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The Role of Green Entrepreneurship in the Orientation Towards a Sustainable Circular Economy - European Recommerce Platforms Model

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Abstract: The importance of practicing responsible consumption to reduce waste as part of the Sustainable Development Goals (Goal 12) has emerged. This is achieved through extending the lifespan of products as part of the circular economy. As consumers sell used products to each other (C2C) in physical markets and online, the phenomenon of re-commerce emerges. Therefore, our study focused on the reality of reverse commerce platforms in Europe, which have gained significant popularity due to awareness of sustainability. Reviewing existing literature provided the basis for conducting an analytical study of the leading European platforms in this trade, such as Etsy, Vinted, and Back Market, and comparing them in terms of GMV. The study also contributes to understanding how adherence to practices imposed by green entrepreneurship as part of a circular economy system, where consumers are encouraged to engage in responsible consumption by extending product lifecycles, to reduce high costs, maintain reasonable selling prices, and manage waste.

Keywords: Green entrepreneurship, circular economy, sustainability, reverse commerce, digital platforms.

1. Introduction

The pace of the global pandemic (COVID-19) accelerated the momentum of the digital economy as a means to continue life, demonstrating the necessity of providing digital foundations to keep up with emergent and unforeseen developments and changes. Remote learning methods flourished, essential business transactions and meetings shifted to online platforms, and most segments of society became familiar with digital tools and how to utilize them in daily life, whether at the citizen level, in digital businesses, or in government operations. Consequently, the adoption of electronic management led to the development of various commercial activities, including e-commerce and digital marketing, facilitating many business operations. However, with shifting trends towards innovation, cost reduction, and a focus on profitability and brand awareness, an alternative commercial system known as reverse commerce or re-commerce emerged.

As people use various products to meet their needs and desires, often produced globally using diverse raw materials typically tailored for single-use, advocates of sustainable development urge producers to limit their

usage. However, due to relatively slow changes in production practices, a solution to this issue has been introduced through involving consumers in creating a sustainable consumption community. This behavioral shift from individual ownership to shared ownership of products is crucial in addressing sustainable consumption at the consumer level, helping them establish a closed loop of products that facilitate waste reduction and resource utilization.

On the other hand, humans exchanging used products without knowing their positive impact on the planet, where a product disliked and unused by one person may be cherished and useful to another, has led to a widespread flourishing of the used goods exchange movement. People now own online marketplaces for exchanging used products, and the proliferation of social media platforms makes this process more popular and interactive, facilitating business promotion by entrepreneurs. Thus, social media (SM) platforms have become famous sites for re-commerce, through social customer-to-customer (C2C) trading platforms for exchanging used products where both parties can interact to suit their specific exchange needs. Given that sustainable development is enhanced by sustainable management coupled with advanced enabling technologies supporting resource reuse, effective use of social media as an enabling technology in resource reuse is key to ensuring material circularity, potentially reducing all forms of negative externalities from raw material production and promoting a better, greener, and more circular economy. Therefore, this research contributes to understanding a selected model of re-commerce as part of the circular economy.

From this standpoint, the following main problem statement has been formulated:

How do green entrepreneurship solutions offered through reverse commerce platforms contribute to giving products a second life within the circular economy to achieve sustainable development?

And under the main problem statement, a set of sub-questions are categorized as follows:

- What do we mean by green entrepreneurship and the circular economy?
- Do reverse commerce platforms contribute to diversifying consumer business options?
- How can renewable used products contribute to sustainability?
- What is the reality of reverse commerce platforms in Europe in light of successful experiences with these digital platforms?

2. Method

2.1 Importance of the Study:

The significance of the study lies in addressing a highly important topic for both developed and developing countries alike. Green entrepreneurship today, through the establishment of innovative digital platforms and other sustainable green innovations, has become a key determinant for economic growth and sustainable development.

2.2 Study Objectives:

The study also aims to shed light on European reverse commerce platforms as a model for used products rather than new ones, by analyzing their current status across European countries and envisioning their future in the coming years.

2.3 Study Methodology:

In order to achieve the study objectives, an analytical-inductive methodology was adopted. This involved analyzing some financial data of European platforms for renewable products and highlighting the impact of green innovations, represented by intellectual capital, on creating diverse environmentally friendly business options to achieve a sustainable circular economy.

