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Sustainability and Second-Hand Products: The Role of Motivations and Barriers on the Purchase Intention

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Abstract

Purpose – In recent years, the purchase of second-hand products through digital platforms has been gaining prominence as an increasingly popular and sustainable practice. However, understanding the motivations that drive this behavior and the barriers that limit it still requires in-depth research, particularly in the Portuguese context. The aim of this research is to assess the main motivations that influence the attitude and intention to buy second-hand products, as well as to identify the critical factors that determine the success of these transactions on digital platforms.

Design/methodology/approach – This study used quantitative research through an online survey using a non-probabilistic convenience sample of 366 respondents. It should be noted that it was only applied to a sample of consumers who have already purchased second-hand products on digital platforms at least once.

Findings – The main motivations that positively influence consumers' attitudes towards buying second-hand products on digital platforms include perceived value and ecological awareness, as well as treasure hunting and a search for uniqueness. These motivations stand out as key factors in the purchasing decision. However, barriers such as lack of security, financial risk and social embarrassment act as significant obstacles, negatively impacting consumers' predisposition to take a positive attitude and purchase these products.

Research limitations/implications – The degree to which the results can be generalized is limited due to the sampling method and the restricted size of the study. In addition, the sample is mainly made up of women and young people, and the exclusive focus on Portuguese consumers restricts global applicability.

Originality/value – This study simultaneously analyses the motivations and barriers to buying second-hand products on digital platforms, filling a gap in the existing literature. It also offers valuable insights for marketing managers and companies in the sector, helping them to adjust their strategies and overcome barriers perceived by consumers.

Keywords – Second-Hand Products; Circular Economy; Sustainability; Attitude; Purchase Intention.

Paper type Research Paper

1. INTRODUCTION AND OBJECTIVES

In recent years, the adoption of sustainable consumption practices has gained relevance, with the Circular Economy (CE) emerging as an alternative to the traditional linear economic model (Ghisellini, Cialani & Ulgiati, 2016). This approach is reflected in a significant change in consumer habits, who are increasingly opting to buy second-hand products for both economic and ecological reasons (Allwood et al., 2006). The growth of these practices is visible, especially with the increase in online transactions, which have facilitated the purchase of used products in various categories, from fashion to technology (Muller, 2022). In addition, the covid-19 pandemic has reflected a significant reconfiguration of consumer behavior and is pointed to as an explanation for the notable increase in C2C (consumer-to-consumer) e-commerce (Zahara, Rini, & Sembiring, 2021).

Despite growing acceptance, there are still barriers, such as a lack of confidence in the quality of the products (Sandes & Leandro, 2019). This study seeks to understand the main motivations that influence the attitude and intention to buy these products on digital platforms, as well as to identify the barriers that negatively affect this behavior. The research questions focus on economic, critical, and hedonic motivations, barriers such as lack of security, financial risk, quality concerns and social embarrassment, and the impact of these variables on attitude and purchase intention. Although the second-hand market has received increasing academic attention, there are few studies that explore the motivations and barriers in this context in an integrated way (Guiot & Roux, 2010; Padmavathy et al., 2019). This research, by proposing a new conceptual model, aims to fill this gap, offering valuable insights for both academia and business, for companies operating in the sector, helping to adjust strategies, and overcome obstacles to the growth of this market.

2. LITERATURE REVIEW

2.1. Circular Economy

The Circular Economy (CE) has gained increasing relevance at a global level, standing out as an essential solution to face environmental challenges. The EC proposes a production and consumption model based on the sharing, reuse, repair, renovation and recycling of materials and products (Parlamento Europeu, 2023). Buying second-hand products, by reducing waste and extending the life cycle of products, plays a central role in promoting more sustainable practices (Lee et al., 2017). Studies indicate that around 80% of CO_2 emissions result from industrial activity (Stephenson, Newman & Mayhew, 2010), which reinforces the urgency of moving towards more circular and regenerative economic models, capable of mitigating the environmental damage caused by the current linear paradigm (Korhonen, Honkasalo & Seppälä, 2018).

The Circular Economy is often confused with recycling, but it goes beyond this concept, promoting the recirculation of resources and the creation of new products from existing materials (Singh & Ordonez, 2016). According to the Ellen MacArthur Foundation (2013), CE is based on the principles of restoration and regeneration, with not only environmental, but also economic and social benefits. Implementing circular business models can generate significant opportunities for companies and consumers (Planing, 2015). The practice of reuse, especially through the purchase of second-hand products, is key to reducing the ecological footprint throughout the life cycle of products (Farrant, Olsen & Wangel, 2010).

2.2. Antecedents

The intention to buy second-hand products is influenced by several facilitating factors or barriers. According to Solomon (2020), the motivation for such behavior begins when the consumer identifies a need, being driven by individual values, objectives, and needs (Santo & Marques, 2021). Westbrook and Black (1985) point out that the purchase motivation is divided into three aspects: the desire to purchase the product, the satisfaction of needs not directly

related to the product, and the objective of achieving specific ends through the purchase. The present research adopts uses and gratification theory (U&G) of Katz et al. (1974), which explains how consumers' motivations are related to perceived value, which, in turn, positively influences behavioral intentions (Huang, 2008; Aycock et al., 2023).

2.2.1. Motivations

The intention to buy second-hand products is influenced by several motivations, with economic motivation being one of the most dominant (Guiot & Roux, 2010). Consumers are looking for lower prices, functional and utilitarian value, with perceived value being a central factor that relates price to the gratification achieved (Ferraro et al., 2016; Guiot & Roux, 2010). Studies highlight that financial gratification, such as negotiating better prices and the convenience of saving time and effort, are factors that encourage consumers to opt for digital second-hand shopping platforms (Hinojo et al., 2022; Padmavathy et al., 2019). Thus, consumers seek to maximize value by purchasing more products for the same amount or securing the most advantageous price possible (Guiot & Roux, 2010). Regarding convenience, consumers are often evaluating prices to determine the most advantageous purchase alternative (Guiot & Roux, 2010) and are linking ease and utility in this purchasing context (Rohm & Swaminathan, 2004). Thus, this study suggests the following hypothesis.

