7	72,7
	No	36	21,3	27,3	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 7: Frequency analysis of respondents who have used online second-hand platforms to sell

Regarding the frequency of use of second-hand online platforms, the majority of respondents, corresponding to 34.3%, used them once a month, while 39 used them more than once a month, thus 23.1% of the total.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	35	20,7	26,5	26,5
	Once a month	58	34,3	43,9	70,5
	Twice a month	16	9,5	12,1	82,6
	Once a week	7	4,1	5,3	87,9
	Multiple times per week	13	7,7	9,8	97,7
	Once a day	2	1,2	1,5	99,2
	Multiple times per day	1	,6	,8	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
	Total	169	100,0		

Table 8: Frequency analysis of the degree to which respondents have previously used second-hand online platforms

These results provide us with an initial broad picture of the participants' previous experience with online second-hand shopping and can be considered early indicators of their likelihood towards these types of platforms.

Finally, students who had previously engaged with online second hand platforms were asked which platforms they had used to get an overview of the industry analysis. The results show that all platforms presented in the survey had been used previously, with a predominant majority of Vinted (used by 56.8% of the respondents who had previously used second hand shopping platforms), followed by Ebay (18.3%) and Facebook Marketplace (13.6%).

	Frequency	Percent %
Facebook Marketplace	23	13.6
Vinted	96	56.8
Ebay	31	18.3
Depop	15	8.9
OLX	15	8.9
Wallapop	9	5.3

Table 9: SPSS Frequencies of second-hand online platforms

4.1.3 Likelihood towards the new platform

After a brief presentation of the product, which is an online platform for buying and selling used items among students, participants were asked if they were already aware of a similar platform and how likely they would be to engage with such a marketplace on a 5-point Likert scale (from 1 - extremely unlikely to 5 - extremely likely). The results show that only 1.5% of participants were aware of a similar service, whereas 83.3% (110 students) reported not knowing any such platform. Regarding likelihood, the service received considerable interest from the respondents despite their unfamiliarity with the product. Specifically, 92 students indicated they were somewhat likely or extremely likely to use this kind of platform, representing 69.7% of the total valid responses. Conversely, 8 participants stated they were extremely unlikely to use it, a percentage limited to 6.1%.

Q8_Platform_Knowledge

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes (if you remember the name, please provide it below):	2	1,2	1,5	1,5
	No	110	65,1	83,3	84,8
	I am not sure	20	11,8	15,2	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 10: frequencies of platform knowledge

Q9_Likelihood

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Extremely unlikely	8	4,7	6,1	6,1
	Somewhat unlikely	13	7,7	9,8	15,9
	Neither likely nor unlikely	19	11,2	14,4	30,3
	Somewhat likely	59	34,9	44,7	75,0
	Extremely likely	33	19,5	25,0	100,0
Total		132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 11: frequencies of likelihood towards an online second-hand platform for HEI students

Crosstabs were then created to observe the relationships between two non-metric variables. This analysis allowed us to examine how the dependent variable, in this case the likelihood of engaging in an online second-hand marketplace for students, varies between different subgroups, taking into account aspects such as age, income, gender and education level. This approach allows us to explore in detail how meat consumption preferences may differ or be associated with different demographic characteristics, providing a more complete picture of the patterns and trends in the population studied.

Examining the interactions between gender and the previous use of online platforms for purchasing purposes, it is possible to conclude that both male and female participants demonstrate a high usage rate. Males are slightly more likely (74.5%) than females (70.9%) to have used online second-hand marketplaces for buying purposes. Regarding the participants who preferred not to disclose their gender, none have used such platforms to buy before; however, this is a very small group, consisting of only 2 respondents.

Q14_Gender * Q3_used_to_buy_before Crosstabulation

			Q3_used_to_buy_before		Total
			Yes	No	
Q14_Gender	Male	Count	38	13	51
		% within Q14_Gender	74,5%	25,5%	100,0%
	Female	Count	56	23	79
		% within Q14_Gender	70,9%	29,1%	100,0%
	Prefer not to say	Count	0	2	2
		% within Q14_Gender	0,0%	100,0%	100,0%
Total		Count	94	38	132
		% within Q14_Gender	71,2%	28,8%	100,0%

Table 12: Crosstab between gender and respondents that have used platforms to buy

Examining the previous use of online platforms for selling purposes, it is evident that female participants have utilized these platforms more than male respondents. Specifically, 79.7% of female participants reported using online second-hand platforms for selling, compared to 64.7% of male participants.

Q14_Gender * Q4_used_to_sell_before Crosstabulation

			Q4_used_to_sell_before		Total
			Yes	No	
Q14_Gender	Male	Count	33	18	51
		% within Q14_Gender	64,7%	35,3%	100,0%
	Female	Count	63	16	79
		% within Q14_Gender	79,7%	20,3%	100,0%
	Prefer not to say	Count	0	2	2
		% within Q14_Gender	0,0%	100,0%	100,0%
Total		Count	96	36	132
		% within Q14_Gender	72,7%	27,3%	100,0%

Table 13: Crosstab between gender and respondents that have used platforms to sell

Crosstabulations were created to study the interactions between the likelihood of using the online marketplace previously introduced and demographics such as gender and nationality.

Q14_Gender * Q9_Likelihood Crosstabulation

		Q9_Likelihood					Total	
		Extremely unlikely	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	Extremely likely		
Q14_Gender	Male	Count	2	9	9	21	10	51
		% within Q14_Gender	3,9%	17,6%	17,6%	41,2%	19,6%	100,0%
	Female	Count	4	4	10	38	23	79
		% within Q14_Gender	5,1%	5,1%	12,7%	48,1%	29,1%	100,0%
	Prefer not to say	Count	2	0	0	0	0	2
		% within Q14_Gender	100,0%	0,0%	0,0%	0,0%	0,0%	100,0%
Total		Count	8	13	19	59	33	132
		% within Q14_Gender	6,1%	9,8%	14,4%	44,7%	25,0%	100,0%

Table 14: Crosstab between gender and likelihood to use the showed online marketplace

Both male and female participants show a high likelihood of using the platform, with females (showing a slightly higher interest than males). A significant portion of both male and female participants are somewhat likely or extremely likely to use the platform, with females showing higher percentages in both categories (48.1% somewhat likely and 29.1% extremely likely). The highest percentage for males is in the somewhat likely category (41.2%).

