JEL Classification Codes: F64, L81, Q01, Q50

EXPLORING GREEN E-COMMERCE:
PRACTICES AND CHALLENGES IN SUSTAINABILITY

Nariman Suleymanov

Azerbaijan State University of Economics (UNEC)

Zagatala Branch of UNEC, III years

Abstract

As the digital economy continues to flourish e-commerce has become a crucial tool for businesses globally. However, the rapid rise has also sparked concerns about its environmental impact. Green e-commerce provides a solution to these concerns by harmonising economic growth with environmental preservation. This article presents an exploration of green e-commerce, covering its methods and obstacles. While green e-commerce brings numerous benefits it also has negatives such as packaging waste and higher delivery demand. But a particular behaviour is more damaging and does more harm than others: having eco-friendly claims while doing the opposite, a practice known as "greenwashing." This problem negatively impacts any businesses who would like to go green because greenwashing fosters mistrust among consumers.

Key words: *E-commerce, green e-commerce, greenwashing, sustainability, eco-friendly*

Xülasə

Rəqəmsal iqtisadiyyat inkişaf etdikcə, e-ticarət qlobal miqyaslı bizneslər üçün mühüm alətə çevrildi. Baxmayaraq ki, sürətli artım onun ətraf mühitə təsirləri ilə bağlı narahatlıqlara da səbəb olub. Yaşıl e-ticarət iqtisadi artımı ətraf mühitin qorunması ilə uyğunlaşdırmaqla bu narahatlıqların həllini təmin edir. Bu məqalə yaşıl e-ticarət üçün tətbiq metodları və yaratdığı maneələr haqda nəzəri araşdırmanı təqdim edir. Yaşıl e-ticarət bir çox faydalı tərəfləri ilə yanaşı qablaşdırma tullantıları və daha yüksək çatdırılma tələbi kimi mənfi cəhətləri də mövcuddur. Ancaq bir xüsusi davranış var ki, digərlərindən daha zərərlidir: "Qrinvoşinq (yaşılyuma)" - əksini etməyinə baxmayaraq ekoloji cəhətdən təmiz olduğu iddialarını irəli sürmək. Bu problem ekoloji cəhətdən təmiz olmaq istəyən bütün müəssisələrə mənfi təsir göstərir, çünki "qrinvoşinq" nəticədə istehlakçılar arasında inamsızlığa gətirib çıxarır.

Açar sözlər: E-ticarət, yaşıl e-ticarət, qrinvoşinq, davamlılıq, ekoloji cəhətdən təmiz

