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GREENING E-COMMERCE:
HOW E-COMMERCE CAN PROMOTE ENVIRONMENTAL RESPONSIBILITY[1]

The study is devoted to the progressive development of environmentally friendly electronic commerce, emphasizes the growing importance of environmental stability in the online rendil and the changing perception by consumers of social and environmental responsibility, including the contribution of generation Z to the development of green electronic commerce.

Keywords*: green e -commerce; stability; environmentally friendly consumer behavior; Generation Z.*

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РАЗВИТИЕ ЭКОЛОГИЧЕСКИХ АСПЕКТОВ ЭЛЕКТРОННОЙ ТОРГОВЛИ

В данной статье рассматривается развитие зеленой электронной коммерции. Рассмотрены основные тенденции развития зеленой электронной коммерции, проанализировано изменение восприятия потребителями экологического аспекта электронного потребления, а также вклад различных поколений в развитие зеленой электронной коммерции.

Ключевые слова: *зеленая электронная коммерция, поколение Z, экологичное потребительское поведение, стабильность.*

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E-commerce is a dynamic and innovative business field that offers many opportunities for entrepreneurs and consumers. According to studies, in 2023 the world market of e-commerce was supposed to reach 5.7 trillion dollars. And by 2040, 95% of all purchases will be made online [1].

Among the main trends in the development of e-commerce are the following:

– The development of niche marketplaces that offer specialized goods and services for a specific target audience;

– Increasing popularity of low-cost, i.e. reducing the cost of a product while retaining its key functions;

– The growth of the second hand sector, which meets the needs of conscious consumption and environmental responsibility;

– Video marketing, which allows demonstrating the benefits and characteristics of products in a dynamic and attractive format;

– The use of VR technologies that create a realistic and immersive shopping experience for consumers;

– Ethical consumption, which takes into account the social and environmental aspects of the production and distribution of goods;

– Selling through social media, which are becoming platforms for consumer interaction and direct product offerings.

Countries with the highest e-commerce revenue: China: 1.54 trillion dollars (1st place), USA: 875billion dollars (2nd place), Japan: 241 billion dollars (3rd place), Germany: 148 billion dollars (4th place), UK: 143 billion dollars (5th place)[1] [].

There are different views on which type of trade is environmentally preferable. It depends on many factors such as the scale of the transaction, the number of goods purchased, the percentage of returns, packaging, transportation and consumer behavior. According to some studies, e-commerce can reduce the overall carbon footprint by 30% compared to traditional retailing[2].

This is several reasons: e-commerce eliminates the need for customers to travel to physical stores, which reduces the carbon emissions associated with transportation; online retailers generally have smaller physical footprints and can operate more efficiently, using less energy for lighting, heating, and cooling compared to traditional stores; e-commerce relies on digital transactions, reducing the need for paper receipts and documentation, leading to less paper waste; online retailers often use packaging materials that are more efficient and can be recycled, reducing the amount of packaging waste generated compared to traditional stores; e-commerce businesses tend to have better inventory management systems, reducing the amount of excess inventory and minimizing waste.

However, other studies show that e-commerce can also create environmental issues such as increased demand for delivery, packaging and waste generation, which can increase carbon emissions, especially if consumers choose fast or express delivery options. In addition, the environmental impact of e-commerce and traditional commerce may vary depending on the type of goods, location of the seller and buyer, urban density and return rate. Therefore, both retailers and consumers need to take steps to make their choices more environmentally friendly, such as optimizing the supply chain, reducing packaging, choosing low-carbon transport and bundling goods together[3]. In the process of searching for a reasonable compromise between economic growth and preservation of natural wealth, the concept of green e-commerce emerged, involving the application of green economy principles to e-commerce.

Green e-commerce aims to minimize the environmental impact and includes strategies, practices, and technologies that promote sustainable and environmentally friendly business operations in the e-commerce sector. Key elements of green e-commerce include focusing on products that are sourced from environmentally responsible suppliers and using materials that meet certain environmental standards, implementing energy-efficient practices in e-commerce operations, such as optimizing transportation routes,

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using green data centers, and reducing energy consumption in warehouses, implementing strategies to reduce waste generation and improve recycling and reuse processes throughout the supply chain, reducing the carbon emissions associated with e-commerce activities; optimizing delivery routes.