Q16_Nationality * Q9_Likelihood Crosstabulation

		Q9_Likelihood					Total	
		Extremely unlikely	Somewhat unlikely	Neither likely nor unlikely	Somewhat likely	Extremely likely		
Q16_Nationality	Portuguese	Count	5	2	5	16	2	30
		% within Q16_Nationality	16,7%	6,7%	16,7%	53,3%	6,7%	100,0%
	Italian	Count	2	6	11	29	23	71
		% within Q16_Nationality	2,8%	8,5%	15,5%	40,8%	32,4%	100,0%
	French	Count	0	0	0	2	1	3
		% within Q16_Nationality	0,0%	0,0%	0,0%	66,7%	33,3%	100,0%
	Spanish	Count	0	0	1	1	1	3
		% within Q16_Nationality	0,0%	0,0%	33,3%	33,3%	33,3%	100,0%
	German	Count	0	4	2	6	2	14
		% within Q16_Nationality	0,0%	28,6%	14,3%	42,9%	14,3%	100,0%
	Dutch	Count	0	0	0	1	0	1
		% within Q16_Nationality	0,0%	0,0%	0,0%	100,0%	0,0%	100,0%
	Brazilian	Count	0	0	0	0	1	1
		% within Q16_Nationality	0,0%	0,0%	0,0%	0,0%	100,0%	100,0%
	Other	Count	1	1	0	4	3	9
		% within Q16_Nationality	11,1%	11,1%	0,0%	44,4%	33,3%	100,0%
Total		Count	8	13	19	59	33	132
		% within Q16_Nationality	6,1%	9,8%	14,4%	44,7%	25,0%	100,0%

Table 15: Crosstab between nationality and likelihood to use the online marketplace showed

Overall, the majority of participants across the different nationalities, show a somewhat likely or extremely likely interest to use the platform presented, with a cumulative 69.7% falling into these categories. Among them, Italian students show a consistent likelihood to use the platform, with 40.8% somewhat likely and 32.4% extremely likely. Portuguese participants are also inclined towards using the platform, with 53.3% somewhat likely and 6.7% extremely likely. Smaller groups such as French, Spanish, German, Dutch, and Brazilian participants also show varying degrees of likelihood.

4.2 Hypothesis Testing

4.2.1 Motivations

To address the first Research Question (**RQ1**: What are HEI GenZ students' main drivers for using an online second-hand marketplace platform tailored for students in Portugal?) two main steps were completed. First of all, looking at the frequencies of the statements for the first four hypotheses, we can conclude that the driver with the highest agreement or strongest agreement is that of the possibility of finding affordable options, with a percentage of 83.4 (40.2% that strongly agrees and 43.2% that somewhat agrees), followed by environmental awareness, convenience of the buying and selling process, and lastly the safe environment. Though, this can't be considered a conclusion, since the level of significance of the model is not known yet.

H1_Affordable_Options_Statement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2,4	3,0	3,0
	Somewhat disagree	7	4,1	5,3	8,3
	Neither agree nor disagree	11	6,5	8,3	16,7
	Somewhat agree	57	33,7	43,2	59,8
	Strongly agree	53	31,4	40,2	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 16: Frequency analysis of Hyp1 statement

H2_Environmental_Awareness_Statement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	3	1,8	2,3	2,3
	Somewhat disagree	8	4,7	6,1	8,3
	Neither agree nor disagree	16	9,5	12,1	20,5
	Somewhat agree	46	27,2	34,8	55,3
	Strongly agree	59	34,9	44,7	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 17: Frequency analysis of Hyp2 statement

H3_Convenience_Statement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	2	1,2	1,5	1,5
	Somewhat disagree	9	5,3	6,8	8,3
	Neither agree nor disagree	20	11,8	15,2	23,5
	Somewhat agree	54	32,0	40,9	64,4
	Strongly agree	47	27,8	35,6	100,0
	Total		132	78,1	100,0
Missing	System	37	21,9		
Total		169	100,0		

Table 18: Frequency analysis of Hyp3 statement

H4_Secure_Environment_Statement

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly disagree	4	2,4	3,0	3,0
	Somewhat disagree	3	1,8	2,3	5,3
	Neither agree nor disagree	25	14,8	18,9	24,2
	Somewhat agree	49	29,0	37,1	61,4
	Strongly agree	51	30,2	38,6	100,0
	Total		132	78,1	100,0
Missing	System	37	21,9		
Total		169	100,0		

Table 19: Frequency analysis of Hyp4 statement

Model 1 - Linear Regression (Enter)

To test the first four hypotheses, a linear regression analysis was conducted using the enter method. The independent variables were the drivers stated in the hypotheses (affordable options, environmental consciousness, convenience, and secure environment), and the dependent variable was the likelihood to use the platform (measured on a 5-point Likert scale from 1 - extremely unlikely to 5 - extremely likely). In this model, all the four previously mentioned variables were included. The result is an overall model that is statistically significant, with a level of significance < 0.001 (Sig. F Change). Additionally, the model showed $R = 0.481$ and an R square of 0.231, indicating that 23.1% of the variance in the likelihood to use the platform is explained by the predictors. Observing the Analysis of Variance (ANOVA) table (look at [Table 21](#)) and its p-value lower than 0.001, it can be concluded that at least one variable has a significant impact on the likelihood.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	,481 ^a	,231	,207	1,003	,231	9,552	4	127	<,001

a. Predictors: (Constant), H4_Secure_Environment_Statement, H2_Environmental_Awareness_Statement, H3_Convenience_Statement, H1_Affordable_Options_Statement

Table 20: Model summary of linear regression n1

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	38,434	4	9,608	9,552	<,001 ^b
	Residual	127,748	127	1,006		
	Total	166,182	131			

a. Dependent Variable: Q9_Likelihood

b. Predictors: (Constant), H4_Secure_Environment_Statement, H2_Environmental_Awareness_Statement, H3_Convenience_Statement, H1_Affordable_Options_Statement

Table 21: ANOVA table for linear regression n1

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,017	,470		2,166	,032
	H1_Affordable_Options_Statement	,104	,126	,090	,820	,414
	H2_Environmental_Awareness_Statement	,202	,111	,180	1,828	,070
	H3_Convenience_Statement	,325	,120	,277	2,703	,008
	H4_Secure_Environment_Statement	,034	,115	,029	,296	,768

a. Dependent Variable: Q9_Likelihood

Table 22: Coefficients table of linear regression n1

Given that in the previous linear regression the coefficient for environmental awareness is positive and close to statistical significance ($p = 0.070$), but not less than 0.001, and thus not statistically significant, a second regression model using the stepwise method was tried, where only significant variables are included.

Model 2 – Linear Regression (Stepwise)

Subsequently, a second linear regression was conducted using the Stepwise method. This was done because, through this method, the independent variables that are influential on the dependent variable are automatically selected, eliminating those that do not have a significant influence.

