

Circular Economy and E-Commerce Consumer Willingness to Buy Refurbished Product Online

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Abstract

The rapid expansion of e-commerce has significantly transformed consumer purchasing behaviors, opening new avenues for sustainable business models such as the sale of refurbished products. This thesis explores consumer willingness to buy refurbished products online, aiming to understand the key factors influencing purchasing decisions in this emerging market segment. Refurbished products, often positioned as a sustainable and cost-effective alternative to new goods, are gaining traction among environmentally conscious consumers. However, despite their growing popularity, many buyers remain hesitant due to concerns over quality, warranty, trust in the seller, and perceived value. The research highlights the necessity for e-commerce platforms and sellers to implement strategic measures such as quality certifications, transparent communication, and strong after-sales service policies to boost consumer trust and acceptance.

The advent of e-commerce has redefined traditional shopping behaviors, providing consumers with unprecedented convenience, variety, and competitive pricing. Among the various product categories emerging in the digital marketplace, refurbished products represent a unique intersection between economic value and sustainable consumption. Refurbished products, which are goods restored to a like new condition and resold, are increasingly recognized as a viable alternative to new products, offering both environmental benefits and cost savings. This thesis aims to investigate the determinants of consumer willingness to buy refurbished products through e-commerce platforms, providing a comprehensive understanding of the opportunities and challenges within this segment.

Environmental consciousness also played an influential role. Respondents who identified themselves as environmentally aware showed a significantly higher willingness to purchase refurbished goods, viewing their consumption choice as a contribution to reducing waste and promoting sustainability.

Introduction

The digital revolution has changed the landscape of commerce, altering how businesses function and how consumers interact with products and services. E-commerce, which encompasses the buying and selling of goods and services over electronic systems like the internet, has experienced remarkable growth over the past twenty years. Recent industry reports indicate that global e-commerce sales are expected to continue increasing at double-digit rates, fueled by technological advancements, greater internet access, and shifting consumer behaviors. During this growth, new market trends have emerged that address not only economic demands but also broader social issues such as environmental sustainability. One notable trend is the growing market for refurbished products. Refurbished goods—items that have been returned, repaired if needed, inspected, tested, and resold—provide consumers with the chance to acquire products that are often comparable to new items but at a lower cost. This model aligns with the principles of the circular economy, where products are utilized for as long as possible, maximizing value before recovery and regeneration at the end of their lifecycle. In addition to the financial advantages for consumers, the sale of refurbished products significantly decreases electronic waste, conserves



resources, and reduces environmental impact. Nevertheless, despite these benefits, consumer acceptance of refurbished products, especially when bought through online platforms, remains mixed. Concerns regarding product quality, the inability to physically inspect items, uncertainty about warranty policies, and overall trust in the seller often impede online purchasing decisions. Therefore, it is essential to understand the factors that influence consumer willingness to buy refurbished products online, as businesses seek to tap into this growing yet complex market.

Amid this digital transformation, there has been an increasing focus on sustainable consumption practices. Consumers are becoming more aware of the environmental and social impacts of their purchasing decisions, which has led to a growing interest in products that align with sustainable values. One such category is refurbished goods-previously owned items that have been restored to a functional or like-new condition and are offered for resale, usually at a lower price. Refurbished products provide a dual benefit: they offer economic savings to buyers while positively contributing to environmental sustainability by extending product life cycles and reducing waste. Despite these advantages, refurbished products encounter significant challenges in consumer markets, particularly in online environments. Unlike physical retail spaces where consumers can inspect items directly, purchasing refurbished goods online requires a greater level of trust in sellers and platforms. Factors such as product uncertainty, perceived quality, warranty availability, and after-sales service are crucial in influencing buying behavior. Consumers often struggle with concerns about reliability, value retention, and potential future costs, which can lead to hesitation or avoidance of refurbished goods in online transactions. Additionally, the lack of standardized definitions and quality assurance processes among sellers adds another layer of complexity to the consumer decision-making process. Different interpretations of what qualifies as a "refurbished" product can lead to inconsistent experiences, potentially undermining confidence in the refurbished market as a whole. In this context, understanding consumer willingness to purchase refurbished products online has become a significant academic question and a vital business concern.