Introduction

With the increase in the digital economy worldwide, many businesses adopt electronic commerce to keep up with the age. Amidst this competitive scene, sustainability practices intersect offering both opportunities and complexities. E-commerce operates in different types of market segments and can be conducted over any smart devices. The increase in online shopping, propelled by technological advancements and easy accessibility has changed consumer behaviours and business models. With today's global ecological position there is a necessity to pursue greener alternatives. This transition endeavour encompasses economic, social, and environmental dimensions. It includes eco-friendly consumption patterns, reducing carbon emissions and educating consumers. At its core, green e-commerce seeks to harmonise economic prosperity with environmental preservation and striving for a compromised relationship between commerce and mother nature. This article embarks on a comprehensive exploration of green e-commerce, delving into its practices and the challenges that come with this practice.
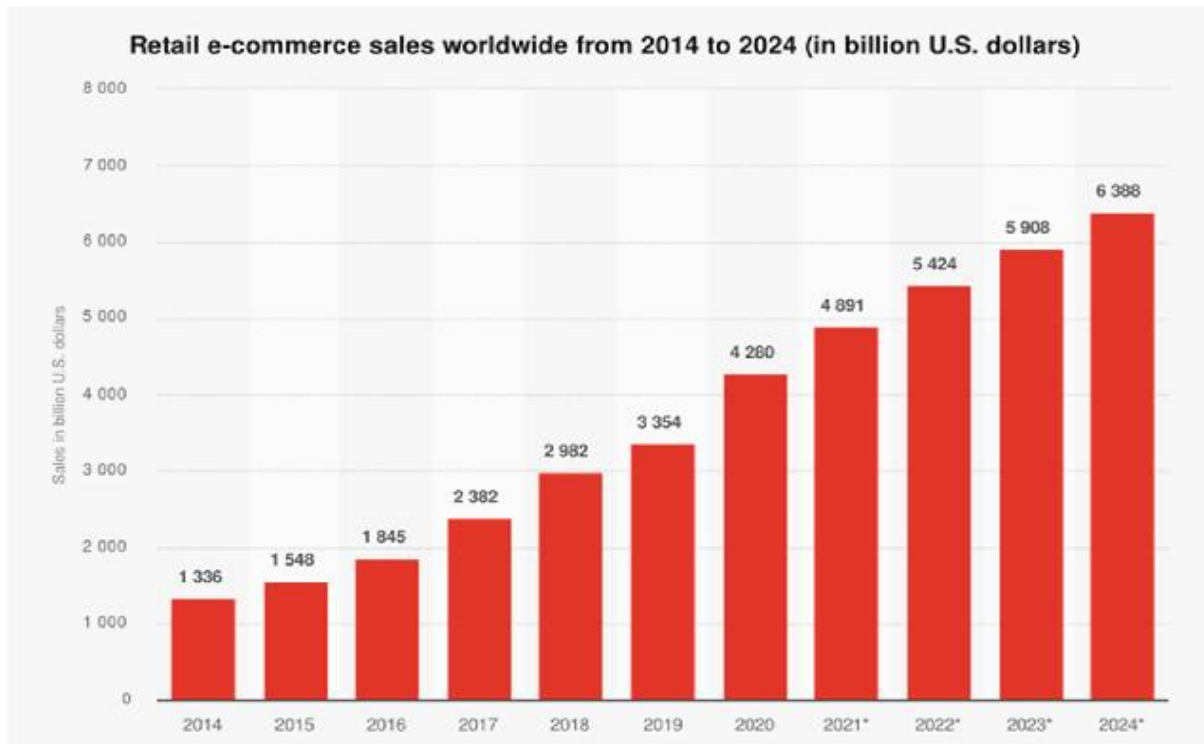
In conclusion, sustainability in e-commerce is not merely a moral imperative but an economic and environmental necessity. As the digital economy grows, ecological preservation becomes ever more pressing. This paper endeavours to illuminate pathways towards a more sustainable future.

What is E-Commerce?

E-commerce is about setting your business on the Internet, allowing visitors to access your website, and go through a virtual catalogue of your products/services online. When a visitor wants to buy something he/she likes, they merely "add" it to their virtual shopping basket. Items in the virtual shopping basket can be added or deleted, and when you're all set to checkout, you head to the virtual checkout counter, which has your complete total, and that will ask you for your name, address etc. and method of payment (usually via credit card). Once you have entered all this information (which by the way is being transmitted securely) you can then just wait for delivery. (Goel 2008: 5)

Nearly every imaginable product and service is available through e-commerce. E-commerce has changed the way people shop and consume products and services. More people are turning to order goods that can easily be delivered to their homes. From 2014 to 2024 it is evident that this trend shows no signs of abating in the near future (Fig.1).(Anh, Hue 2023: 99) This phenomenon is also observable in Azerbaijan. Both local enterprises such as Umico and international e-commerce platforms like Trendyol and AliExpress.