Model	Variables Entered	Variables Removed	Method
1	H3_Convenience_Statement	.	Stepwise (Criteria: Probability-of-F-to-enter <= , 050, Probability-of-F-to-remove >= , 100).
2	H2_Environmental_Awareness_Statement	.	Stepwise (Criteria: Probability-of-F-to-enter <= , 050, Probability-of-F-to-remove >= , 100).

a. Dependent Variable: Q9_Likelihood

Table 23: Variables entered in Stepwise linear regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,671	,383		4,367	<,001
	H3_Convenience_Statement	,511	,093	,436	5,525	<,001
2	(Constant)	1,195	,425		2,808	,006
	H3_Convenience_Statement	,379	,106	,323	3,562	<,001
	H2_Environmental_Awareness_Statement	,244	,102	,217	2,388	,018

a. Dependent Variable: Q9_Likelihood

Table 24: Stepwise linear regression coefficients

Through this method Hypotheses 2 and 3 are validated, showing that convenience in the buy-and-sell process and attention to environmental consciousness are the main drivers for the likelihood of using the platform among HEI Gen Z students. The coefficients table shows, through the Unstandardised B value, the expected change in the likelihood value for a one-unit increase in the independent variable, keeping other variables constant. In this final model, if the perception of convenience increases by 1 point on the Likert scale, the likelihood of using the platform increases by 0.511. Similarly, if environmental awareness increases by 1 point, the estimated probability of using the platform increases by 0.244, holding other variables constant. Factors such as the possibility of finding affordable options and transacting in a secure environment are valued by students but do not significantly drive platform usage.

Hyp 1: HEI Gen Z students who are likely to engage in a secondhand marketplace specifically designed for students are driven by the possibility of finding more **affordable options** compared to purchasing new items. *(Not validated)*

Hyp 2: HEI Gen Z students who are likely to engage in a specifically designed second-hand market are driven by **environmental consciousness**. (*Validated*)

Hyp 3: HEI Gen Z students who are likely to engage with an online second-hand market specifically designed for students are driven by the **convenience of the buy-and-sell process**. (*Validated*)

Hyp 4: HEI Gen Z students who are likely to engage with a second-hand marketplace specifically designed for students are driven by the perception of a **secure environment**. (*Not validated*)

4.2.2 Barriers

Research Question 2 aims to understand the main challenges faced by Generation Z HEI students in Portugal when using an online second-hand platform designed for university students. To validate or reject the hypotheses developed, this research firstly analyzes the descriptive statistics of the statements corresponding to Hypotheses 5 to 8.

Descriptive Statistics			
	Mean	Std. Deviation	N
Q9_Likelihood	3,73	1,126	132
H5_People_Trust_Statement	3,07	1,064	132
H6_Product_Trust_Statement	3,57	1,050	132
H7_Social_Stigma_Statement	2,01	1,149	132
H8_Hygiene_and_Cleanliness_Statement	3,27	1,216	132

Table 25: Hyp5-8 statements descriptive statistics

The highest mean was found for the barrier of product trust, with a mean of 3.57, indicating significant concerns about product trust. Regarding concerns about social stigma, this was the barrier with the lowest level of agreement, with a mean of only 2.01. A moderate level of concern was shown regarding trust in people in online transactions, with a mean of 3.07.

However, these conclusions are not statistically relevant for the research.

Model 2 – Linear Regression (Enter)

A linear regression analysis was conducted using the enter method to test the hypotheses. The independent variables were the challenges stated in the hypotheses (people trust, product trust, social stigma, hygiene, and cleanliness), and the dependent variable was the likelihood to use the platform.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	,207 ^a	,043	,013	1,119	,043	1,417	4	127	,232

a. Predictors: (Constant), H8_Hygiene_and_Clenliness_Statement, H6_Product_Trust_Statement, H7_Social_Stigma_Statement, H5_People_Trust_Statement

Table 26: Model summary of linear regression n2

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4,660	,431		10,812	<,001
	H5_People_Trust_Statement	-,044	,104	-,041	-,421	,674
	H6_Product_Trust_Statement	-,105	,104	-,098	-1,016	,311
	H7_Social_Stigma_Statement	-,107	,089	-,110	-1,207	,230
	H8_Hygiene_and_Clenliness_Statement	-,064	,084	-,069	-,754	,452

a. Dependent Variable: Q9_Likelihood

Table 27: Coefficients of linear regression n2

The model summary indicates that only 4.3% of the variance in the likelihood to use the platform is explained by the predictors, given the R value of 0.207 and R square value of 0.043. Moreover, the ANOVA table shows a significance level of 0.232, which is greater than 0.05, indicating that the overall model is not statistically significant.

The coefficients table shows that none of the predictors are statistically significant, as all the p-values are greater than 0.05. This suggests that the independent variables used in the study do not have a significant impact on the likelihood to use the platform.

None of the hypotheses related to Research Question 2 were validated. This implies that, according to the study conducted, lack of trust in people and products, social stigma, and concerns about hygiene and cleanliness do not significantly impact the likelihood of using an online second-hand marketplace tailored for university students in Portugal.

Hyp 5: HEI GenZ students in Portugal are hesitant to engage with an online secondhand marketplace specifically designed for students due to **trust issues related to people**. *(Not validated)*

Hyp 6: HEI GenZ students in Portugal are hesitant to engage with an online secondhand marketplace specifically designed for students due to **trust issues related to products**. *(Not validated)*

Hyp 7: HEI GenZ students in Portugal are hesitant to engage with an online secondhand marketplace specifically designed for students due to **social stigma** related to buying secondhand. *(Not validated)*

Hyp 8: HEI GenZ students in Portugal are hesitant to engage with an online secondhand marketplace specifically designed for students due to concerns regarding hygiene and cleanliness of products. *(Not validated)*

4.2.3 Product Categories

To address RQ3 and validate the related hypotheses (*Hyp 9 & 10*), the frequencies of product expectations, and the means of products' rankings (, were initially analysed. This analysis was followed by a Friedman test for Q24 and Q25 to validate the hypotheses based on the test's p-value.

RQ3: *Which product category is the most marketed by HEI GenZ students in Portugal in an online second-hand platform tailored for them?*

Hyp 9: HEI Gen Z students will predominantly **buy** items in the “**Clothing**” category in an online second-hand marketplace specifically designed for students (including clothes, footwear, accessories). **(Validated)**

Firstly, data was collected about the product categories that participants expect to find on such a platform. The results indicate that 62.1% of the participants (105 students) expect to find clothing on such a platform, making it the most anticipated category.