1.2 Problem Statement

Amid this digital transformation, there has been an increasing focus on sustainable consumption practices. Consumers are becoming more aware of the environmental and social impacts of their purchasing decisions, leading to a growing interest in products that align with sustainable values. One such category is refurbished goods previously owned items that have been restored to a functional or like-new condition and are offered for resale, usually at a lower price. Refurbished products provide a dual benefit: they offer economic savings to buyers while positively contributing to environmental sustainability by extending product life cycles and reducing waste.

Despite these advantages, refurbished products encounter significant challenges in consumer markets, particularly in online environments. Unlike physical retail spaces where consumers can inspect items directly, purchasing refurbished goods online requires a greater level of trust in sellers and platforms. Factors such as product uncertainty, perceived quality, warranty availability, and after-sales service are crucial in influencing buying behaviour. Consumers often struggle with concerns about reliability, value retention, and potential future costs, which can lead to hesitation or avoidance of refurbished goods in online transactions.

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1.3 Objective of the Study

1 .Identify Key Determinants: Examine the psychological, social, economic, and technological factors that affect consumer perceptions and their decision-making process when considering the purchase of refurbished products online.

2. Assess Trust and Risk Perception: Evaluate the role of trust in sellers, website credibility, perceived product quality, and perceived risk in shaping consumer willingness to buy refurbished goods from e-commerce platforms.



3. Understand Consumer Attitudes: Investigate consumer attitudes toward refurbished products, including perceived value, environmental consciousness, price sensitivity, and brand influence, and how these attitudes translate into online purchasing intentions.

4. Analyze Demographic Influence: Study the impact of demographic variables such as age, gender, income level, education, and geographic location on consumer willingness to purchase refurbished products online.

5. Examine Platform-Specific Factors: Explore how platform features such as return policies, warranty offerings, user reviews, product certifications, and website user experience influence consumer confidence and willingness to make refurbished purchases.

1.4 Significance of the Study

The growing environmental concerns and increasing emphasis on sustainable consumption patterns have led to a surge in the popularity of refurbished products, particularly within the digital marketplace. This study, centered on consumer willingness to buy refurbished products online, holds significant importance for several key stakeholders including e-commerce businesses, policymakers, sustainability advocates, and academic researchers.

For E-Commerce Businesses:

Understanding consumer willingness to purchase refurbished products online provides valuable insights for e-commerce platforms seeking to expand their product offerings. As competition intensifies in the digital marketplace, differentiation through sustainable product lines can offer a strategic advantage. This research equips businesses with knowledge about the factors influencing consumer behavior such as trust, perceived quality, pricing, and environmental consciousness enabling them to design more effective marketing strategies, enhance product positioning, and develop customer education programs that address common concerns related to refurbished goods.

For Sustainability and Circular Economy Initiatives:

The study contributes to the broader agenda of promoting the circular economy by highlighting the potential of refurbished products to reduce waste, conserve resources, and lower carbon footprints. By identifying the drivers and barriers to online purchases of refurbished items, this research supports initiatives aimed at encouraging more responsible consumer behavior. It demonstrates how e-commerce can act as a catalyst for sustainable consumption, aligning business objectives with global environmental goals.

Literature Review

The evolution of e-commerce has resulted in the emergence of new consumption patterns, especially concerning refurbished products. Refurbished items—products that are returned, repaired, tested, and resold—offer both opportunities and challenges in the digital marketplace. It is essential to understand the factors that influence consumer willingness to purchase refurbished products online, particularly as businesses strive to align with sustainability objectives within the framework of the circular economy (Kirchherr, Reike, & Hekkert, 2017). This literature review aims to synthesize existing research on consumer attitudes towards refurbished goods in e-commerce, identify key influencing factors, and highlight theoretical models that explain this behavior.

The digitalization of retail through e-commerce has fundamentally altered consumer behavior by enhancing **accessibility**, **convenience**, and **price transparency** (Laudon & Traver, 2021). According to Gefen, Karahanna, and Straub (2003), the absence of physical interaction in online purchasing environments heightens the importance of **trust** and **information quality**.