H1a. *Perceived value positively influences the attitude towards these products*.
H1b. *The feeling of gratification obtained positively influences the attitude towards these products*.
H1c. *Convenience obtained from online shopping positively influences the attitude towards these items*.

The critical motivations for consuming second-hand products are associated with an ethical and environmental awareness. According to Guiot and Roux (2010), these motivations reflect a desire to by-pass the conventional market system, allowing consumers to adopt sustainable practices that avoid waste and promote reuse. Even so, other studies mention that second-hand consumption is also seen as a way to combat consumerism and prolong the usefulness of products (Belk, 2010; Botsman & Rogers, 2010; Roux & Guiot, 2008), with consumers increasingly aware of the importance of reducing the production of new goods to protect the environment (Gupta et al., 2023). Accordingly, the following hypothesis is formulated.

H2a. *Ethical & ecological awareness positively influences the attitude towards these products*.
H2b. *Escaping the system has a positive influence on the attitude towards these products*.

Finally, hedonic motivations also play a crucial role. Guiot and Roux (2010) state that consumers are driven by nostalgic pleasure, the thrill of discovery and the desire to find unique items. Buying second-hand products offers a recreational and emotional experience, allowing consumers to relive memories of the past (Guiot & Roux, 2010; Gregson & Crewe, 1997), find unexpected "treasures" and express their individuality through the acquisition of unique items (Ferraro et al., 2016; Muller, 2022; Roux & Guiot, 2008). This behavior is driven by the search for authenticity and uniqueness, which differentiate consumers on a personal and social level (Tian et al., 2001). Based on this reasoning, the following hypothesis is formulated.

H3a. *Nostalgic pleasure positively influences the attitude towards these products*.
H3b. *Treasure hunting positively influences the attitude towards these products*.
H3c. *The search for uniqueness positively influences the attitude towards these products*.

2.2.2. Barriers

Buying second-hand products on digital platforms offers numerous opportunities, but it also presents underlying challenges in the consumer's mind. The impossibility of testing products before purchase generates distrust and hesitation, aggravated by the C2C model, where unknown sellers increase the perception of risk (Faria et al., 2022; Gefen, 2002). Additionally,

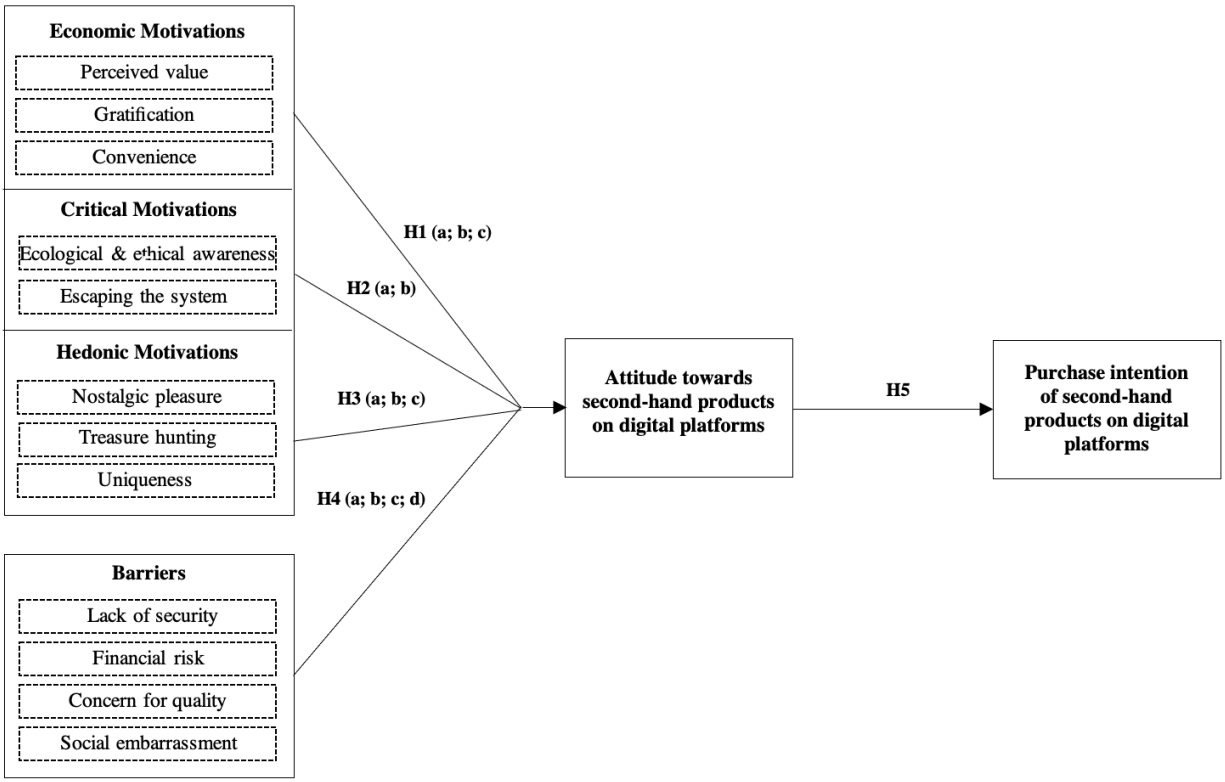
financial risk arises when the price does not reflect the perceived value, leading to potential investment loss or additional costs (Kim et al., 2021).
Other barriers include quality concerns, where used items are seen as unhygienic or of inferior quality (Gupta et al., 2023). Another barrier is social embarrassment, which also affects the purchase, since purchasing second-hand products is sometimes associated with low social status, which causes fear of judgment and stigmatization (Liang & Xu, 2018). These factors negatively impact consumers' attitudes towards this market (Sandes & Leandro, 2019). Building on this reasoning, the following hypothesis is proposed.