Fig 1 - Retail e-commerce sale worldwide from 2014 to 2024

Retail e-commerce sales worldwide from 2014 to 2024 (in billion U.S. dollars)

Source: www.researchgate.net

Businesses involved in e-commerce can take various forms. Each with its own characteristics and operational models. Here are some common types:

Brick and Mortar Business - which is an old fashioned way of performing business. They sell physical products with physical delivery agents. A brick and mortar business requires large amounts of capital for start-up and fixed costs of operations are significant

Click and Mortar Business - Organizations that conduct some of their business activities online but do their primary business in the physical world. Retailers get the most benefit when they leverage the benefits of their physical presence and the benefits of their online presence

Virtual business - an Internet-only business. Virtual organisations do not have any tie to a virtual business and have low barriers to entry into the web market.

E-marketplaces - An online electronic market where buyers and sellers meet to exchange goods, services, money, or information. They are commonly classified on the basis of their ownership. (Manzoor 2010: 10)

The environmental impacts of E-Commerce

While these platforms offer advantages like convenience and increased selection they also present significant drawbacks. A study by the World Economic Forum predicts that in major cities,

carbon emissions from e-commerce deliveries could reach around 25 million metric tons of CO2 by 2030. This projected increase in carbon footprint poses a significant environmental threat in the long run. To address this issue there are global initiatives such as "2030 Breakthroughs". As well as more localised projects like "Azerbaijan 2030: National Priorities for Socio-Economic Development". While there are many topics to consider, this paper will focus specifically on the concept of eco-friendly e-commerce.

What is Green E-Commerce?

A business runs in a capacity where no negative externality is there on the local as well as global environment, the community, or the economy. Green e-commerce will also engage in forward-thinking activities for environmental factors and activities affecting human rights. (Shaina 2019: 207)

Green e-commerce includes all activities carried out to conduct and facilitate all online transactions aimed at satisfying human needs and desires with minimal harmful impact on the environment. (Semerádová, Weinlich 2022: 26) As previously mentioned governments and organisations endeavour to raise awareness of these trends. Each year a growing number of individuals lean towards adopting greener approaches in society. Some companies integrate green e-commerce practices into their business to fight against environmental problems. These practices not only attract attention from customers but also reduce costs and increase sustainability. Many businesses have the potential to adopt these practices.

Advantages of Green E-Commerce
Social Impact

The Green Generation report shows that some e-customers are willing to wait longer for the delivery, if it is due to the e-store's care for greener delivery, and to pay extra for foil-free packaging. Some customers go further with their expectations and always demand green or sustainable e-commerce shopping. (Oláh və b. 2019: 89) According to a 2019 study - 81% of respondents expressed intentions to purchase more environmentally-friendly products over the next five years. The research of IBM Institute indicates that not only consumers but also 71% of employees show a preference for green companies with nearly half of those surveyed willing to accept a lower salary to work for such organisations. With the increase in conscious consumerism people prefer green businesses. Some enterprises even base their entire business models around this concept. This kind of positive PR can enable businesses to capitalise on this shift to have an impact both economically and environmentally.

Economical Benefits

Results of Forbes survey, while the primary focus of green e-commerce is environmental it also offers significant economic benefits to businesses. Positive image associated with sustainability is one factor. A study found that 90% of adults are willing to spend an extra 10% for green options. Moreover, green products not only increase revenue but also reduce costs. For instance, some countries offer tax reductions for businesses transitioning to more sustainable options. Additionally, 33% of businesses utilise sustainability strategies to enhance efficiency. Undoubtedly, green logistics can increase customer satisfaction, but also loyalty to the retailer (Kawa 2019: 49)

Disadvantage of Green E-Commerce

Packaging

While e-commerce often presents a more sustainable option compared to traditional commerce in many aspects this is not the case when it comes to packaging. Products are typically packaged using materials such as plastic bags, cardboard and other materials that lead to significantly more packaging waste in e-commerce compared to traditional commerce. E-commerce generates 4.8 times more packaging waste.(Kim və b. 2022: 2) Furthermore, many of these materials end up in landfills or incinerated. Both of which cause environmental damage.