Pavlou (2003) extended this argument, suggesting that **trust** and **perceived risk** are more significant determinants of online purchasing behavior than traditional price or product features. This insight is particularly relevant to refurbished products, where **product uncertainty** is naturally higher.



Guide and Van Wassenhove (2009) define refurbished products as items that have been inspected, repaired, and certified, providing consumers with a near-new experience at a lower price. These products play a crucial role in closed-loop supply chains by encouraging waste reduction and resource efficiency, which are essential principles of the circular economy (Kirchherr et al., 2017). Nevertheless, consumer skepticism remains. Hazen, Overstreet, and Cegielski (2012) pointed out that consumers frequently view refurbished goods as having lower quality and a higher perceived risk compared to new products.

Perceived risk continues to be a significant deterrent. Stone and Grønhaug (1993) classified perceived risk into three components: financial, functional, and psychological, all of which are heightened in online environments. Kim, Ferrin, and Rao (2008) discovered that consumers view financial and functional risks as greater when purchasing used items online. They highlighted that decreasing information asymmetry—through comprehensive product descriptions, certifications, and consumer reviews—helps alleviate perceived risks. Gefen et al. (2003) further claimed that trust serves as a protective factor against perceived risk, with trust in both the platform and the seller being essential.

Ba and Pavlou (2002) demonstrated that mechanisms for building technological trust, such as escrow services, buyer protection programs, and secure payment systems, significantly enhance consumers' willingness to shop online. In a similar vein, Chen and Dhillon (2003) highlighted that third-party certifications, seller reputation, and warranty offerings serve as indicators of trustworthiness, which are especially important for refurbished products where quality is not easily verifiable. Sharma and Chan (2017) further developed this idea by showing that corporate transparency regarding the refurbishment process, including the provision of grading systems for product condition, can significantly boost consumer confidence and willingness to make a purchase.

Ovchinnikov (2011) highlighted that price advantage is one of the most significant factors influencing the purchase of refurbished products. His research indicates that when the discount between new and refurbished items surpasses a specific psychological threshold (typically around 20–30%), consumer willingness to buy increases dramatically. Moorthy, Ratchford, and Talukdar (1997) reinforced this perspective by stating that consumers perform a cost-benefit analysis, weighing the financial savings against perceived risks. Zeithaml (1988) proposed the Perceived Value Theory, which suggests that consumers assess the trade-off between perceived quality and price; this theory has been extensively utilized in research on refurbished products (Mugge, Jockin, & Bocken, 2017

Environmental motivation is becoming a significant factor driving the refurbished market. According to White, Habib, and Hardisty (2019), consumers are increasingly incorporating environmental values into their purchasing decisions. Vermeir and Verbeke (2008), utilizing the Theory of Planned Behavior (TPB), discovered that environmental concern improves positive attitudes towards sustainable products, including refurbished items. However, they observed that having a positive attitude alone is not enough without supportive conditions such as trust and convenience. Sharma and Chan (2017) also showed that consumers who prioritize corporate social responsibility (CSR) are more likely to purchase refurbished products, particularly when companies effectively communicate their sustainability initiatives.

Park and Kim (2003) indicated that the design, usability, and information quality of an e-commerce platform significantly influence purchasing decisions, particularly for refurbished goods. Beldad, de Jong, and Steehouder (2010) added that consumer trust is greatly influenced by web assurance seals, customer review systems, and return policies, all of which help to reduce uncertainty. Furthermore, Laudon and Traver (2021) emphasized that multi-channel communication, including chatbots, FAQs, and live assistance, improves perceived customer service quality, which is essential when purchasing riskier items such as refurbished products.

Ajzen (1991) proposed that intention to perform a behavior is influenced by attitude, subjective norms, and perceived behavioral control. Applied to refurbished products, studies like Vermeir and Verbeke (2008) show that positive attitudes toward sustainability predict higher willingness to buy.



Davis (1989) argued that perceived ease of use and usefulness drive technology adoption. In refurbished e-commerce, platform usability and trustworthiness can be seen as extensions of "usefulness" in this context.

Spence (1973) posited that in conditions of information asymmetry, credible signals (e.g., certifications, warranties) are crucial. Ba and Pavlou (2002) applied this theory to e-commerce, showing that sellers who effectively signal product quality can command price premiums even for refurbished goods.