H4a. *Lack of security has a negative influence on the attitude towards these products*.
H4b. *Financial risk negatively influences attitudes towards these products*.
H4c. *Concern for quality has a negative influence on attitudes towards these products*.
H4d. *Social embarrassment negatively influences the attitude towards these products*.

2.3. Attitude and Purchase Intention

Blackwell et al. (2005) define attitude as the fundamental orientation of likes and dislikes in relation to people, objects, or phenomena, being a central element in consumer behavior. In the context of second-hand products, attitude refers to the overall evaluation, positive or negative, that consumers make of these products (Kim et al., 2021). Padmavathy et al. (2019) and Edbring et al. (2016) highlight the relevance of studying the adoption of alternative trade models, where motivations and barriers directly influence attitudes towards second-hand products.
Purchase intention is understood as a consumer's predisposition to purchase a product in the near future (Blackwell et al., 2005; Wu et al., 2011). Studies confirm that a positive attitude towards sustainable products significantly influences purchase intention (Kang et al., 2013; Park & Oh, 2014). Thus, a favorable attitude toward second-hand products increases the likelihood that consumers will demonstrate behavioral intentions, such as buying (Ajzen, 1991). Therefore, the subsequent proposition is presented, along with the proposed conceptual model (see Figure 1).
H5: *The higher the attitude towards the products, the greater their purchase intention*.

Figure 1. Conceptual Model



3. METHODOLOGY

The research took on a descriptive design, since the primary data were collected through an online survey, developed on the Qualtrics platform, and disseminated between May 27 and June 23, 2024, through social networks and email, with 366 valid responses obtained. By using SPSS and Excel, statistical analyses were performed, including one principal component factor analysis (PCFA) and three linear regression (LR) analyses, two multiple and one single.

The measurement items for this study were adopted from previous studies (see Table 1). All items were adapted from Kim et al. (2021), Padmavathy et al. (2019), Roux and Guiot (2008), Guiot and Roux (2010), Silva et al. (2021), and Rasty et al. (2021). To measure the constructs, five-point Likert scales were used to measure them, previously tested by reference authors.

Table 1. Synthesis of the Internal Consistency and Reliability Analysis and the Principal Component Factor Analysis

Indexes	Original items	KMO	Total Variance Explained (%)	Cronbach's (α)	Barlett Sphericity Test	
					Chi-Square	Sig.
Perceived value	1. I don't want to pay more for a product just because it's new.	0,785	51,700	0,754	425,536	<0,001
	2. By buying second-hand, I feel I'm paying a fair price for things.					
	3. It's often not worth paying more to get something new.					
	4. Buying second-hand, I can get the same thing at a decent price.					
	5. Shopping second-hand allows you to get products that are often sold new at exorbitant prices.					
Gratification	6. I can afford more things because I pay less second-hand.	0,730	71,263	0,781	828,796	<0,001
	7. One can have more things for the same amount of money if one buys second-hand.					
	8. I feel that I have lots of things for not much money by buying them second-hand.					
	9. I feel that I'm getting power while buying second-hand products.					
	10. Unlike the primary market, I can easily bargain for price while shopping for second-hand products.					
	11. I can buy a second-hand product for the price that I have in my mind though bargaining.					
Convenience	12. Shopping second-hand products online, improves my shopping productivity.	0,747	60,798	0,784	417,982	<0,001
	13. Shopping second-hand products online, enhances my effectiveness in comparing the prices.					
	14. Shopping second-hand products online, helps me to buy what I want from a wide range of available products.					
	15. Shopping second-hand products online, increases my shopping ability.					
Ecological & ethical awareness	16. I enjoy buying second-hand because I don't like objects being thrown away that can still be of use.	0,787	69,371	0,849	661,646	<0,001
	17. By buying second-hand, I feel I'm helping to fight against waste.					
	18. When I purchase, I take sustainability issues into consideration.					
	19. I am aware of clothing products effects has on the environment.					
Escaping the system	19. By buying second-hand, I feel like I'm escaping the (consumption) system.	0,716	76,527	0,846	471,475	<0,001
	20. Buying second-hand is for me a revenge on the consumption system.					
	21. Buying second-hand enables me to distance myself from the consumer society.					
Nostalgic pleasure	22. I am attracted more to old things than new ones.	0,824	78,201	0,906	1014,349	<0,001
	23. Above all I buy things second-hand because they are old and have a history.					
	24. I like buying second-hand objects because they evoke the past.					
	25. I like buying second-hand objects because I find them authentic.					
Treasure hunting	26. I like strolling around these second-hand channels because I always hope to come across a find.	0,861	81,901	0,925	1124,715	<0,001
	27. I go to such places to ferret around and discover something.					
	28. I'm often on the look-out for a find when going to some second-hand channels.					
	29. In some of these second-hand channels, I feel a bit like I'm treasure hunting.					
Uniqueness	30. By buying second-hand products (online), I can express my individuality.	0,791	75,298	0,889	976,527	<0,001
	31. By buying second-hand products (online), I can buy an unusual second-hand product to tell people that I'm different.					
	32. By buying second-hand products (online), I buy unusual second-hand items to create a more distinctive personal image.					