2.4 Study Structure:

To address the aforementioned issues, we have decided to divide this study into:

Introduction, Conclusion, and two main sections:

- Definition of green entrepreneurship and its relationship with the circular economy to achieve sustainability.
- The reality of European reverse commerce platforms as a model for green entrepreneurship.

3. Findings and Discussions

3.1 The Concept of entrepreneurship

In recent years, there has been significant interest in entrepreneurship, especially with the realization by many people of the significant contribution of small businesses to the economic growth of a country. This has been evident in the policies of developing countries and the tax incentives that encourage the planning and execution of these small businesses, which grow to become large commercial ventures. The term "entrepreneur" originated from the French word "entreprendre," which was first defined by the economist Richard Cantillon, rather than the French economist Jean-Baptiste Say, who coined the term "entrepreneur" in the nineteenth century (Louis Jacques, 2011).

Therefore, before delving into the concept of entrepreneurship, it is important to familiarize ourselves with some key concepts. Thus, we will begin this topic by defining some of these concepts as follows:

Business

Business is an integral part of modern society, characterized by organized and systematic activities aimed at earning profit and focusing on the endeavors of individuals working towards a common economic goal. Businesses improve people's living standards by providing better quality and a wide variety of goods and services at the right time and place. Additionally, they play a vital role in creating employment opportunities and livelihoods. This relies on a conducive business environment for its prosperity and poverty alleviation (Aremu & Adeyemi, 2011, pp. 201-202). Furthermore, businesses are considered an economic system where goods and services are exchanged based on their real value. This system requires various forms of investment and a sufficient number of customers to whom their products can be sold at a profit on a consistent basis (Kristen, 2009, pp. 25-26).

Entrepreneurship

As defined by Drucker, brought a new understanding to the field. Sharma and Chrisman (1999) identified two sets of ideas about the meaning of entrepreneurship. One set focused on project organization-related characteristics such as innovation, growth, and uniqueness. The other set concentrated on project organization outcomes such as value creation. To bring about purposeful and focused change in the economic potential of an enterprise, systematic innovation is essential, forming the very basis for entrepreneurial activities. Project organization is more than just systematic innovation; it's strategic. The head of the project organization department at the University of Pretoria's business school defined project organization as "a project that continually seeks growth and innovation and has strategic objectives." Outcalt (2001) concluded that three characteristics were included to varying degrees in the definition of project organization (ENTREPRENEURSHIP THEORY AND CREATIVITY, 2004):

Uncertainty and risk;

Complementary managerial efficiency;

Opportunistic creativity.

Based on the foregoing, project organization can be defined as the process of profiting from new, unique, and valuable sets of resources in an uncertain and ambiguous environment.

Digital Entrepreneurship:

In the digital age, the availability of appropriate levels of information and knowledge has become crucial for business success. Organizations need to adapt to survive and thrive amidst changing business domains, processes, and technologies in an increasingly complex environmental landscape (Mutaz M, Ramzi, & David Avison, 2008, p. 2).

Digital entrepreneurship involves creating an online business venture without the need to invest in physical spaces. This includes online training courses, e-commerce, blogs, YouTube channels, and technological solutions in general. It is an advanced trend that explains entrepreneurship, especially after the changes that have affected businesses and society through digital technologies. Some advantages of digital entrepreneurship include developing business activities, expanding businesses by starting new projects, improving business intelligence, and communicating with a large number of customers in less time, inventing new methods and technologies. Additionally, it can also transform traditional entrepreneurship into digital businesses to increase business density (Vineela, 2018, p. 442).

Green Entrepreneurship:

The term green entrepreneurship refers to a subset of entrepreneurship aimed at finding and implementing solutions to environmental problems and promoting social change to prevent environmental harm. It is a new business model that focuses on green entrepreneurs who have broader motives than just launching environmentally friendly products and services to a specialized or specific market. The goal is to improve the environmental systems of businesses and promote changes in business practices that impact the natural environment and society (at the level of business operations, production processes, and the products themselves). Green entrepreneurship also responds to the growing demand to end businesses that are environmentally degrading and the increasing willingness of consumers to pay the costs of reducing activities that negatively affect the environment. Thus, green project organizers seize business opportunities that lead to improving ecological sustainability (Saari & Sanna, 2019, p. 1).