In the pursuit of transforming into a sustainable green e-commerce enterprise, several strategic approaches and best practices can be adopted to minimize the environmental footprint. The following key steps should be duly considered and implemented [2-4]:

– consider providing eco-responsible products that are environmentally friendly, sustainable, and ethically sourced;

– to reduce the carbon footprint of shipments, it is advisable to implement environmentally friendly delivery methods such as using electric vehicles for transportation;

– using artificial intelligence and big data technologies to help customers quickly make the best possible choice. Research shows that 73% of returns can be eliminated by retailers themselves. To minimize returns, retailers can ensure that product descriptions, sizes, photos and other accompanying information are as accurate as possible. Online clothing retailers can use virtual fitting technology to help consumers make more accurate choices when making a purchase. If returns do occur, all too often these items simply end up in landfills. It's often cheaper for companies to simply throw the item away rather than try to resell it. To prevent this waste, online retailers can create resale or "recommerce" marketplaces that allow customers to purchase worn or returned items. Retailers can also sell returned and unsold items on liquidation marketplaces such as Bstock;

– avoiding rush delivery, e.g. same day/next day, in favour of standard delivery options can help reduce environmental impact;

– sustainable last-mile delivery options should also be favoured;

– opting for recyclable packaging materials and designing packaging that minimizes waste and environmental impact can also play a significant role in reducing environmental impact;

– offer customers the option to round up the purchase amount and allocate the extra amount to environmental or sustainability initiatives;

– transparently informing customers about the environmental impact of e-commerce can raise awareness and emphasise commitment to sustainability;

– minimize the use of paper in business transactions by going digital where possible, such as using electronic receipts and reducing paperwork;

– providing a dark mode option for an e-commerce website can save energy, especially for users who spend long periods of time on the site;

– it is important to prioritise green hosting solutions by choosing hosting services that use sustainable energy sources and prioritise environmental responsibility.

When determining the market share of green e-commerce, it is important to recognize that there is no clear and consistent definition of what constitutes a green or sustainable product, and different sources may use different criteria and indices. Nevertheless, various data sources and analysis methods can be used to determine the market share of the green e-commerce market. One possible way is to look at sales of products promoted in the sustainability market, that is, products that claim to have certain environmental or social benefits. According to a report by Circana and New York University's Stern Centre for Sustainable Business, sustainability-branded products accounted for 17.3% of purchases in 2022, up from 16.1% in 2019. This suggests that green e-commerce is growing faster than conventional e-commerce, which had a five-year compound annual growth rate of 4.98%, compared to 9.48% for sustainability-labelled goods [5].

Another possible avenue is to examine consumer preferences and behaviours related to green e-commerce. A survey of 6,000 consumers in North America, Europe and Asia found that 72% of respondents actively buy greener products. Another study by Shopify found that 40% of shoppers are willing to pay more for eco-friendly products during the holiday shopping season, and 43% are more willing to buy from brands with a commitment to sustainability. These findings indicate a high demand and willingness to pay for green e-commerce among consumers.

Indeed, to realise the concept of green e-commerce, it is necessary to involve not only businesses, but also to create socially and environmentally conscious consumers.

One way in which consumers can promote green commerce is to choose environmentally friendly products labelled as eco-friendly or made from recycled materials, as well as slower delivery options such as standard or economy shipping instead of expedited delivery. In addition, supporting local businesses can have a significant impact on e-commerce sustainability. It is important to exercise caution when making purchasing decisions to minimise the need for returns. Choosing reusable packaging also helps to minimise waste. In addition, consumers can offset the environmental impact of their purchases by participating in environmental initiatives offered by e-commerce platforms. Awareness of environmental practices and certifications such as Fairtrade, organic or FSC-certified is important to make informed purchasing decisions. By engaging with e-commerce companies and showing support for green practices, consumers can encourage them to adopt greener practices and contribute to a healthier and greener e-commerce sector.

Table 1 summarizes the contributions that sellers and consumers can make to the development of green e-commerce.