Q11_electronics_expectation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Electronics (video games, cellphones, or computers)	54	32,0	100,0	100,0
Missing	System	115	68,0		
Total		169	100,0		

*Table 28: Electronics expectation in the platform***H10_buying_clothing_expectation**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Clothing (clothing, footwear, accessories)	105	62,1	100,0	100,0
Missing	System	64	37,9		
Total		169	100,0		

*Table 29: Clothing expectation in the platform***Q11_household_items_expectation**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Household products (furniture, kitchen sets, cutlery,...)	78	46,2	100,0	100,0
Missing	System	91	53,8		
Total		169	100,0		

*Table 30: Household items expectation in the platform***Q11_books_expectation**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Books (academic books, comics, ...)	95	56,2	100,0	100,0
Missing	System	74	43,8		
Total		169	100,0		

Table 31: Books expectation in the platform

From the frequency analysis of the ranks, it is evident that the clothing category has the lowest mean compared to the other three categories. Specifically, 46.2% of valid respondents ranked clothing as the category they would most likely buy from the platform, whereas electronics had the highest mean of 2.92, with 51 participants ranking it as the least likely category they would buy from the platform.

Friedman Test Results for Hyp 9

Test Statistics ^a	
N	132
Chi-Square	34,955
df	3
Asymp. Sig.	<,001

a. Friedman Test

Table 32: Hyp9 Friedman test statistics

Ranks	
	Mean Rank
Q12_buying_electronic_rank	2,92
H10_buying_clothing_rank	1,99
Q12_buying_household_items_rank	2,55
Q12_buying_books_rank	2,53

Table 33: Hyp9 mean ranks

Hypothesis 9 can be validated since the Friedman test resulted in a p-value < 0.001 , indicating statistical significance. Clothing had the lowest mean rank, showing it is the most frequently ranked top choice for items HEI Gen Z students are likely to buy. The Chi-Square value of 34.955 indicates the degree to which the observed rankings differ from what would be expected under the null hypothesis. The data supports Hypothesis 9, confirming that HEI Gen Z students predominantly buy items in the "Clothing" category on an online second-hand marketplace specifically designed for students. The lowest mean rank for clothing (1.99) underscores its top choice status among the categories, with the significant Chi-Square value (34.955) and p-value < 0.001 confirming statistically significant differences in the rankings of the product categories.

Hyp 10: HEI Gen Z students will predominantly **sell** items in the “**Clothing**” category in an online second-hand marketplace specifically designed for students (including clothes, footwear, accessories). **(Validated)**

From the frequency data, clothing was ranked first by 66 participants, compared to 18 for electronics, 20 for household items, and 28 for books. This suggests that the clothing category is the one that HEI Gen Z students would predominantly sell, though this finding is not statistically significant on its own. Looking at the means, clothing has the lowest mean of 1.80.

Q13_selling_electronics_rank

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	18	10,7	13,6	13,6
	2	24	14,2	18,2	31,8
	3	33	19,5	25,0	56,8
	4	57	33,7	43,2	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 34: Ranking of selling electronics

H9_selling_clothing_rank

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	66	39,1	50,0	50,0
	2	34	20,1	25,8	75,8
	3	25	14,8	18,9	94,7
	4	7	4,1	5,3	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 35: Ranking of selling clothes

Q13_selling_household_items_rank

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	20	11,8	15,2	15,2
	2	29	17,2	22,0	37,1
	3	49	29,0	37,1	74,2
	4	34	20,1	25,8	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 36: Ranking of selling household items

Q13_selling_books_rank

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	28	16,6	21,2	21,2
	2	45	26,6	34,1	55,3
	3	25	14,8	18,9	74,2
	4	34	20,1	25,8	100,0
	Total	132	78,1	100,0	
Missing	System	37	21,9		
Total		169	100,0		

Table 37: Ranking of selling books

Friedman Test Results for Hyp 10

To test this hypothesis, a Friedman Test was conducted, examining the p-value of the Chi-Square. This test is appropriate because the data type is ordinal, involving ranking product categories (Electronics, Clothing, Household Items, Books) based on the likelihood of selling them.

Ranks	
	Mean Rank
Q13_selling_electronics_rank	2,98
H9_selling_clothing_rank	1,80
Q13_selling_household_items_rank	2,73
Q13_selling_books_rank	2,49

Table 38: Hyp10 product ranking.

Test Statistics^a

N	132
Chi-Square	61,727
df	3
Asymp. Sig.	<,001

a. Friedman Test

Table 39: Hyp10 Friedman Test statistics

The mean rank for clothing (1.80) is the lowest among all categories, indicating that participants most frequently ranked clothing as the category they are most likely to sell. The Chi-Square value of 61.727 represents the test statistic calculated by the Friedman Test, reflecting the extent to which the observed ranks differ from the ranks expected under the null hypothesis (no difference in ranks). A larger Chi-Square value provides more evidence against the null hypothesis. We can accept the hypothesis since the p-value is < 0.001. The Friedman Test results show significant differences in the likelihood of selling different product categories on

an online second-hand marketplace designed for HEI Gen Z students in Portugal. Clothing is the most likely category to be sold, as indicated by its lowest mean rank.

5 Discussion

In this chapter, the results obtained from the study are compared with the existing literature and discussed to answer the research questions.

The first finding of this research is the positive and significant relationship between the likelihood of HEI Gen Z students enrolled in Portuguese universities using an online second-hand platform and the convenience of the buy-and-sell process. This finding confirms the previous study "Online second-hand shopping motivation – Conceptualization, scale development, and validation" by Padmavathy et al. (2019), which states that convenience significantly impacts online second-hand buyers. These buyers place a lot of importance on the products' usefulness and user-friendliness and prefer to spend as little time and effort as possible when searching for products in online second-hand stores. This ease enhances the appeal and efficiency of the purchasing process.

Furthermore, the study statistically confirms the positive relationship between the likelihood of using the online second-hand marketplace for students and the perceived environmental consciousness among HEI Gen Z students in Portugal. These findings align with various studies highlighting the importance of environmental issues for Gen Z and how these concerns influence their purchasing behavior. For instance, Colacchio's 2021 study "Empathy, Awareness, and Fluidity: How Generation Z Is Making its Mark on Fashion" indicates that Gen Z is keen to reduce clothing consumption. It is also supported by the study "The CEO Imperative: How future generations can influence companies to focus on sustainability," which shows that Gen Z consumers are more likely than any other generational group to make ethical or sustainable purchases. Further confirmation come from "The state of fashion 2019" and "Recent study reveals more than a third of global consumers are willing to pay more for sustainability as demand grows for environmentally-friendly alternatives," where it is pointed out that social and environmental issues are crucial to Gen Z, and younger customers are actively seeking solutions to reduce their environmental impact (Amed, 2018; Simon & Partners, 2021).