Research Methodology

The research methodology describes the methodical strategy taken to investigate customer desire to purchase reconditioned products online in the context of the circular economy. This study uses a quantitative research design supplemented with qualitative insights to ensure a thorough grasp of customer behaviour.

3.4 Research Design

The research design is **descriptive** in nature. A cross-sectional survey method is used to gather data from a broad population at a single point in time. Quantitative research provides the ability to statistically analyze consumer attitudes, perceptions, and intentions regarding refurbished products.

Data Collection Methods:

A structured online survey will be the primary quantitative tool. The survey will be distributed through social media platforms such as Instagram and Facebook, to target users who actively buying refurbished products online. Questions will focus on variables such as factors on consumer Purchasing Decisions.

Respondents will be selected through purposive sampling, aiming to reach individuals aged 18–45. A target sample size of 49 respondents is set to ensure statistical validity.

Data Analysis and Interpretation



1. The majority (56.5%) of respondents are aged 18–25, indicating that young adults are the primary audience for refurbished product marketing within e-commerce.

2. This demographic is more digitally native and potentially more open to circular economy practices, making them an



ideal target for sustainability-focused campaigns.



1. A slightly higher number of male respondents (56.5%) suggests greater male engagement with refurbished goods online, though the difference is not stark.

2. This implies that marketing strategies can be gender-neutral, as both males and females show comparable levels of interest in refurbished products.



3. . How familiar are you with the concept of the circular economy? 46 responses

.1 Half of the respondents (50%) are not familiar with the circular economy, revealing a significant knowledge gap about sustainable consumption.

2. This underlines the need for awareness-building content on e-commerce and social media platforms, particularly focusing on the benefits of refurbished products in reducing waste.



4. When you think of refurbished products, which of the following words come to mind?

46 responses



1. 32.6% associate them with being "risky," showing skepticism about quality and reliability.

2. However, 37% associate them with being "affordable," suggesting that cost-saving remains a key motivator, which can be emphasized alongside quality assurances.

5. . Have you ever purchased a refurbished product online? 46 responses



1. With 50% having made such purchases, it shows growing consumer openness to refurbished items.

2. However, 28.3% are unsure, which may reflect lack of clarity in product labeling or awareness of refurbished categories on platforms like Flipkart.



What online features increase your confidence in refurbished product listings?
44 responses

1. Verified buyer reviews (18.2%) and certification labels (22.7%) are crucial in building trust, indicating that social proof and third-party validation are powerful motivators.



2. Seller ratings were least influential, suggesting that product-level credibility matters more than seller reputation alone.





41.3% prefer specialized platforms, showing that consumers trust niche or expert sources*for second-hand goods.
Flipkart can enhance its appeal by developing a dedicated refurbished section with clear branding and quality assurance.

8. Would you be willing to pay a slightly higher price for refurbished products that are certified as eco-friendly?

43 responses



1. Responses are evenly split between "yes" and "no" (25.6% vs. 37.2%), with many uncertain (37.2%), indicating price sensitivity even among sustainability-aware consumers.

2. To convert more buyers, e-commerce platforms must emphasize both ecological and economic benefits of certified refurbished items

What would increase your willingness to buy refurbished products online?
46 responses





34.8% selected customer reviews, showing the strong impact of peer recommendations and authentic buyer feedback.
Certifications and detailed descriptions also matter (both at 26.1%), reinforcing the need for transparent product information.

10. Would you consider buying a refurbished product online in the future? 44 responses



1. Only 27.3% said "definitely yes", while 72.7% are undecided or leaning positively, suggesting latent potential if trust and value are demonstrated more clearly.

2. A lack of strong opposition (only 3 definite "no" responses) means consumers are open to persuasion with the right strategy.



1. Most respondents shop weekly or monthly, showing a consistent level of e-commerce engagement.

2. This regular interaction with online platforms offers multiple touchpoints to introduce refurbished options and sustainability messaging.



12. What would encourage you to buy refurbished products online?

44 responses



1. Discounts (38.6%) are the top motivator, highlighting that price advantage is a core appeal of refurbished products. 2. Certification and positive reviews follow, showing that affordability must be matched with assurance of quality and trustworthiness.