	33. By buying second-hand products (online), An important goal in buying a second-hand product that I like is to communicate my uniqueness.					
Lack of security	34. Security or privacy loss due to disclosing personal information such as credit card details and addresses. 35. Lack of security of Internet infrastructure against the hackers' attacks (such as uncertainty of payment methods and legal frameworks. 36. Inability to judge product/ service quality. 37. The impossibility of direct interaction with the e-vendor. 38. Intrinsic propensity to think that e-vendors are lack of truth.	0,794	62,918	0,852	857,724	<0,001
Financial risk	39. This clothing is likely to be expensive in light of various conditions. 40. This clothing is likely to be expensive because it is not mass-produced. 41. This clothing is likely to be relatively expensive compared to general clothing. 42. There would be a price bubble in this clothing.	0,810	65,764	0,826	510,124	<0,001
Concern for quality	43. I am/I am not concerned about the condition of SHC. 44. I am/I am not concerned about the durability of SHC. 45. Associate/do not associate adjectives such as "dirty" and Risk. 46. There is/is not a possibility of contamination through SHC.	0,564	81,066	0,678	383,189	<0,001
Social embarrassment	47. Purchasing SHC is only for lower-income person. 48. I am/I feel I would be judged if I purchase SHC. 49. Being judged mistakenly by friends and acquaintances.	0,734	82,608	0,895	674,049	<0,001
Attitude towards products	50. I like this clothing. 51. I have a positive emotion regarding this clothing. 52. I am interested in this clothing. 53. I think positively about this clothing.	0,848	78,354	0,904	951,193	<0,001
Purchase intention	54. I would like to buy this clothing. 55. I am willing to buy this clothing when I shop my clothing in the near future.	0,500	88,231	0,867	319,371	<0,001

For the creation of the synthetic indices, an Internal Consistency and Reliability Analysis was performed using Cronbach's Alpha coefficient (α). Values higher than 0.7 were considered acceptable (Pallant, 2016), and all indices showed acceptable reliability (α > 0.70), except for the index related to concern for quality α = 0.678), which was maintained, as the removal of items would not increase the value of the α (see Table 1).

A Principal Component Factor Analysis (PCFA) was also performed to verify whether the indices correctly measured the constructs, using the Kaiser-Meyer-Olkin (KMO) criteria and the Bartlett Sphericity test. The KMO values ranged from 0.50 to 0.861, and the explained variance was greater than 51% in all indices. In addition, the Communalities were all above 30%, confirming the adequacy of the PCFA.

4. RESULTS AND DISCUSSION

To validate the hypotheses formulated, a significance level of 5% (α=0.05) was considered (Pallant, 2016). It should be noted that, previously, preliminary analyses were carried out, where the assumptions of normality, linearity, multicollinearity, and homoscedasticity of the three Linear Regressions were verified and confirmed (see Appendices).

Table 2. Summary of the First Multiple Linear Regression (enter method)

Independent Variables	Unstandardized Coefficients		Standardized Coefficients		
	Beta	Standard Error	Beta	t	Sig
Perceived value	0,303	0,056	0,275**	5,429	<0,001
Gratification	0,043	0,062	0,038	0,695	0,487
Convenience	-0,024	0,056	-0,024	-0,426	0,670
Ecological & ethical awareness	0,212	0,046	0,212**	4,395	<0,001
Escaping the sytstem	-0,013	0,036	-0,013	-0,262	0,793
Nostalgic pleasure	0,057	0,037	0,057	1,134	0,257
Treasure hunting	0,288	0,037	0,288**	6,186	<0,001
Uniqueness	0,130	0,038	0,130*	2,486	0,013
			Adjusted R^2		0,349**
			F		25,434

Dependent variable: Attitude towards second-hand products on digital platforms.
*p<0,05.
**p<0,001.

As can be depicted in Table 2, the results of the multiple linear regression performed show that the attitude towards second-hand products on digital platforms was analyzed as the dependent variable, with the components of motivations (economic, critical, and hedonic) as independent variables. The results show that the model with eight independent variables explains 34.9% of the variation in attitude towards second-hand products (Adjusted R^2=0.349) and has statistical significance (F(8, 366)=25.434; p<0.001). Perceived value (β=0.275; p<0.001), ethical and ecological awareness (β=0.212; p<0.001), treasure hunting (β=0.288; p<0.001) and uniqueness (β=0.130; p=0.013) are significant predictors of attitude, while gratification, convenience, escaping the system and nostalgic pleasure have no relevant impact. In this way, H1a, H2a, H3b and H3c are validated, and H1b, H1c, H2b and H3a are rejected.

Table 3. Summary of the Second Multiple Linear Regression (enter method)

Independent Variables	Unstandardized Coefficients		Standardized Coefficients		
	Beta	Standard Error	Beta	t	Sig
Lack of security	-0,178	0,052	-0,214**	-3,426	<0,001
Financial risk	0,244	0,056	0,257**	4,374	<0.001
Concern for quality	-0,098	0,061	-0,098	-1,605	0,109
Social embarrassment	-0,145	0,042	-0,180**	-3,490	<0,001
			Adjusted R^2		0,097**
			F		10,753

Dependent variable: Attitude towards second-hand products on digital platforms.
*p<0,05.
**p<0,001.

On Table 3, it can be seen that the results of the multiple linear regression performed analyze the attitude towards second-hand products on digital platforms as the dependent variable, with the components of the barriers as independent variables. The results indicate that the model with four independent variables explains 9.7% of the variation in attitude towards second-hand products (Adjusted R^2=0.097) and is statistically significant (F(4, 366)=10.753; p<0.001). Lack of security (β=-0.214; p<0.001), financial risk (β=0.257; p<0.001) and social embarrassment (β=-0.188; p<0.001) are significant predictors of attitude, while concern for quality have no relevant impact. H4a, H4b and H4d are validated, and H4c is rejected. Financial risk is the strongest predictor (β=0.257) and lack of security is the weakest (β=-0.214).

Table 4. Summary of the Simple Linear Regression (enter method)

Independent Variables	Unstandardized Coefficients		Standardized Coefficients		
	Beta	Standard Error	Beta	t	Sig
Attitude towards second-hand products on digital platforms	0,593	0,037	0,643**	16,037	<0,001
			R^2		0,414**
			F		257,199

Dependent variable: Purchase intention.
*p<0,05.
**p<0,001.

As per Table 4, the results of the simple linear regression are displayed, with the intention to purchase as the dependent variable and the attitude towards second-hand products on digital platforms as the independent variable. The regression model is statistically significant (F(1, 366) = 257.199; p<0.001) and explains 41.4% of the variation in purchase intention (R^2 = 0.414). Attitude towards second-hand products is a positive and significant predictor of purchase intention (β=0.643; p<0.001), confirming H5.