Regarding the other drivers for using this platform, it is not possible to compare the findings related to a safe environment as a driver or the possibility of finding affordable options compared to buying new products with existing studies. Therefore, the results obtained from this study cannot be compared with the research that suggests Gen Z students are particularly attracted to the economic benefits of second-hand marketplaces and that they seek to maximize value while minimizing expenditure, as discussed by Laitkep & Repkova Stofkova (2021) and Guiot and Roux (2010).

Moving towards the challenges HEI Gen Z students face in using an online second-hand platform reserved for them, the study did not report any results comparable to previous research. These earlier studies identified trust in products and people, social stigma, and concerns regarding cleanliness and hygiene as significant barriers to using online second-hand platforms among the target group. Therefore, it is not possible to compare the findings of this research with those stated in the following studies: "Exploring the motivations and barriers for second hand product consumption" "Exploring consumer attitudes to alternative models of consumption: Motivations and barriers," and "The Second-Hand Goods Market: Trends and Challenges." (Borusiak et al., 2020; Mukherjee et al., 2020, Sandes & Leandro 2019)

Finally, the study confirms the predominant likelihood of HEI Gen Z students in Portugal to engage in the buying and selling of items in the clothing category on a second-hand platform designed for students. The research statistically confirms that students are more inclined to buy and sell items in the clothing category, including clothes, shoes, and accessories. This aligns with the findings of the 2023 Statista analyses, which state that clothing, for that year was the most traded product category in Portugal in online second-hand marketplaces.

6 Conclusion

In this paragraph, a summary of the key findings, which must be considered in the interpretation of the results. Furthermore, some limitations of the research and areas that require further investigation are highlighted.

6.1 Key Findings and Research Questions

The major findings of the study supported Research Question 1 (RQ1) and Research Question 3 (RQ3). For the first research question, the study validated two primary drivers that

significantly influence HEI Gen Z students' likelihood of using an online second-hand platform: convenience in the buy-and-sell process and environmental consciousness. These findings are consistent with previous research that highlights the importance of ease of use and sustainability for this demographic. For RQ3, the study identified that the most likely category of products to be traded on the platform is clothing, including clothes, shoes, and accessories. Concerning research question 2, no barriers to the use of the platform by the interviewed students were statistically validated, so it will be necessary to pursue the research to address this question.

6.2 Contributions and managerial implications

This study focused on a specific target group in Portugal: Gen Z HEI students, both national and international. It contributed to the existing literature by statistically proving the positive correlation between the likelihood of using the platform and both the convenience of the buy-and-sell process and the environmental consciousness for the specific target of Gen Z HEI students enrolled in Portuguese universities. These findings can be translated into several managerial implications:

- 1) **Focus on a User-Friendly Platform:** The platform should prioritise user-friendliness to attract and retain HEI Gen Z students. This means developing an appealing design and creating a marketplace where all available products are clearly and simply displayed in an online catalog. One example is to add intuitive search filters to speed up the search and include product photos with detailed descriptions attached.
- 2) **Enhance Convenient Features:** Since students highly valued the convenient features of the platform, then it is crucial to keep and improve key features such as in-person product exchanges. This implies an easy way for students to communicate and a smooth payment process.
- 3) **Highlight Environmental Benefits:** Emphasizing and supporting the environmental benefits of using the platform can further attract environmentally conscious students. Marketing campaigns could focus on the sustainability aspects of buying and selling second-hand items. Create awareness campaigns, for instance, by indicating how much carbon footprint was reduced by purchasing on that platform comparing to buying new.
- 4) **Promote the marketplace through University Administration:** Collaborating with university administration offices to promote the platform through official university channels can significantly enhance visibility and adoption among students. This includes using websites, flyers, social media pages, and newsletters.

- 5) **Organise In-Person Events:** Given the excitement for in-person exchanges that emerged from the qualitative analysis, a managerial implication could be to organize pop-up markets in-person on university spaces and create a community focused on exchanging used items, particularly clothes, as this was the most predominant category of products to buy and sell among students. However, this has not been tested through existing studies in top journals or quantitative analysis and would require further validation.

6.3 Limitations

A primary limitation of the study is that the sample includes only Gen Z students, not the entire HEI student population in Portugal. Therefore, the students included in the study are those enrolled in higher education institutions, born from 1997 onwards. Additionally, another limitation concerns the in-depth interviews, as the interviewed students were studying in universities only in the Lisbon area, making the findings not generalizable to the entire country.

Also, during both the qualitative and quantitative research phases, participants were given a description of "Hazaar," outlining some of its main features. This may have biased their responses due to the positive framing of the product and the mention of potential drivers in the product description. Different presentations, such as a video or a more comprehensive website overview, might yield different results. This limitation suggests that responses could vary with another type of product presentation, potentially affecting the study's conclusions.

6.4 Future Research

Through the online questionnaire, two hypotheses related to the drivers were statistically proven to influence the likelihood of engaging with the platform. There are other variables not addressed in this research that may influence consumption intention, such as price and other relevant factors. Moreover, given that the independent variables supposed to explain challenges and obstacles toward using the platform were not significant, other variables that might negatively influence students' likelihood to use this kind of second-hand platform need to be further explored.

Finally, the in-depth interviews revealed specific insights that could be relevant for future research stages, especially regarding additional drivers, and thus independent variables, that could positively influence engagement with the platform. These include the needs of international students moving from other countries to Portugal, who often need to buy and sell

the same items, the excitement for in-person exchanges to meet new people within the university community, the inconvenience of existing WhatsApp groups for trading second-hand items among the university community, and the interest in decluttering among young students (see [paragraph 3.1.3](#)).

Appendix I: In-depth interview questions

Introduction

Hello, thank you for agreeing in participating in this interview. First of all, I would like to mention that I will record this interview for analysis purposes only. Do you agree that this interview will be recorded?

My name is Caterina, and I am conducting this interview as a part of my Master Thesis research, which investigates the factors influencing Gen Z students enrolled in Universities in Portugal, towards the use of an online second-hand platform designed for students.

This interview will take around 15 minutes.

Block A – Familiarity and Current Use

- 1) How familiar are you with second-hand shopping?
- 2) How often do you shop for second-hand items both online and offline?
- 3) Which second-hand platforms have you used, and could you share your experiences with these platforms?

Block B – Introduction to Hazaar

Now, I'd like to introduce an online platform named Hazaar, the first marketplace designed for students to buy-and-sell secondhand items. To be able to use this service, students sign up with their university's email addresses to access their university's marketplace and browse thousands of available items in a variety of categories. They can sell their goods, buy online, and then complete the exchange in person.



Figure 3: Hazaar marketplace (Hazaar,2024)

Using Hazaar means:



1. No more post office trips

There is no need for postage or packaging, simply choose a safe space listed on your campus to exchange your item.