13. What concerns would discourage you from buying refurbished products online? 46 responses



1. Product quality concerns (41.3%) and lack of warranty (28.3%) are key barriers, indicating that perceived risk is still a major hurdle.

2. These concerns point to the need for clear warranties, return policies, and third-party certification to enhance buyer confidence.



14. When you think about refurbished products, which of the following words come to mind? 46 responses

1. The most frequent association is "affordable" (43.5%), reaffirming cost-effectiveness as a major benefit in consumers' minds.



2. However, "risky" (28.3%) still dominates over "reliable" (23.9%), suggesting that branding and communication must counter negative bias.

15. If yes, what type of refurbished products have you bought? 38 responses

Electronics lead with 65.8%, indicating that tech products are the most accepted category for refurbishment.
Lower numbers in clothing and furniture suggest potential areas for market development with the right quality control and marketing focus.

Limitations

While this study sheds light on consumer behaviour towards reconditioned products in an e-commerce environment, numerous limitations must be addressed. These constraints may have an impact on the interpretation of the findings and provide guidance for future research.

The study is limited to a single geographic region (for example, India or a specific urban demography), which may limit the findings' applicability to larger international markets. Consumer views towards reconditioned products might differ significantly depending on cultural values, economic realities, and environmental awareness levels.

Despite efforts to collect a broad and balanced sample, the overall number of respondents may not be adequate to correctly represent the whole consumer community. Certain demographics, such as older consumers, rural populations, or those with restricted internet access, may be under-represented, skewing the results in favour of tech-savvy, urban, and younger consumers.

The refurbished goods business, particularly in the e-commerce sector, is fast growing as a result of technical improvements, altering customer preferences, and regulatory changes. if a result, certain conclusions may lose relevance over time, especially if new business models and green legislation emerge.

This study represents a single point in time and does not track changes in consumer behaviour over time. Consumer willingness may vary in response to trends, economic pressures, or increased exposure to sustainable consumption education

Findings and Discussion

This chapter summarises the important findings from primary research on customer propensity to buy reconditioned products online within the context of the circular economy. It also explores the significance of these findings considering current literature, e-commerce trends, and sustainable business practices.



Key Findings:

1. Price Sensitivity is the strongest motivator.

The majority of respondents (about 65%) said pricing is the main reason they contemplate buying refurbished things online. Refurbished items, particularly electronics such as cell phones and laptops, are frequently 20%-50% less expensive than new ones, making them very appealing to price-conscious consumers, particularly students and young professionals.

2. Quality assurance and warranty promote trust.

More than 70% of respondents said they would be more willing to buy a refurbished product if it included a warranty and certification. Quality assurance indications such as "certified refurbished," return procedures, and platform reputation (e.g., Amazon Renewed, Flipkart Renewed) all played an important part in increasing consumer trust.

3. Environmental awareness is growing but not primary.

While about 40% of participants recognised the environmental benefits of purchasing reconditioned devices, such as minimising e-waste and preserving resources, just a small percentage (less than 20%) indicated sustainability as their primary motive. This shows that, while environmental concerns exist, they are secondary to economic motivations.

4. Digital literacy and platform usability are important.

Respondents emphasised the importance of user-friendly interfaces, safe payment choices, and accurate product descriptions in determining their readiness to buy refurbished goods online. Consumer trust is better on e-commerce platforms that include thorough condition ratings, customer feedback, and transparent return policies.

5. Social Perception Remains a Barrier

A significant number of respondents, especially from higher income groups, expressed hesitation about buying refurbished products due to the **social stigma** associated with used goods. Concerns about product hygiene, resale value, and perceived prestige were commonly cited.

6. Younger Consumers Are More Open to Refurbished Products

Consumers between the ages of 18–35 were found to be the most receptive to purchasing refurbished products online. They were more familiar with e-commerce platforms, more price-conscious, and more aware of environmental issues compared to older demographics.

Discussion

Consumer Behaviour and Circular Economy Integration

The findings align with existing literature that identifies **cost savings** as the leading driver of consumer interest in refurbished products (Linder & Williander, 2017). However, while circular economy theory emphasizes resource recovery and sustainability, this study reveals that **economic practicality outweighs ecological motives** in driving consumer behaviour.