E-commerce:

E-commerce emerged with the advent of the internet in the 1990s, and due to technological advancements and increased global integration, e-commerce is a subset of the digital economy. The Organization for E-conomic Cooperation and Development defines e-commerce as "the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for receiving orders or making offers. Goods or services are ordered through these methods, but final payment and delivery of goods and services do not necessarily occur online." Thus, it is an economic activity heavily reliant on the use of digital inputs, including digital technologies, digital infrastructure, digital services, and digital data. These are used by all producers and consumers, including governments, in their economic activities, whether the commercial transaction is e-commerce defined by the method of order, not by the characteristics of the goods or services sold, or by the payment method or delivery channel. Or offline commerce, national or cross-border (Unies, 2023, p. 9).

On the other hand, various practices of re-commerce have been observed for a long time in the exchange and resale of used products (electronics, clothing, furniture, books) in physical markets (street markets or shopping centers) and virtual markets (Amazon and Olx). George Colony provided a definition of re-commerce in 2005, stating that re-commerce, or reverse commerce, is the sale of previously owned, new, or used products, especially electronics or media such as books, through physical distribution channels or online to buyers who repair them if necessary, then reuse, recycle, or resell them (Arman, 2021, p. 14).

The following table illustrates the synonymous terms used for the concept of reverse commerce:

Terms Synonyms	The definition Equivalent term	The literature that has addressed this term	The number of relevant scholarly publications
Reverse logistics activities	Collection and inspection/separation, reuse, remanufacturing, recycling, redistribution, disposal.	(Alshamsi , Diabat 2015) (Bal , Satoglu 2018) (Fu, (Patrick) Qiang, Ke, & Huang, 2021) (Ogunmakinde, Sher, & Egbelakin, 2021)	3782
Reverse trade	The customer is the one who will request the purchase, meaning that the supply comes before the demand.	(Bal , Satoglu, 2018) (Chu Wen , Chen 2021) (Laskowski & Poszewiecki, 2015)	1
E-commerce re- commerce	It is the practice of buying and selling used goods on an e- commerce platform, such as Amazon, Flipkart, and others.	(Pahwa: 2020)	0
Customer to Customer (C2C) model	It allows customers to exchange goods or services and receive their money through fully or partially direct transactions, relying on intermediary companies.	(Joshi & Kumar, 2020) (Libai, Bolton, Bügel, & Ruyter, 2010) (Gruen, Osmonbekov, & Czaplewski, 2006) (Huynh, Le, Nguyen., & Tran, 2020)	14
Reverse market	Buyers post advertisements for products they want to purchase, and then sellers offer items for sale.	(Arora: Greenwald: Kannan: 3 Krishnan: 2007) (Pahwa: 2020)	1

The source: Prepared by the researchers based on the previous references.

Based on the synonymous concepts and terms for reverse commerce, it becomes clear that this term is relatively narrow, describing the sale of previously owned, refurbished, or recycled products through digital platforms in a circular economy context. Due to the limited availability of publications, I searched in the Scopus database and Google Scholar and found relevant publications.

According to the business model adopted, e-commerce comes in four main forms (SOULTANBEIEFF, 2016, p. 5):

B2C "Business to Consumer": This refers to e-commerce between individuals, where websites in this category can sell any goods or services. It also includes the sale of digital content such as music or video downloads on demand.

C2C "Consumer to Consumer": This involves e-commerce that occurs between individuals through platforms like eBay, Leboncoin, or PriceMinister, allowing consumers to list and sell their goods or services.

B2B "Business to Business": This occurs online between professionals, facilitating easier communication and transactions between companies through the internet or online sales portal. This makes buying and selling products or services between businesses more efficient overall.

B2G "Business to Government": This refers to e-commerce conducted between businesses and the government.