2. Student-friendly prices

Need a new outfit on a low budget?
We've got you covered.



3. Supporting sustainability

Hazaar is the only zero-waste marketplace in the UK, creating circular economies across universities.

Figure 4: what using Hazaar means (Hazaar, 2024)

4) What are your initial thoughts on this concept?

Block C: Motivations for using such a platform

5) Considering a platform like the previously showed, what would motivate you to use it?

6) Specifically, when using this platform, how important are factors like affordability, environmental impact, convenience, and a secure transaction environment to you?

Block D: Potential Challenges

7) What potential challenges do you foresee in using such a platform

8) Specifically, when using this platform, how limiting are factors such as trust in people or products, social stigma, or hygiene and cleanliness?

Note: By social stigma, we refer to the reputation associated with the second-hand market.

Block E: Interest in Product Categories

9) On a platform like the previous showed, which product category would you be most interested in buying? (If the participant is not able to answer, give some examples: clothing, electronics, books, or household items?)

10) Which product category would you be interested in selling on such a platform? ? (If the participant is not able to answer, give some examples: clothing, electronics, books, or household items?)

Block F: Conclusion

11) Thank you for sharing your thoughts. Do you have any questions or additional comments to add before we conclude?

Appendix II: In-depth interview blocks, key themes and related hypothesis

Block	Question	Key Themes	Related Hypothesis
A	1-3	Familiarity and previous experience with second-hand shopping	
B	4	Introduction and initial thoughts on Hazaar	
C	5-6	Motivations and importance of factors (affordability, environmental impact, etc.)	H1, H2, H3, H4
D	7-8	Potential challenges and limiting factors (trust, social stigma, hygiene)	H5, H6, H7, H8
E	9-10	Interest in product categories (buying and selling)	H9, H10

Appendix III: In-depth interview participants

#	Name	Gender	Type of Student	Faculty/School	Year of Study	Birth Year	Nationality	University
C1	J.M. Johanna	Female	Full-time student	Communication and Advertising	1st Year Master	2000	German	Universidade Católica Portuguesa (UCP)
C2	L.B. Luis	Male	Erasmus student	Medicine	6th Year	1998	Dutch	Nova Medical School
C3	C.C. Carolina	Female	Full-time student	International Management	2nd Year Master	2000	Italian	Nova School of Business and Economics (Nova SBE)
C4	P.E. Pauline	Female	Erasmus student	Psychology	3rd Year Bachelor	2002	German	Universidade de Lisboa
C5	F.M. Federica	Female	Double Degree program	Management	2nd Year Master	1999	Italian	Católica Lisbon School of Business and Economics (CLESBE)
C6	A.Z.	Male	Erasmus student	Medicine	6th Year	1999	Brazilian	Nova Medical School
C7	N.C. Naomi	Female	Full-time student	Physiotherapy	1st Year Bachelor	2003	Portuguese	Universidade de Lisboa
C8	M.O.	Female	Full-time student	Communication and Advertising	1st Year Master	2000	Spanish	Universidade Católica Portuguesa (UCP)
C9	G.M.	Male	Full-time student	Finance	2nd Year Master	1999	Italian	Católica Lisbon School of Business and Economics (CLSBE)
C10	M.R.	Female	Erasmus student	Architecture	3rd Year	2000	Italian	Instituto Superior Técnico

Appendix IV: In-depth interview citations

Hypotheses	Reference - Consumer Interview Statements (citations)
Hyp 1: Affordability	C1: "I really love shopping and buying new clothes, but I don't work so I don't have much money available. I would be extremely likely to use it for finding items I like at low prices."
	C2: "I really appreciate saving on delivery and packaging costs. Sometimes I buy secondhand online and I spend more on delivery fee rather than for the item."
	C6: "Finding items at low prices, made by students for students, is very motivating for me to use a second hand marketplace like the one you showed."
	C10: "I expect the items to be appropriate for my student budget."
Hyp 2: Environmental Consciousness	C2: "I am driven by environmental consciousness. I appreciate saving useless packaging, and the exchange in person reduces waste."
	C3: "I would be motivated by cutting down waste. It's the third time I move, and I always buy the same basic furniture for my room. It's such a waste and bad for the environment."
	C10: "I would be motivated to use it for environmental reasons. This platform seems to be good for the environment since it promotes circular economy"
Hyp 3: Convenience	C1: "I find the process convenient and secure. I am more motivated to purchase online if the exchange is in person."
	C2: "I find it very convenient since the access is through university emails and all the items available are presented in a catalogue."
	C4: "I am motivated to use it because I find it convenient that I don't have to deliver a package if I am selling or wait for my package when buying."
	C5: "The platform is convenient as it has an online catalogue of products, unlike random people trying to sell in WhatsApp groups."
	C8: "Exchange in person is very handy. I like the convenience of buying and selling process."
Hyp 4: Secure Environment	C1: "I am more motivated to buy online if I can meet the person that is selling and see the product in real life."
	C2: "I find the platform very secure since the access is through university emails, and this would motivate me to engage with it."
	C3: "The university should help in advertising to encourage students to use it and promote the circular economy."
	C6: "I know that who is behind the transaction is a student, and I trust that person."
	C5: "I find the process of buying and selling convenient, simple, and secure. The university is a place I consider safe and familiar."
Hyp 5: Trust Issues (People)	C7: "I don't really trust online transactions, so that could be a limitation. Both for the person and for the product conditions."
	C2: "If I bought online from a store and the product wasn't as expected, I wouldn't have any issues returning or complaining. However, if I bought from a student, I wouldn't feel comfortable."
	C5: " Usually, in online transactions I consider trust in people and products a barrier, because I am dealing with someone that I don't know, and it can be unsafe sometimes. But in this case, this wouldn't happen, because I know that the person I am trading with is within the university environment "