Numerous multinational corporations are increasingly emphasizing environmental concerns to align with consumer behavior (Table 2). And they can represent environmentally responsible products. They are considered as such, for example, by production methods, routing methods, and by the materials used.

Social media plays a significant role in the development of e-commerce.

Table 1. – How consumers and sellers can do green e-commerce

Consumer Perspective	Seller Perspective
Select environmentally friendly products	Provide eco-responsible products
Choose slower shipping options	Implement environmentally friendly delivery methods
Support local businesses	Use eco-friendly last-mile delivery options
Minimize returns by making informed purchasing decisions	Opt for recyclable packaging materials
Opt for reusable packaging choices	Offer round-up options for environmental causes
Offset environmental consequences of purchases	Transparently share environmental impact with customers
Stay informed about environmental practices and certifications	Minimize paper use by going digital
Advocate for sustainable practices with e-commerce companies	Provide dark mode option for website to conserve energy
	Choose green hosting solutions for sustainability

Source: Edited by author

Table 2. – List of green company and brands

UHU	UHU offers its ReNATURE program, which involves testing the packaging and manufacturing materials of its products. Through this initiative, the brand now uses 98% natural ingredients in the production of glue sticks and reduces fossil fuel consumption by 48-45%.
Lavera	This brand offers natural and organic cosmetics and uses only 100% green electricity. It prefers local products in the production process, has a reforestation program with ClimatePartner, and offers vegan products, leading to its inclusion in the PETA positive list.
PAPSTAR	The company offers disposable products made from 100% renewable materials through its PAPSTAR pure line. Additionally, the company reuses packaging boxes after shipment and benefits from eco neutral shipping in partnership with logistics provider DPD.
Nike	An American multinational corporation，Nike passionately champions a product line crafted from environmentally friendly materials, like recycled polyester. Additionally, they're harnessing renewable energy in manufacturing, showcasing a commitment to the planet.[5]
Apple	Apple has launched several wind and solar farms. These green powerhouses energetically fuel their data centers, retail stores, and corporate offices. Transitioning to renewable energy, they set a high bar for environmental responsibility in the tech world.

Source: Edited by author
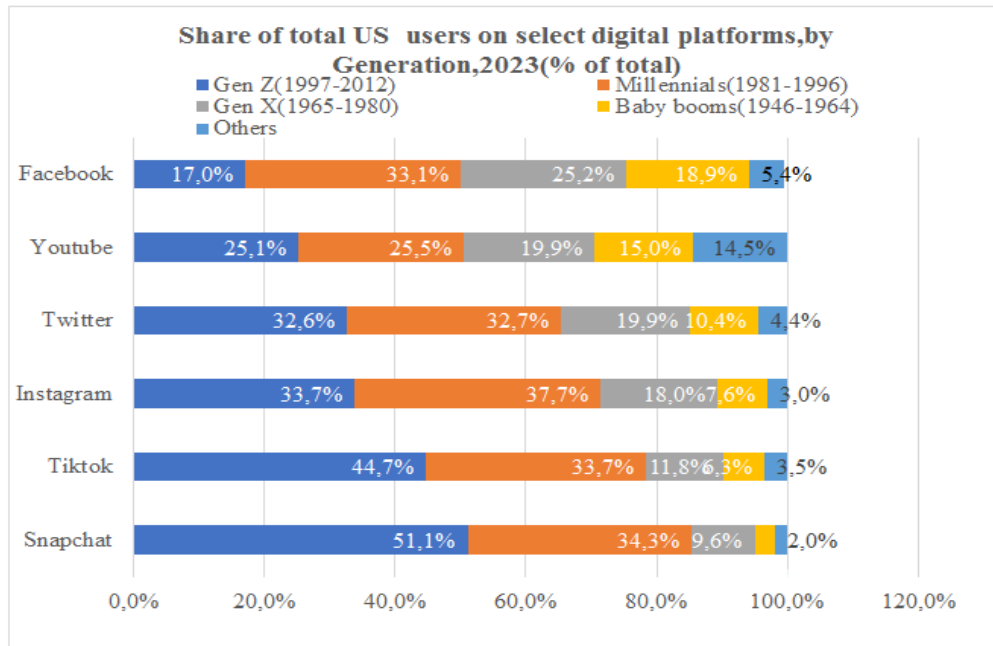
Finger 1. – Share of total US users on select digital platforms, by Generation, 2023(% of total)
Source: [7]

About 87% of consumers do research before making an e-purchase. Of these, about 74% turn to social media platforms to find the best shopping options available to them. The influence of social media is most prominent among the younger demographic. Approximately 50% of social media users between the ages of 18 and 34 make a purchase through these platforms at some point in their lives.