Circular Economy:

After the publication of the Club of Rome's report in 1972 titled "Limits to Growth" and the European Commission's report in 1976 titled "Jobs for Tomorrow," both of which were included in the concept of sustainable development officially introduced in the Brundtland Report in 1987, the concept of the circular economy evolved rapidly. Especially after the emergence of the C2C concept in the late 1980s, which contributed to the development of the circular economy concept. The term "Circular Economy" first appeared in 1990 in the book "Economics of Natural Resources and the Environment" by David W. Pearce and R. Kerry Turner. At the same time, the concept of "zero waste," which combats incineration and landfills, along with the emergence of the term "industrial ecology" in the late 1940s and reformulated in 1989 as "industrial symbiosis," also contributed. Additionally, Japan published the "Basic Law for Establishing a Recycling-Based Society" in 2000 as an international initiative by the Japanese government under the 3R initiative (Reduce, Reuse, Recycle). All these efforts and concepts developed before 2000 converge in the concept of the circular economy, which has now become a model for implementing the concept of sustainable development in the context of economic crises. To address the urgent need for efficient resource use, the principle of the circular economy took on a much broader scope in 2010, becoming the basis for a new political framework in resource management and partnership (Alain, 2013, p. 2). The circular economy consists of the following areas, as illustrated in the following figure:

Figure 01: Domains and Components of the Circular Economy



The source: (Alain, 2013, p. 4)

The figure above illustrates that the concept of the circular economy is based on a broad study of three areas comprising the following:

Production of goods and services and their supply: Sustainable provision of resources - whether renewable or non-renewable - ecological design of goods and services, development of industrial and regional ecology, and implementation of functional economy (using services instead of owning property).

Demand - Consumer behavior: Through responsible purchasing, proper use of products, reuse, and repair.

Waste management: Despite the responsible production and consumption that reduce waste generation as part of a prevention policy, waste management of the remaining waste must focus on promoting recycling.

3.2 The Role of Renewable Products in Achieving Sustainable Development:

The success of renewable products can be attributed to several factors, such as increased awareness of the need for environmental conservation, saving money, and consuming more responsibly and sustainably. Therefore, we generally find that renewal provides high-quality products at reasonable prices compared to new products. Additionally, warranties provided by sellers reassure consumers and allow them to make purchases with confidence. Hence, we distinguish between two main roles for these products as follows:

-Environmental Role:

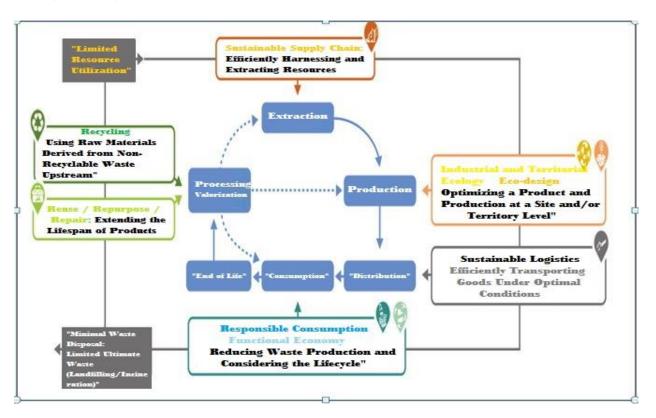
This is achieved by reducing waste; each product that is refurbished decreases the amount of waste in landfills. Thus, it represents a new way of consumption within the logic of sustainable development and environmental respect. For example, in France, the refurbished and recycled market has prevented the equivalent of several thousand tons of electronic waste in 2022.

Economic Role:

The role of refurbishment extends beyond the environmental or ecological role to encompass an economic role as well. By reintroducing high-quality products to the market at lower prices, refurbishment companies enable consumers to access these products. In the realm of cutting-edge technology, major players like Apple, Samsung, and Huawei engage in refurbishment, underscoring its significance in the electronics industry.

Despite the recent adoption of the circular economy concept, it now allows for a broader perspective on interconnected fields such as responsible production and supply of goods and services, responsible consumption, resorting to reuse and repair, recycling, material and energy regional management, and more. Therefore, circular economy at each stage of the lifecycle requires a set of conditions to be implemented at both corporate and regional levels. This is illustrated in the chart below:

Figure 02: Conditions for Implementing Circular Economy at Corporate and Regional Levels During Each Stage of the Life Cycle



Source: (ORÉE, 2015, p. 9)

The banana diagram shown above illustrates that each symbol represents an executable solution to ensure sustainable development from purchase to end-of-life. Figure 7 identifies seven areas of the circular economy through sustainable purchasing, ecological design, industrial and regional ecology, functional performance economy, responsible consumption, product longevity, and recycling.

Regional implementation acts as the link to disseminate locally-promoted circular economy solutions. In this regard, a model has been developed over several years by industrial and regional ecology, serving as an opportunity to create value by assessing local potentials and resources. This includes implementing aspects of synergy between exchange and replacement, accurately reflected in the model represented in the following figure.