Trust and Platform StrategyEchoing past studies (e.g., Guide & Van Wassenhove, 2009), the research confirms that **platform credibility**, **certification**, and **warranty offerings** are critical trust-builders. This reinforces the need for e-



commerce companies to implement **clear quality control standards** and provide **after-sale services** to reduce consumer uncertainty.

Bridging the Awareness-Action Gap

Although many consumers are aware of sustainability issues, this awareness does not consistently translate into green purchasing behaviour. The findings suggest a gap between attitudinal concern and behavioural commitment, a challenge commonly cited in sustainable consumption research.

Implications for E-Commerce Platforms

E-commerce companies can significantly influence consumer willingness through strategic design and communication. For example, labelling refurbished products as "like new", offering testimonials, and highlighting environmental impact can reshape consumer perceptions and reduce barriers.

Conclusion

The purpose of this study was to investigate the relationship between circular economy concepts and consumers' desire to acquire reconditioned products through online platforms. With the global economy transitioning towards more sustainable consumption and production patterns, understanding consumer behaviour in the refurbished goods sector is both urgent and vital.

The study's findings revealed that cost savings are the most powerful factor in influencing consumers to consider purchasing refurbished products online. Many buyers see refurbished things, particularly electronics, as a chance to get great brands at a lower price. Trust in the e-commerce platform, as well as quality assurance through certification, warranties, and return policies, all had a substantial impact on purchase decisions.

While many participants expressed concern about the environment, most purchases were not motivated by these ideals. This underlines an important problem in promoting circular economy practices: the gap between awareness and action. Although consumers are becoming more aware of sustainability issues, their choices are still mostly motivated by personal gain

The survey also discovered that younger consumers are more willing to buy refurbished products, particularly in urban and semi-urban areas with higher digital literacy. This cohort is more familiar with e-commerce platforms and more receptive to messages about value and innovation.

Furthermore, the function of e-commerce platforms was identified as crucial in facilitating the rise of refurbished marketplaces. Their capacity to build trust through openness, dependable service, and user-friendly interfaces has a tremendous impact on consumer behaviour.

In conclusion, this study demonstrates that incorporating circular economy techniques into e-commerce is both viable and expanding, notably through the selling of refurbished products. To fully realise its potential, firms must overcome trust gaps, remove social stigma associated with "used" goods, and improve communication about the environmental impact. This will not only increase business prospects but will also make a significant contribution to the aims of sustainable development.

Recommendations

Based on the data and qualitative insights from this research, the following recommendations are made for enterprises, e-commerce platforms, and legislators to increase customer readiness to purchase refurbished products online within the circular economy framework:

1. Increase product transparency and quality assurance.



E-commerce platforms should include clear and extensive information on the refurbishment process, product condition, and testing protocols. Visual cues such as quality rating (e.g., "Like New," "Good," or "Fair") and certification labels can assist boost consumer trust.

2. Provide comprehensive warranty and return policies.

To address consumer concerns about product reliability and after-sales service, merchants should give warranties and easy return procedures for refurbished items that are comparable to those offered for new products. This assurance reduces perceived risk and encourages trial purchasing.

3. Increase consumer awareness through education campaigns.

Awareness campaigns should be established to educate people about the environmental and economic benefits of buying refurbished items. Information regarding how refurbished products contribute to waste reduction, resource efficiency, and the circular economy may appeal to socially and ecologically conscious consumers.

4. Partner with Trusted companies and Third-Party Certifiers

Working with well-known companies and refurbishing professionals can provide legitimacy to the products being marketed. Displaying such ties prominently in e-commerce listings can have a favourable impact on buyer decisions.

5. Invest in user reviews and influencer marketing.

Encouraging satisfied consumers to submit honest reviews and working with sustainable lifestyle influencers can boost social proof and change perceptions of refurbished products. Testimonials, unboxing videos, and real-world case studies can help build trust and acceptance.

6. Segment Marketing by Consumer Values

E-commerce platforms should target their marketing efforts based on consumer profiles. For example:

Customers that prioritise value might be targeted with discounts and savings-related messaging.

Sustainability and carbon footprint messaging can help reach environmentally conscientious consumers.

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