Figure 1 provides a snapshot of how different generations in the US use digital platforms.

As Figure 1 shows, Millennials and Generation Z make up the majority of online shoppers while using social media.

When it comes to discovering new products, millennials love social media and 72% of them are influenced by personalised advertising, with one in three making a purchase after watching a YouTube ad or video. In addition, most millennials use search engines to find products as well. And for Generation Z, their favourite platforms for finding products and shopping are Instagram and TikTok.

Millennials are the largest segment of the population and are projected to spend around $2.5 trillion globally, while Generation Z has $360 billion in purchasing power, according to Bloomberg. However, it is interesting to note that 70% of Generation Z parents ask their ad-

vice before making a particular purchase, from electronics to clothing[1].

Their influence is significant and highlights the need to incorporate Gen Z preferences into e-commerce marketing strategies. Regarded as the initial social group raised with Internet access and portable digital devices since childhood, they are commonly labeled as «digital natives». Distinguished by their remarkable racial and ethnic diversity compared to earlier generations, Generation Z is anticipated to become the most educated group to date.

Here are some additional characteristics of Generation Z [6] that may explain why they use e-commerce more often than older generations:

– They are pragmatic and ambitious, which means they look for the best deals and discounts online, as well as opportunities to earn extra money through online platforms. It also matters that the consumer becomes a creator, influencer and seller at the same time.

– They love travelling, which increases their demand for online booking services, travel ac-

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[1] Millennials and Gen Z ecommerce shopping preferences: essential insights you need to know. [online] eLogy. Available at: https://elogy.io/en/millennials-and-gen-z-ecommerce-shopping-preferences-essential-insights-you-need-to-know/

cessories and products from different cultures and regions.

– They favour convenience and security, so they prefer online shopping over the stress and hassle of physical shops.

– They set communication boundaries, so they seek to personalize and customize their online experience, and respect privacy and protect personal data.

– Are interested in online gaming platforms, virtual reality and digital entertainment.

– Use social media in unique ways that influence their purchasing behavior through social commerce, influencer marketing and feedback from other users.

In addition, recent research shows that Generation Z is more likely to support green shopping principles than older generations. Generation Z is also influencing other generations to make greener purchasing decisions. They are more informed about the environmental and social impacts of their consumption. For example, according to a study by NIQ, a global leader in consumer business intelligence, activism is at the heart of Generation Z's consumption[1]. Generation Z isn't afraid to reject brands and retailers that don't meet their standards and ideals. NIQ data shows that Generation Z is more likely to buy products from a particular company if it designs goods responsibly and sustainably. The new NIQ data confirms that the top three concerns of Generation Z are animal welfare, climate change and air pollution. Another study found that 90 % of Generation Z consumers surveyed said they have made changes to their daily lives to become more eco-friendly, with greener fashion playing a major role in this [7].

According to First Insight research 62% of Generation Z survey participants prefer to buy from eco-friendly brands, on par with Millennials.

73% of Gen Z are willing to pay more for eco-friendly products - compared to 68% of millennials, 55% of Gen X and 42% of baby boomers. 54% of Gen Z are willing to spend 10% more on organic products[2].

In conclusion, the development of green e-commerce is critical to promoting environmental responsibility in the digital marketplace. Key elements such as sustainable sourcing, green packaging and energy-efficient operations are essential for businesses to minimise their environmental impact. Green e-commerce service providers' strategic approaches that minimise environmental impact play an important role in the development of the industry and encourage consumers to make environmentally responsible choices. In addition, the adoption of green shopping practices by Generation Z consumers, who are more e-commerce inclined and committed to sustainability, indicates a promising future for the growth of green e-commerce.

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