Shipping

With the rapid growth of the e-commerce industry the demand for delivery and shipping services has grown simultaneously. It predicted that from 2019 to 2030 the amount of delivery vehicles will increase 5.3 to 7.2 million, the demand for last-mile delivery is expected to grow 78% worldwide. This delivery activity adds an additional 11 minutes of commute time for each passenger every day. In this highly competitive scene many companies are unwilling to fall behind. They offer same-day delivery options which only increase this high number problem.

General challenges

As I previously mentioned, green e-commerce can indeed lead to cost reductions in many ways but It require great planning. Adopting energy-efficient practices can be more expensive in many ways. For instance, EVs can be expensive for newly established companies. Another problem that can occur based on this is logistic challenges. Ensuring fast and good customer satisfaction requires good logistic transportation and warehousing. It's evident that it doesn't matter if a company is starting new or aiming to transition towards eco-friendliness, good planning is must have. Additionally even if a company adopts green practices, its products or services must align with eco-friendly principles. Offering products that are not eco-friendly or cause harm to the environment can result in distrust and negatively impact the brand image.

Greenwashing

What is greenwashing?

The term "greenwashing" or "eco-washing" is somewhat broad and can carry different meanings in various academic contexts. In essence, it refers to a form of misleading advertisement to promote the product's, goals, or policies of an organisation and thus increase the aggregate benefits of the product. (Ryding və b. 2023: 86) Put simply, it's an action that could mislead consumers into believing a company or their products are eco-friendly and greener but in reality, it's a slight exaggeration or a full fabricated lie. Companies use these unethical tactics because it grants all the benefits associated with green e-commerce without facing any of the associated downsides.

Fallacies of Greenwashing

Greenwashing companies use various methods and tactics, all of which ultimately aim to mislead consumers. At the same time, there are various methods to fight against these misleading practices and identify these deceptive practices. Yet there are some practices that misuse environmental labels for misleading actions. For example, the label "100% natural" may sound environmentally friendly, but it can actually signify the polar opposite. This label doesn't guarantee that the product is free from CO_2 emissions or that it's not harmful to the environment. For instance, if the product is made from wood sourced from unsustainable logging practices, it could contribute to environmental damage. On the other hand, some labels may have positive connotations but lack relevance. For instance, "Free of CFCs/HCFCs" labels implies environmental friendliness because these substances are known to deplete the ozone layer. However, their use was globally banned according to the international treaty of the Montreal Protocol. Today, CFCs are outlawed by almost all countries around the world, and HCFCs were mostly stopped producing in 2020, with a complete phase-out by 2030. In short, this label has no meaning, and using these labels is as relevant as putting "not any giraffe hurt in making this product" on a crayon pencil. Informing people on how to identify greenwashing activities over the internet and the development, through government and green activist certification, of "eco-labels" (e.g., EcoLogo, Green Seal) on product packaging, guarantees consumers that products tagged with these labels are trustworthy supporters of helping the environment. This assures consumers that the products they are buying are environmentally friendly throughout their entire product lifecycle. (Paetzold 2010: 44) Labels are good for creating a first impression from a brand but at the same time they are bad for intentionally misleading some consumers. Another popular misleading tactic is using irrelevant statistics. Saying "Y product is 50% more environmentally friendly than X product" is not a trustworthy statistic if it's not explained in detail. Putting a "100% biodegradable" label is easy, but companies have to prove it. Regulations against greenwashing exist, such as the European Union's Directives 2011/83/EU

and 2005/29/EC but not every country has strict rules against it. That's why consumers have to be informed and double-check whether the label is trustworthy or not. Sites like Ecolabel Index are really helpful in that case.