Hypotheses	Reference - Consumer Interview Statements (citations)
Hyp 6: Trust Issues (Products)	C2: "If I bought online from a store and the product wasn't as expected, I wouldn't have any issues returning or complaining. However, if I bought from a student, I wouldn't feel comfortable."
	C9: "I am blocked by the uncertainty regarding the product's quality. I won't know the product condition until I have it in my hands."
	C1: "I don't care about the reputation of buying second-hand."
Hyp 7: Social Stigma	C2: "I don't care about social stigma and what people can say about me buying secondhand. I can just find positive aspects in doing it, so I don't really care."
	C9: "I don't think social stigma is not relevant at all for me. Instead, think that it's trendy and cool now to buy secondhand clothes."
Hyp 8: Hygiene and Cleanliness Concerns	C1: "I don't worry about cleanliness; I just wash or carefully clean everything thoroughly after buying second-hand."
	C3: "I have to say that I would be concerned about cleanliness and hygiene for personal care products, such as towels and sheets, or indument such as underwear or bikinis for example. I don't care about categories such as accessorises, items for room decoration, books or electronics"
	C10: " The only concern I have is that since I would be buying from students, I am worried about the condition and quality of the items, as well as issues of hygiene and cleanliness. I would probably prefer to buy some items new and would avoid purchasing items related to personal hygiene and cleanliness."
Hyp 9: Predominantly Buy Clothing	C1: In such a platform, I would be interested in buying clothing and household items. I am a foreigner here in Portugal and sometimes I need things I already own buy left in Germany, so I prefer buying them used"
	C2: "I would use the platform to buy books I need for university for cheaper prices since medicine books sometimes are very expensive"
	C5: "I would definetly buy household items and clothes on the platform. It seems to be more economically convenient than buying them new"
	C10: "I think I would use the student marketplace to buy new clothes and accessories, as well as household items useful for my room."
Hyp 10: Predominantly Sell Clothing	C1: " I would use it to sell clothes I am not wearing anymore. I really enjoy buying and changing fastly my wardrobe, so I often do decluttering and try to make space in my wardrobe"
	C3: "I would definetly do sell old clothes I don't want anymore and household items once I leave my house here in Portugal"
	C5: "I think that the category of product I would try to sell more in this platform is university books I am not using anymore."

Table 40: In-depth interviews citations

Appendix X: Questionnaire

Start of Block: Introduction

Q1 Dear Participant,

Thank you for taking part in my survey. You are making a very important contribution to my Master's Thesis at Católica Lisbon School of Business and Economics.

This study regards an Online Second-Hand Marketplace for Students in Portugal. Your participation is voluntary and anonymous and will take approximately 5 minutes to complete. If you agree to participate, please click the arrow below proceed to the survey questions.

If you have any questions, comments or concerns, do not hesitate to reach out me via email: s-csabatucci@ucp.pt

Once again, thank you for your invaluable input.
- Caterina Sabatucci

End of Block: Introduction

Start of Block: Screening Questions

Q2 Are you currently enrolled in a higher education institution in Portugal? (e.g. Bachelor's, Master's, PhD)

- Yes (1)
- No (2)

Skip To: End of Survey If Are you currently enrolled in a higher education institution in Portugal? (e.g. Bachelor's, Maste... = No

Q3 When were you born?

- After 2012 (1)
- Between 1997 and 2012 (inclusive) (2)
- Before 1997 (3)

Skip To: End of Survey If When were you born? != Between 1997 and 2012 (inclusive)

End of Block: Screening Questions

Start of Block: Experience with Secondhand Shopping

Q7 Great, now we can move on.

First of all, I would like to know more about your experience with second-hand online shopping.

Q8 Have you ever used any online platforms to buy second-hand items?

Yes (1)

No (2)

Q9 Have you ever used any online platforms to sell second-hand items?

Yes (1)

No (2)

Q10 If yes, which platforms? (Select all that apply)

Facebook Marketplace (1)

Vinted (2)

Depop (3)

Ebay (4)

OLX (5)

Wallop (6)

Other (7) _____

Q11 On average, how often do you use online platforms related to second hand shopping?

- Never (1)
 - Once a month (2)
 - Twice a month (3)
 - Once a week (4)
 - Multiple times per week (5)
 - Once a day (6)
 - Multiple times per day (7)
-

Q12 How familiar with online second-hand shopping do you consider yourself to be?

- Not familiar at all (1)
- Slightly familiar (2)
- Moderately familiar (3)
- Very familiar (4)
- Extremely familiar (5)

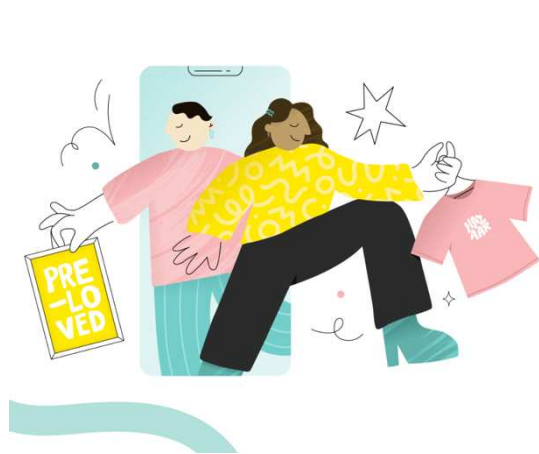
End of Block: Experience with Secondhand Shopping

Start of Block: Introduction to Haazar ^[1]_[SEP]

Q26 Now I'd like to introduce Hazaar, the first online marketplace tailored for students to trade pre-owned items like clothes, textbooks, and household goods.

Hazaar promotes a circular economy by allowing students to buy and sell goods using their university email, minimizing waste and facilitating secure transactions within campus-designated safe spaces.

The two pictures below give you an overview of an online marketplace tailored for students:



The **Preloved** Marketplace: made for students, by students. ★

Define your style, your price, and your marketplace. Buy and sell through the Hazaar app today!

Figure 5: Hazaar Marketplace (Hazaar, 2021)

Using Hazaar means:



1. No more post office trips

There is no need for postage or packaging, simply choose a safe space listed on your campus to exchange your item.



2. Student-friendly prices

Need a new outfit on a low budget?
We've got you covered.



3. Supporting sustainability

Hazaar is the only zero-waste marketplace in the UK, creating circular economies across universities.

Figure 6: Hazaar features (Hazaar, 2021)

Q27 Have you ever heard of an online platform like this?

Yes (if you remember the name, please provide it below): (1)

No (2)

I am not sure (3)

Q28 Please indicate how likely you are to use a secondhand marketplace like Hazaar:

- Extremely unlikely (1)
- Somewhat unlikely (2)
- Neither likely nor unlikely (3)
- Somewhat likely (4)
- Extremely likely (5)

End of Block: Introduction to Haazar 

Start of Block: Drivers and Motivation

Q29 Now that you have a first impression of an online second-hand marketplace designed for students, please indicate what would be the main drivers for you to use an online platform like Hazaar. (Select all that apply)

- Affordable options: student friendly prices (1)
 - Environmental awareness: supporting circular economy and reducing environmental impact (2)
 - Convenience of the buy-and-sell process: easy-to-use platform (3)
 - Secure environment: protection from scams (4)
 - Other (5) _____
-

Q32 To what extent do you agree with the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I am motivated to use this secondhand marketplace because it offers more affordable options compared to purchasing new items (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am motivated to use this secondhand marketplace because it reduces environmental impact and supports a circular economy (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am motivated to use this secondhand marketplace because it provides a convenient buy-and-sell process (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am motivated to use this secondhand marketplace because it provides a secure environment that protects me from scams and ensures safe transactions (4)



End of Block: Drivers and Motivation

Start of Block: Barriers and Challenges

Q30 Now that you have a first impression of an online second-hand marketplace designed for students, please indicate what would be the main barriers for you to use an online platform like Hazaar. (Select all that apply)

- Trust issues with other people (1)
 - Trust issues with the quality of the product (2)
 - Social stigma: reputation associated with purchasing secondhand goods (3)
 - Concerns regarding hygiene and cleanliness (4)
-

Q31 To what extent do you agree with the following statements?