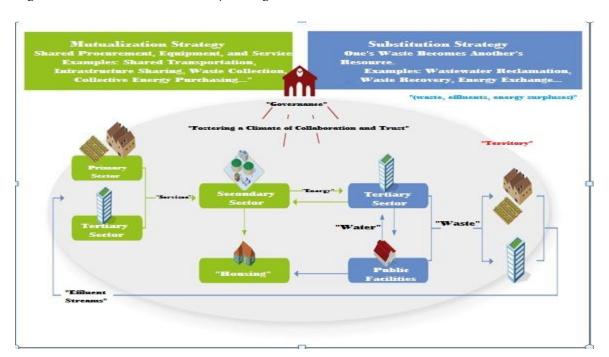


Figure 03: Local Circular Economy Strategies

Source: (ORÉE, 2015, p. 10)

The green color on the chart represents aggregation strategies (aggregating goods, resources, or services), making it possible to achieve economies of scale and mitigate the environmental impacts of economic activity. Meanwhile, the blue color represents alternative synergies (exchange of flows) in assessing external factors emanating from specific companies by other adjacent entities. It may also require interface activities to enable the evaluation of secondary products, develop products or services, and manage shared resources.

3.3The reality of European reverse commerce platforms as a model for sustainable green entrepreneurship:

European e-commerce enjoys widespread growth, particularly concentrated in France, where many e-merchants invest in this market to export their products and leverage their services. International development with regional growth facilitates accessibility, especially concerning delivery or pricing in currencies (the Euro as the currency of the European Union) on the other hand. Therefore, it is important to understand how Europe is evolving in terms of e-commerce and to identify the opportunities available for e-commerce platforms, especially those related to renewable (second-hand) products.

Evolution of the E-commerce Market Size in Europe:

The strength of e-commerce today is unprecedented, with consumers worldwide spending no less than \$2 trillion in 2019. In Europe, the spread of purchasing is primarily at a rate of 85%, slightly surpassing North America by 84%. As for e-commerce, record numbers are particularly concentrated in the United Kingdom, Denmark, and Germany, where the rate of online purchases exceeds 85%. Following them are France, Spain, Italy, and Portugal. Eastern Europe receives a smaller share of online shoppers, with Ukraine having only 22% of connected customers (Sansonetti, 2021).

Despite the relatively small size of the European continent, it remains one of the most important economic centers globally. Historically known for its robust manufacturing industries such as automotive, chemicals, and electronics, it has become a driving force in the global digital economy. Ecommerce has emerged as a key economic sector in most countries across Europe, with approximately 523 million active customers in 2022. Particularly in leading economies like Norway, the United Kingdom, Germany, and the Netherlands, e-commerce has witnessed penetration rates exceeding 80%. However, there are still many potentials to be tapped in smaller economies in the South and East, such as Greece, Portugal, and Poland. In 2022, 62% of consumers in Europe used online shopping channels. This is reflected in the revenues generated by e-commerce in Europe, especially after seeing the results illustrated in the following figure.

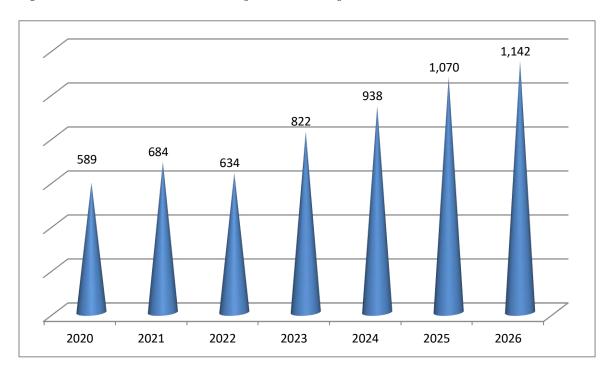


Figure 04: Revenue Generated and Expected for European E-Commerce 2020-2026

Source: Compiled by researchers based on (European eCommerce Market 2024, 2023)

The figure above indicates that Europe achieved a total of \$634 billion in e-commerce revenue in 2022, marking a decline of 7% from the previous year, which amounted to \$684 billion, following the challenging years of the pandemic. This makes Europe the third-largest e-commerce revenue generator globally, after China and the United States. The prevailing trend in European e-commerce already points to a sharp resurgence, with an expected increase of nearly 30% by 2023, and an estimated total market size exceeding \$1.1 trillion by 2026. This development aligns with an annual growth rate of 12% between 2022 and 2026.