5. DISCUSSION, CONCLUSION AND CONTRIBUTIONS

The results indicate that treasure hunting, perceived value, ethical and ecological awareness, and uniqueness are the most relevant motivations with statistical relevance in forming attitudes towards these products, in decreasing order of importance, explaining 34.9 per cent of the

variation. Perceived value stands out as a key factor in economic motivations, supporting the studies by Guiot and Roux (2010) and Ferraro et al. (2016), while variables such as gratification and convenience showed no significant impact, contrary to Padmavathly et al. (2019) and Hinojo et al. (2022). The rejection of the hypotheses can be explained by the evolution of digital platforms, which offer a more streamlined shopping experience, where consumers may not feel as strong a sense of gratification or significant convenience compared to other shopping channels. The lack of a negotiation experience or the speed of transactions may have reduced the relevance of these motivations. Among the critical motivations, ecological awareness stood out (Gupta et al., 2023), unlike escaping the system (Guiot & Roux, 2010). The rejection of the hypothesis can be explained by the weaker association between escaping the system and digital purchases, where platforms provide an experience similar to conventional retail. Regarding hedonic motivations, the results show that the variable nostalgic pleasure is not statistically significant, contradicting the studies of Guiot and Roux (2010). The rejection of the hypothesis may be due to the reduced importance of nostalgic pleasure in digital purchases, where easy access and a lack of strong emotional connection with the product reduce the impact of nostalgia. On the other hand, the variables enjoyment of discovery and uniqueness proved to be significant motivational factors, corroborating Ferraro et al. (2016) and Muller (2022).

As for barriers, financial risk, social embarrassment and lack of security explain 9.7 per cent of the variation in attitude. Financial risk and social embarrassment have a negative influence, in agreement with Sandes and Leandro (2019), due to the perception of low status and fear of judgement. Lack of security also negatively affects attitude (Faria et al., 2022), while quality concerns were not significant, contrary to Gupta et al. (2023). The rejection of the hypothesis can be explained by the increasing emphasis on environmental benefits and the guarantees offered by platforms, which mitigate concerns about quality. Additionally, the growing cultural acceptance of second-hand purchases may have influenced the results.

It was also concluded that a positive attitude towards second-hand products significantly influences purchase intention, explaining 41.4 per cent of its variation. These results are in line with Ajzen (1991), who suggests that attitudes can shape behavioral intentions, and with the studies by Kang et al. (2013), which show how attitude towards sustainable products positively impacts purchase intention (Kim et al., 2021; Park & Oh, 2014). This confirms that a favorable attitude towards second-hand items increases the likelihood of purchase.

Regarding theoretical contributions, this study proves to be innovative by addressing a gap in the literature, exploring a market that is still under-researched but highly relevant in the current context. It stands out for its strategic identification of motivations, as well as the barriers that need to be overcome. Additionally, the analysis of the relationship between attitudes toward these products and purchase intention adds originality and relevance to the study.

Finally, regarding managerial contributions, this study provides support to marketing professionals in this market segment by analyzing consumer behavior. It also helps to direct the most effective strategies to overcome barriers and highlight the environmental and social benefits associated with this market to consumers.

6. RECOMMENDATIONS

With the growing popularity of digital platforms, especially in the context of buying and selling second-hand products, it is expected that this market will continue to expand, driven by greater ecological awareness and the convenience provided by these platforms. Recent studies show a significant increase in the adoption of this type of commerce, with motivations such as financial savings and sustainability playing a crucial role in purchasing decisions. It is recommended that digital platforms invest in improving consumer security and trust, which are essential for overcoming barriers such as financial risk. For future studies, an analysis of sociodemographic and behavioral differences is recommended, as well as an approach that explores different

markets and includes additional variables. This will allow a more complete understanding of the study and contribute to the development of targeted strategies that maximize purchase intention and promote positive attitudes towards these products.

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APPENDICES

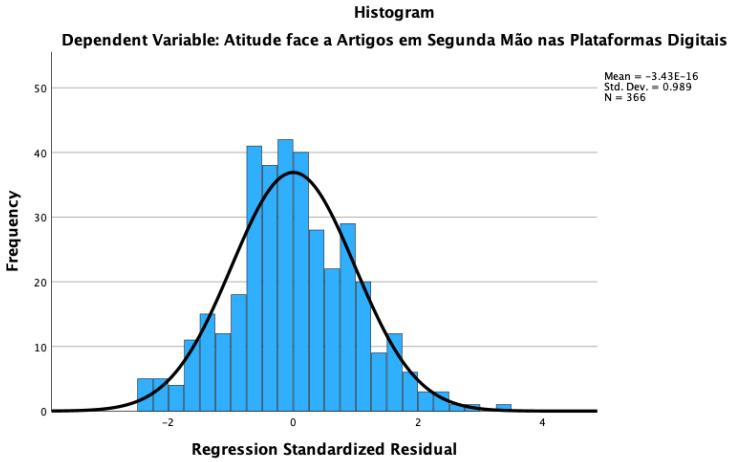
Appendix A. Assumptions of the First MLR.