	Strongly disagree (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Strongly agree (5)
I am hesitant to use this secondhand marketplace because of trust issues related to people (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am hesitant to use this secondhand marketplace because of trust issues related to the products quality (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am hesitant to use this secondhand marketplace because of social stigma associated with purchasing secondhand goods (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am hesitant to use this secondhand marketplace because of concerns regarding the hygiene and cleanliness of the products (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Barriers and Challenges

Start of Block: Categories of products

Q22 In this section of the survey, I aim to understand your preferences and expectations regarding product categories in an online second-hand marketplace for students, similar to the one previously shown.

Q23 Which categories of products would you expect to find on a platform like the previously showed? (Select all that apply)

- Electronics (video games, cellphones, or computers) (1)
 - Clothing (clothing, footwear, accessories) (2)
 - Household products (furniture, kitchen sets, cutlery,...) (3)
 - Books (academic books, comics, ...) (4)
 - Other: (5) _____
-

Q24 Please rank the following categories of products from the one you would be most likely to buy in such a platform:

- _____ Electronics (video games, cellphones, or computers) (1)
 - _____ Clothing (clothing, footwear, accessories) (2)
 - _____ Household products (furniture, kitchen sets, cutlery,...) (3)
 - _____ Books (academic books, comics, ...) (4)
-

Q25 Please rank the following categories of products from the one you would be most likely to sell in such a platform:

- _____ Electronics (video games, cellphones, or computers) (1)
- _____ Clothing (clothing, footwear, accessories) (2)
- _____ Household products (furniture, kitchen sets, cutlery,...) (3)
- _____ Books (academic books, comics, ...) (4)

End of Block: Categories of products

Start of Block: Demographics

Q13 You are almost done. In the last part of this survey, I would like to ask you some demographic questions.

Q14 Please indicate your gender

- Male (1)
 - Female (2)
 - Non-binary / third gender (3)
 - Prefer not to say (4)
-

Q15 How old are you?

▼ Younger than 18 (1) ... Prefer not to say (12)

Q16 Please indicate your nationality:

- Portuguese (1)
 - Italian (2)
 - French (3)
 - Spanish (4)
 - German (5)
 - Dutch (6)
 - Belgian (7)
 - Brazilian (8)
 - Other (9) _____
-

Q17 If you were to place your studies within one of the following categories, which one would you choose?

▼ STEM educations: Science, Technology, Engineering, Mathematics (1) ... Other (11)

Q18 What is your highest degree of education you have completed?

- High School Degree (1)
 - Bachelor's Degree (2)
 - Master's Degree (3)
 - PhD or higher (4)
 - Prefer not to say (5)
-

Q19 What is your current occupational status?

- Full-time student (1)
 - Student and part-time employed (2)
 - Student and full-time employed (3)
 - Prefer not to say (4)
-

Q21 What is your monthly income? (In case you don't have a job, please select the amount of money you have available each month)

- Less than 500€ (1)
- 501 - 1000€ (2)
- 1001 - 1500 € (3)
- 1501 - 2000€ (4)
- 2001 - 2500 € (5)
- 2501 - 3000€ (6)
- More than 3000€ (7)
- Prefer not to say (8)

End of Block: Demographics

Appendix VI: SPSS results

Frequencies

Q1_Portuguese_University						Q2_Year_of_born					
		Frequency	Percent	Valid Percent	Cumulative Percent			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	144	85,2	85,2	85,2	Valid	After 2012	2	1,2	1,4	1,4
	No	25	14,8	14,8	100,0		Between 1997 and 2012 (inclusive)	132	78,1	91,7	93,1
	Total	169	100,0	100,0			Before 1997	10	5,9	6,9	100,0
					Total		144	85,2	100,0		
Missing	System					Missing	System	25	14,8		
Total						Total		169	100,0		

Q3_used_to_buy_before						Q4_used_to_sell_before					
		Frequency	Percent	Valid Percent	Cumulative Percent			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	94	55,6	71,2	71,2	Valid	Yes	96	56,8	72,7	72,7
	No	38	22,5	28,8	100,0		No	36	21,3	27,3	100,0
	Total	132	78,1	100,0			Total	132	78,1	100,0	
Missing	System	37	21,9			Missing	System	37	21,9		
Total		169	100,0			Total		169	100,0		

Q5_Facebook_Marketplace						Q5_Vinted					
		Frequency	Percent	Valid Percent	Cumulative Percent			Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Facebook Marketplace	23	13,6	100,0	100,0	Valid	Vinted	96	56,8	100,0	100,0
Missing	System	146	86,4			Missing	System	73	43,2		
Total		169	100,0			Total		169	100,0		

Q5_OLX

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	OLX	15	8,9	100,0	100,0
Missing	System	154	91,1		
Total		169	100,0		

Q5_Wallpop

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Wallop	9	5,3	100,0	100,0
Missing	System	160	94,7		
Total		169	100,0		

Q6_Frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Never	35	20,7	26,5	26,5
	Once a month	58	34,3	43,9	70,5
	Twice a month	16	9,5	12,1	82,6
	Once a week	7	4,1	5,3	87,9
	Multiple times per week	13	7,7	9,8	97,7
	Once a day	2	1,2	1,5	99,2
	Multiple times per day	1	,6	,8	100,0
	Total		132	78,1	100,0
Missing	System	37	21,9		
Total		169	100,0		

Q7_Familiarity

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not familiar at all	24	14,2	18,2	18,2
	Slightly familiar	39	23,1	29,5	47,7
	Moderately familiar	39	23,1	29,5	77,3
	Very familiar	26	15,4	19,7	97,0
	Extremely familiar	4	2,4	3,0	100,0
	Total		132	78,1	100,0
Missing	System	37	21,9		
Total		169	100,0		

Q19_Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High School Degree	25	14,8	18,9	18,9
	Bachelor's Degree	60	35,5	45,5	64,4
	Master's Degree	45	26,6	34,1	98,5
	Prefer not to say	2	1,2	1,5	100,0
	Total		132	78,1	100,0
Missing	System	37	21,9		
Total		169	100,0		

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