Additionally, the Consumer Protection Organization has revealed that European consumers spend approximately €45 billion annually due to their inability to repair electronic products. Smartphones constituted 12% of the global electronic waste in 2021. Furthermore, 6% of online trade in consumer electronics was attributed to resale, and 5% through the sale of refurbished goods, making the market share of re-commerce 11%. Back Market's mission is to make refurbished electronics the preferred choice when purchasing tech devices, consistently emphasizing that refurbished items are more cost-effective and environmentally friendly than new ones. ReBuy is the leading provider of recycled consumer electronics and media content. Currently, there are approximately 40 re-commerce providers in German-speaking countries, ranging from specialists in sectors such as mobile communications or sports equipment to platforms with a wide range of products. They all share the fundamental idea of envisioning a waste-free e-commerce landscape, intelligently handling goods, and improving revenue management and related operations as a crucial step towards achieving this goal (eClear, 2023).

European Reverse Commerce Platforms: The Case of Etsy

Etsy platform plays a vital role in the world of online markets, unlike most leading online markets globally. It is not just a B2C market where commercial sellers offer their products. Rather, it is a peer-to-peer platform where creators sell and buy handmade products (such as crafts and used goods) digitally. The products offered range from vintage art and jewelry to fabrics, tools, clothing, toys, and photographs. The most notable feature of these products is that they share one characteristic: there is no specific factory for any of these products. Instead, creative individuals, amateurs, and professional artists are the sellers on this platform (Etsy, 2018). The following figure demonstrates the evolution of seller numbers on Etsy marketplace platforms in recent years:

Figure 05: Evolution of Sellers on Etsy Platform Compared to Other Platforms from 2012 to 2021

Source: Compiled by researchers based on (Statista, 2023)

The figure above illustrates a continuous increase in the number of active sellers on the Etsy platform compared to other platforms. The growth rate in the number of sellers exceeded 25% between 2013 and 2014, gradually slowing down in the following years to a growth rate of 9% in the number of sellers in 2019. In 2019, the number of sellers reached 2.1 million people who sold their artistic and craft products on Etsy. Additionally, Reverb*, a small marketplace owned by Etsy, added 162,000 sellers in 2019. Consequently, the numbers of sellers experienced a significant boost in 2020 and 2021 after an increase of 62%, with a total of 4.4 million products sold on Etsy and Reverb in 2020. Following the acquisition of Depop† and Elo7‡, the total number of sellers on Etsy platforms reached 7.5 million in 2021, equivalent to a 72% growth compared to 2020. Depop platform, in particular, contributed significantly with 2000 active sellers. This highlights the success of Etsy and its affiliated brands on one hand, and the strong growth of the platform on the other hand, in other metrics as well. Furthermore, in terms of GMV (Gross Merchandise Value) and revenues, Etsy is on the rise, with revenues and GMV growing by 35% and 31% respectively, with an increasing share coming from outside the United States. This positions Etsy to enhance its competitive advantage as a marketplace with a unique business model in the future.

†The description you provided refers to a platform for reselling fashion items.

*It is a platform or a version similar to Etsy but with a Brazilian flavor.

^{*} The description you provided refers to Reverb, an online marketplace specifically for musical instruments and equipment catering to musicians.

Reverse commerce serves as a model for achieving sustainability in the circular economy. With climate change and global warming becoming increasingly concerning, sustainability has become more important than ever, even in retail trade. As awareness of environmental issues grows, consumer consumption behaviors are changing. According to a survey conducted by Statista on global sustainable consumption, 51% of German consumers feel they can contribute to addressing environmental issues through their daily behavior. More than half of respondents are concerned about aspects such as eco-friendly packaging, animal welfare, or fair trade. Buying used items is also a way to reduce carbon footprint. About 52% of consumers are second-hand shoppers, with higher percentages observed in countries like France and the United Kingdom. Many consumers are therefore turning to sustainable resale, especially since buying used clothing alongside new items can be more beneficial. Additionally, renting may be more environmentally harmful due to the transportation involved in shared goods exchange. While online peer-to-peer platforms aim to offer a variety of fashion products to promote sustainability, they also increase logistical challenges for cleaning services.