Variables	N	Normality (1)		Error Independence (2)	Residuals Statistics (3)	Collinearity Statistics (4)	
		K-S	Sig.	Durbin-Watson (d)	Residual mean	Tolerance	VIF
(Constant)	366						
Perceived value	366	0,117	0,000			0,696	1,436
Gratification	366	0,120	0,000			0,608	1,646
Convenience	366	0,126	0,000			0,558	1,791
Ecological & Ethical awareness	366	0,135	0,000			0,767	1,304
Escaping the system	366	0,098	0,000	1,996	0,000	0,726	1,377
Nostalgic pleasure	366	0,089	0,000			0,702	1,425
Treasure hunting	366	0,162	0,000			0,824	1,213
Uniqueness	366	0,083	0,000			0,658	1,521
Attitude towards second-hand products on digital platforms	366	0,157	0,000				

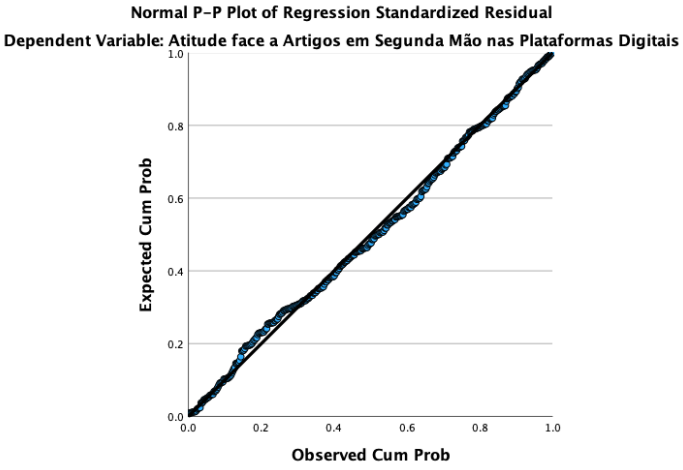
Predictors: (Constant), Perceived Value, Gratification, Convenience, Ecological & Ethical awareness, Escaping the system, Nostalgic pleasure, Treasure hunting, Uniqueness.
Dependent Variable: Attitude towards second-hand products on digital platforms.
A significance level of 5% (α=0,05) was considered (Mâroco, 2018).

As for the sample size, taking into account the rule, the number of observations must be at least 50+8*k (where k corresponds to the number of independent variables) (Pallant, 2016). In this case, N = 366 and 50+8*8 = 114. This confirms that 366 > 114.
(1) The results of the Kolmogorov-Smirnov (K-S) test indicate that none of the variables have a normal distribution ($p < 0.05$). However, the assumption of normality is considered valid in the light of the Central Limit Theorem (CLT). This theorem states that, in large samples (N = 366 > 30), the variables tend to approach a normal distribution, even when the initial data does not follow this distribution (Pallant, 2016).
(2) The Durbin-Watson test proved that the assumption of error independence (no autocorrelation) was validated, since the test values were close to 2 (d = 1.996).
(3) Regarding the assumption that all residual random variables have a null expected value, this is confirmed since the residual mean corresponds to 0.000.
(4) To test for the absence of multicollinearity, the Tolerance and VIF values were analysed, with all the independent variables having a Tolerance value of more than 0.1 and a VIF value of less than 10, satisfying the assumption.

Appendix B. Assumptions of the Normal Distribution of Errors of the First MRL.

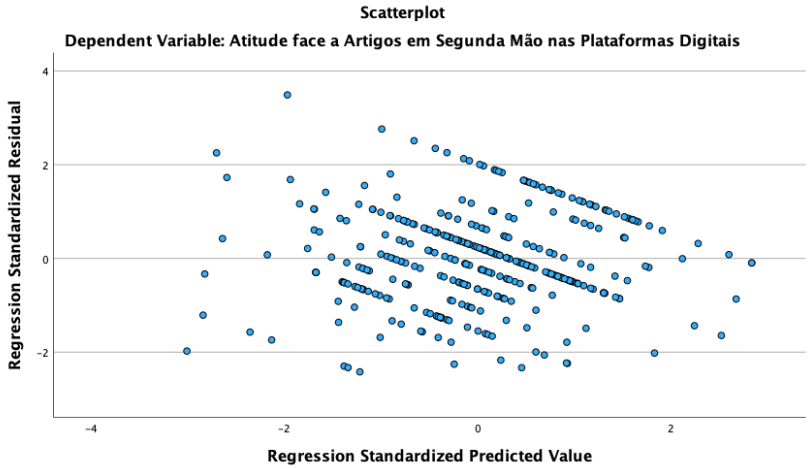


(1) The figure shown suggests that the data is (approximately) normally distributed, considering that the bars indicate that the frequencies of the errors generally follow the normal curve. However, the information was further analyzed using *Kolmogorov-Smirnov* test.



(5) With regard to the assumption of normality of the residuals, the graph shows that the errors are distributed along a main diagonal, thus satisfying the assumption.

Appendix C. Assumptions of the Homogeneity of the First MLR.



(6) As for the assumption of homogeneity of the variance of the residuals, by observing a pattern of constant variability around 0 and an approximately rectangular distribution, it was possible to satisfy the assumption.

Appendix D. Summary of the Results of the First MLR.

	Adjusted R^2	**ANOVA**			**Std. Error of the Estimate**	**Coefficients**			
		F	df	Sig.		Standardized Coefficients (β)	t	Sig.	Untandardized Coefficients (β)
(Constant)							2,637	0,009	0,644
Perceived value						0,275	5,429	<0,001	0,303
Gratification						0,038	0,695	0,487	0,043
Convenience						-0,024	-0,426	0,670	-0,024
Ecological & Ethical awareness	0,349	25,434	8	<0.001	0,56070	0,212	4,395	<0,001	0,200
Escaping the system						-0,013	-0,262	0,793	-0,010
Nostalgic pleasure						0,057	1,134	0,257	0,042
Treasure hunting						0,288	6,186	<0,001	0,232
Uniqueness						0,130	2,486	0,013	0,096
Attitude towards second-hand products on digital platforms									

Predictors: (Constant), Perceived Value, Gratification, Convenience, Ecological & Ethical awareness, Escaping the system, Nostalgic pleasure, Treasure hunting, Uniqueness.
Dependent Variable: Attitude towards second-hand products on digital platforms.
A significance level of 5% (α=0,05) was considered (Mâroco, 2018).

Appendix E. Assumptions of the Second MLR.