Summary

Packaging and shipment are two of the biggest ecological problems that e-commerce causes. The environmental impacts can vary based on e-commerce type and it requires tailored solutions. Although packaging is often unavoidable for many products there are a few viable approaches. One simple approach is reducing packaging material wherever possible. Using recycled materials can significantly improve energy efficiency in the production process. Properly packaged goods have a better chance of arriving intact, reducing the number of returns and the overall environmental footprint (Oláh və b. 2019: 89). Moreover, packaging made from sustainable materials also helps to further reduce the environmental impact and reduce waste, while demonstrating to customers that the company uses ethical and thoughtful practices.(Kawa, Pierański 2021: 186) There are many variables that can't be changeable. The best thing a business can do is minimise this as much as possible. One potential solution is using electric vehicles (EVs). The EVs lifecycle emissions can be over 70% lower than gasoline and diesel vehicles. This metric shows that this single change can reduce carbon emissions by a significant amount. Also consumers prefer innovative transport modes such as drones (Merkert və b. 2022: 262). Reducing return rates, transitioning to renewable energy sources and many more strategies can be implemented to business if it's possible. However we have to acknowledge that green e-commerce may not always be positive and beneficial to business in every aspect. While its benefits to the environment and world are undeniable, there are some issues that must be taken into consideration before implementing strategies.

References

1. Anh Nguyen Thi Mai and Hue Nguyen Thi (2023). "Factors Affecting Consumer's Online Shopping Behavior During the Covid-19 Pandemic: An Integrative Model". APMRC, pp: 98–113.

2. Goel Ritendra (2008). "E-commerce". pp: 5

3. Kawa A. (2019). "Returns In E-Commerce As A Value For Customers From Different Perspectives". 19th international scientific conference Business Logistics in Modern Management, pp: 43-58

4. Kawa A., Światowiec-Szczepańska J., (2020). "Logistics Value and Perceived Customer Loyalty in E-commerce: Hierarchical Linear Modeling Analysis". Editors: Nguyen N., Jearanaitanakij K., Selamat A., Trawiński B., Chittayasothorn S. Springer, Cham. pp. 417-427

5. Kawa Arkadiusz, Pierański Bartłomiej (2021). "GREEN LOGISTICS IN E-COMMERCE". Scientific Journal of Logistics, 17 (2), p: 183-192

6. Kim Yeonsu və b. (2022). "Is online shopping packaging waste a threat to the environment?". Economics Letters, Volume 214, pp: 2

7. Manzoor Amir (2010). "E-commerce: An Introduction". LAP Lambert Academic Publishing, pp:10-11

8. Merkert R. və b. (2022). "Consumer preferences for innovative and traditional last-mile parcel delivery", International Journal of Physical Distribution and Logistics Management, Vol. 52 No. 3, pp: 261-284.

9. Oláh J., və b. (2019). "Achieving sustainable e-commerce in environmental, social and economic dimensions by taking possible trade-offs". Sustainability, 11(1), pp: 89

10. Paetzold Kolja (2010). " Corporate Social Responsibility (CSR):An International Marketing Approach". pp: 44

11. Ryding Daniella və b. (2023). "The Garment Economy: Understanding History, Developing Business Models, and Leveraging Digital Technologies". İsveçrə: Springer International Publishing, pp: 86

12. Semerádová Tereza , Weinlich Petr (2022). "Moving Businesses Online and Embracing E-Commerce: Impact and Opportunities Caused by COVID-19". pp: 26

13. Shaina Arora (2019). "Devising e-commerce and green e-commerce sustainability". IJEDR, Volume 7, Issue 2, pp: 206-210

14. https://www3.weforum.org/docs/WEF_Future_of_the_last_mile_ecosystem.pdf

15. https://president.az/en/articles/view/50474

16. https://www.slideshare.net/accenture/accenture-chemicals-global-consumer-sustainability-survey-2019

17. https://www.businessdit.com/business-going-green-statistics/

18. https://www.europarl.europa.eu/meetdocs/2014_2019/plmrep/COMMITTEES/IMCO/AG/2023/11-28/1289669EN.pdf

19. https://www.bloomberg.com/news/newsletters/2024-03-21/evs-are-much-lower-emitting-than-combustion-cars