Therefore, it's no wonder that the used e-commerce market is also thriving in Europe, as clearly evidenced in the following figure.

E-Commerce E-Commerce 857 В€ 14% 764 В€ 12% % 27 Recommerce Recommerce 120 94 В€ 2022 2025

Figure 06: Evolution of the European e-commerce market size from 2022 to 2025.

Source: Compiled by the researchers based on (ReCommerce marketplaces outperform the broader retail market., 2019)

According to the latest data published by Cross-Border Commerce Europe SPRL, the total European reCommerce market reached €94 billion in 2022. The increase in environmental awareness, coupled with consumer price sensitivity due to inflation, is expected to drive market growth by 2025, with the market size projected to reach €120 billion, representing a 27% increase. Additionally, the growing role of reCommerce in e-commerce overall indicates that the share of used e-commerce in the total online retail market will be 14% in 2025, up from 12% in 2021.

The following figure provides a comprehensive overview of some key players in the European reCommerce market and hints at the significance of the direction this trade is taking.

14 12.2 12.2 11.8 12 9.4 9.3 10 Esty 8 6.9 Vinted 6 4.8 4.7 Back Market 4 2.4 2 1.1

Figure 07: Total Value of Goods Sold for Leading European reCommerce Markets from 2019 to 2023 (in Billion Dollars)

Source: Compiled by researchers based on (Nadine, 2024), (Lynn, 2024), and (ECDB, 2022).

2022

2023

2021

0.5

2020

2019

0

The figure above highlights the interaction of three platforms in the market for selling used products: Etsy, Vinted, and Back Market. They are among the top 100 markets in Europe in terms of total GMV, owing to their significant growth rates in recent years, reaching a compound annual growth rate of 64% between 2019 and 2023. Vinted, a Lithuanian C2C platform focusing on used fashion, recorded the most substantial and consistent GMV growth, increasing by over 100% in 2020. Conversely, the old American craft platform Etsy also showed remarkable progress, nearly doubling its GMV between 2019 and 2020. Since then, growth has slowed, but the annual growth rate between 2019 and 2023 remains high at 30%. Additionally, Etsy boasts the highest total GMV among the three markets, generating a total of €10.3 billion in 2021. Back Market, a platform focusing on reselling refurbished electronics, is expected to grow by 44% annually between 2019 and 2023, generating an expected total GMV of €2.1 billion by 2023.

Conclusion

Through understanding the demographic composition of reverse commerce users, coupled with the trends driving revenue growth for sustainable commerce companies, it has become imperative to capitalize on the billion-dollar market. Especially in the aftermath of the global health crisis, which has created challenges in adapting to changing consumer behaviors in a world increasingly reliant on mobile devices. Our study has yielded the following results:

- Green entrepreneurship promotes the concept of a circular economy by minimizing waste and using resources efficiently.
- Green entrepreneurs prioritize creating products and services that are recyclable, reusable, or repurposable, shifting away from the traditional linear model of "take, make, dispose" to preserve valuable resources.
- Green entrepreneurship drives social change by offering innovative solutions to environmental
 challenges, prioritizing sustainability and social impact, thus creating a business landscape more
 environmentally conscious and socially aware.
- Green entrepreneurship changes consumer behavior and attitudes towards sustainability, posing a challenge for environmental entrepreneurs. Educating consumers about the environmental benefits of their products or services and raising awareness about the need for sustainable alternatives is crucial for the success of green projects.
- Reverse logistics or reverse commerce is the process of managing product returns and goods flow from the point of consumption to the point of origin, aiming to reduce waste and costs, improve customer satisfaction, and enhance sustainability.
- Reverse commerce platforms remove two major conversion barriers: fear of the unknown and fear of making mistakes, as consumers are willing to convert previously beloved and thoroughly tested products.
- Reverse commerce markets are characterized by their flexibility, allowing retailers a variety of options suitable for their brand and customers. This is evident in the differing approaches among major sellers such as Vinted, Back Market, and Etsy, recognized as top resale markets in Europe and America. Each platform has its distinct focus, with Etsy, for example, emphasizing handmade items, vintage goods, and craft supplies.
- Overall, the used e-commerce sector is a hot topic worthy of attention, with some brands such as the sportswear giant The North Face already planning to launch their own resale platforms.

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