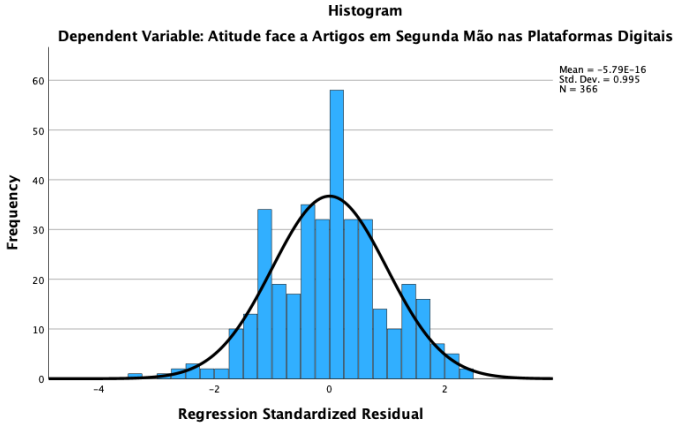
Variables	**N**	**Normality (1)**		**Error Independence (2)**	**Residuals Statistics (3)**	**Collinearity Statistics (4)**	
		K-S	Sig.	Durbin-Watson (d)	Residual mean	Tolerance	VIF
(Constant)	366						
Lack of security	366	0,089	0,000			0,635	1,575
Financial risk	366	0,122	0,000			0,715	1,399
Concern for quality	366	0,135	0,000			0,667	1,500
Social embarrassment	366	0,201	0,000	2,019	0,000	0,930	1,076
Attitude towards second-hand products on digital platforms	366	0,157	0,000				

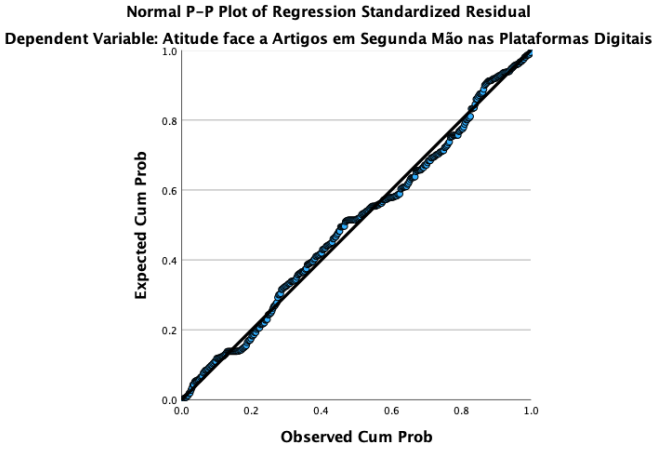
Predictors: (Constant), Falta de segurança, Risco financeiro, Preocupações com a qualidade, Constrangimento social.
Dependent Variable: Attitude towards second-hand products on digital platforms.
A significance level of 5% (α=0,05) was considered (Mâroco, 2018).

As for the sample size, taking into account the rule, the number of observations must be at least 50+8*k (where k corresponds to the number of independent variables) (Pallant, 2016). In this case, N = 366 and 50+8*4 = 82. This confirms that 366 > 182.
(1) The results of the Kolmogorov-Smirnov (K-S) test indicate that none of the variables have a normal distribution ($p < 0.05$). However, the assumption of normality is considered valid in the light of the Central Limit Theorem (CLT). This theorem states that, in large samples (N = 366 > 30), the variables tend to approach a normal distribution, even when the initial data does not follow this distribution (Pallant, 2016).
(2) The Durbin-Watson test proved that the assumption of error independence (no autocorrelation) was validated, since the test values were close to 2 (d = 2,019).

(3) Regarding the assumption that all residual random variables have a null expected value, this is confirmed since the residual mean corresponds to 0.000.
(4) To test for the absence of multicollinearity, the Tolerance and VIF values were analysed, with all the independent variables having a Tolerance value of more than 0.1 and a VIF value of less than 10, satisfying the assumption.

Appendix F. Assumptions of the Normal Distribution of Errors of the Second MLR.

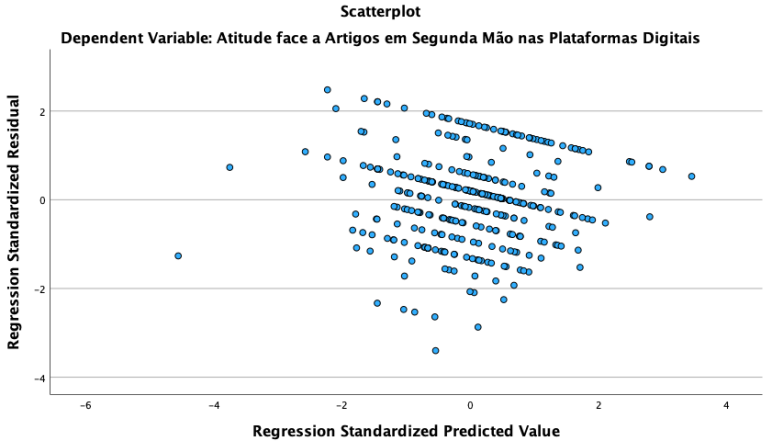




(1) The figure shown suggests that the data is (approximately) normally distributed, considering that the bars indicate that the frequencies of the errors generally follow the normal curve. However, the information was further analyzed using *Kolmogorov-Smirnov* test.

(5) With regard to the assumption of normality of the residuals, the graph shows that the errors are distributed along a main diagonal, thus satisfying the assumption.

Appendix G. Assumptions of the Homogeneity of the Second MLR.



(6) As for the assumption of homogeneity of the variance of the residuals, by observing a pattern of constant variability around 0 and an approximately rectangular distribution, it was possible to satisfy the assumption.

Appendix H. Summary of the Results of the Second MLR.

	Adjusted R^2	**ANOVA**			**Std. Error of the Estimate**	**Coefficients**			
		F	df	Sig.		Standardized Coefficients (β)	t	Sig.	Unstandardized Coefficients (β)
(Constant)							21,960	<0,001	4,251
Lack of security						-0,214	-3,426	<0,001	-0,178
Financial risk						0,257	4,374	<0.001	0,244
Concern for quality	0,097	10,753	4	<0.001	0,66041	-0,098	-1,605	0,109	-0,098
Social embarrassment						-0,180	-3,490	<0,001	-0,145
Attitude towards second-hand products on digital platforms									

Predictors: (Constant), Lack of security, Financial risk, Concern for quality, Social embarrassment.
Dependent Variable: Attitude towards second-hand products on digital platforms.
A significance level of 5% (α=0,05) was considered (Mâroco, 2018).

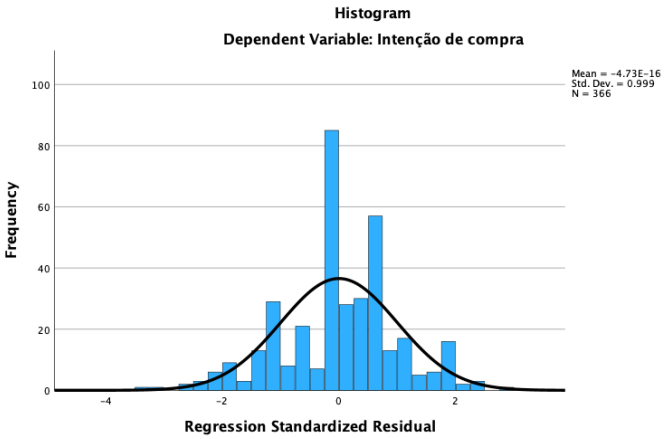
Appendix I. Assumptions of SLR.

Variables	N	Normality (1)		Error Independence (2)	Residuals Statistics (3)	Collinearity Statistics (4)	
		K-S	Sig.	Durbin-Watson (d)	Residual mean	Tolerance	VIF
(Constant)	366						
Attitude towards second-hand products on digital platforms	366	0,157	0,000	2,001	0,000	1,000	1,000
Purchase intention	366	0,271	0,000				

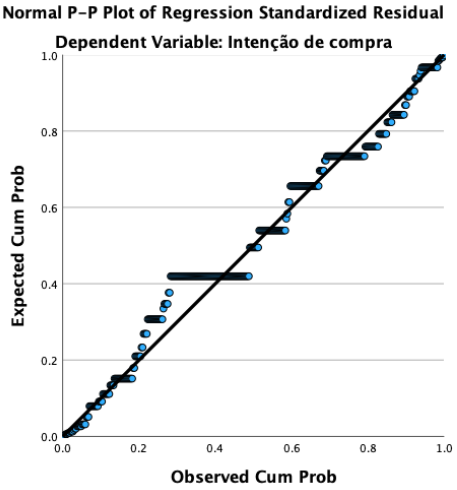
Predictors: (Constant), Attitude towards second-hand products on digital platforms.
Dependent Variable: Purchase intention.
A significance level of 5% (α=0,05) was considered (Mâroco, 2018).

As for the sample size, taking into account the rule, the number of observations must be at least 50+8*k (where k corresponds to the number of independent variables) (Pallant, 2016). In this case, N = 366 and 50+8*1 = 58. This confirms that 366 > 58.
(1) The results of the Kolmogorov-Smirnov (K-S) test indicate that none of the variables have a normal distribution ($p < 0.05$). However, the assumption of normality is considered valid in the light of the Central Limit Theorem (CLT). This theorem states that, in large samples (N = 366 > 30), the variables tend to approach a normal distribution, even when the initial data does not follow this distribution (Pallant, 2016).
(2) The Durbin-Watson test proved that the assumption of error independence (no autocorrelation) was validated, since the test values were close to 2 (d = 2,001).
(3) Regarding the assumption that all residual random variables have a null expected value, this is confirmed since the residual mean corresponds to 0.000.
(4) To test for the absence of multicollinearity, the Tolerance and VIF values were analysed, with all the independent variables having a Tolerance value of more than 0.1 and a VIF value of less than 10, satisfying the assumption.

Appendix J. Assumptions of the Normal Distribution of Errors of the SLR.

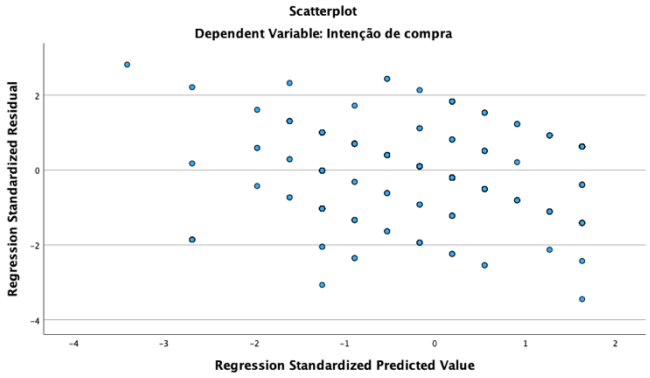


(1) The figure shown suggests that the data is (approximately) normally distributed, considering that the bars indicate that the frequencies of the errors generally follow the normal curve. However, the information was further analyzed using *Kolmogorov-Smirnov* test.



(5) With regard to the assumption of normality of the residuals, the graph shows that the errors are distributed along a main diagonal, thus satisfying the assumption.

Appendix K. Assumptions of the Homogeneity of the SLR.



(6) As for the assumption of homogeneity of the variance of the residuals, by observing a pattern of constant variability around 0 and an approximately rectangular distribution, it was possible to satisfy the assumption.

Appendix L. Summary of the Results of the SLR.

	R^2	ANOVA			Std. Error of the Estimate	Coefficients			
		F	df	Sig.		Standardized Coefficients (β)	t	Sig.	Unstandardized Coefficients (β)
(Constant)							11,871	<0,001	1,726
Attitude towards second-hand products on digital platforms	0,414	257,199	1	<0,001	0,49111	0,643	16,037	<0,001	0,593
Purchase intention									

Predictors: (Constant), Attitude towards second-hand products on digital platforms.
Dependent Variable: Purchase intention.
A significance level of 5% (α=0,05) was considered (Mâroco, 2018).