



Towards Sustainability on a Sea of Eco-Labels. Leading or Misleading?

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Abstract. Eco-labels help consumers navigate and promote environmental initiatives and curb greenwashing. The paper presents the eco-labels used in Romania by the government, companies, and consumers. The paper finds that Romania’s activities related to eco-labels, especially EU eco-labels, are lagging behind other developed countries. This is evidenced by the government’s inadequate communication, the online communication of economic players related to the topic, and consumers’ inadequate knowledge of eco-labels.

Keywords: eco-labels, greenwashing, consumer behaviour, sustainability

JEL Classification: Q56, D12

1. Introduction

Despite the current economic and wartime situation, climate change and sustainability continue to receive significant attention from political decision-makers, businesses, and society (Zakeri et al., 2022; Zhao et al., 2022). Consumers’ interest in sustainable products is increasing, and several research shows that consumers are willing to spend more money on environmentally conscious products (Kang et al., 2012; Namkung-Jang, 2017; Li-Kallas, 2021). However, consumers’ scepticism about the authenticity of products and services poses a challenge (Albayrak et al., 2013; Golob et al., 2018; Shabbir Husain, 2022). Increasingly, companies are incorporating key terms, colours, and sounds that encourage environmentally conscious behaviour into their marketing communication (Hammed et al., 2021). Nevertheless, greenwashing continues to be prevalent among businesses, hindering the advancement of sustainability (Nishitani et al., 2021). This is why consumers need real solutions that contribute to reducing environmental damage (Vivanti Sigit, Fauziah, and Heryanti, 2017) and provide

easily accessible information about the chosen product's reliability with minimal time investment.

In recent years, hundreds of sustainability measures have been implemented in Romania (Ministerul Mediului, 2021). Several studies have shown that while Romania lags behind more developed EU countries in terms of sustainability and consumer attitudes towards the subject, interest in it has increased significantly, especially in the last ten years (Constantin et al., 2013; Lakatos et al., 2018; Radulescu et al., 2021; Muresan et al., 2022; Jităreanu et al., 2022). Eco-labels played a significant role in this increase.

Greenwashing is an intersection: one side is the weak or non-existent environmental performance and the other is the communication of this activity's positive environmental impact (Delmas-Burbano, 2011). Greenwashing carries several problems, including obstructing sustainability, ethical concerns (Szabo-Webster, 2021), and consumer mistrust (Chen-Chang, 2013). To help consumers identify greenwashing practices more efficiently, TerraChoice (2010) released a study that lists the seven sins of greenwashing. The current study focuses on a specific type of greenwashing: questionable certifications and labels. 1. To examine and present the eco-labels officially recognized in Romania. 2. To present the online marketing activities of companies with EU eco-label certification. 3. To assess the knowledge of consumers from Romania related to eco-labels.

The study found that there was a gap between legislation, economic players, and consumers regarding EU eco-label knowledge. Being supported by the government, the use of EU eco-label is encouraged, but the associated information provided for both companies and consumers is inconsistent and incomplete. Additionally, there is a lack of further information and communication regarding eco-labelling. On the corporate side, businesses holding the EU eco-label certification must effectively highlight its advantages or presence to consumers in their online communication. As for the surveyed consumers, it is evident that they are interested in environmentally friendly products and are willing to pay more for them. However, there is still considerable confusion and uncertainty in their minds regarding this matter. These results will contribute to the promotion of environmental awareness through the application of the knowledge and benefits of eco-labels, as well as to the related literature that underpins the impact of eco-labelling.

The rest of the paper is structured as follows. Section 2 provides a brief theoretical overview, offering insight into greenwashing and key concepts related to eco-labels, particularly the EU eco-label. Section 3 describes the methodology used for the research. Section 4 presents the legal environment of eco-labels in Romania, the situation of businesses' online activities registered with the EU eco-label, and a brief presentation of eco-label awareness among Hungarian consumers living in Romania. Finally, Section 5 formulates the most important conclusions of the study.

2. Literature Review

2.1. Greenwashing (Causes and Types)

Jay Westerveld drew attention to the phenomenon of greenwashing in 1986 (Pearson, 2010). The importance of the topic is demonstrated by the large number of peer-reviewed studies related to it. Numerous terms have emerged regarding its definition, all of which indicate misleading communication from companies to consumers (de Freitas Netto, 2020). According to Delmas-Burbano (2015), three important influencing factors that lead to greenwashing by companies must be distinguished: external, organizational, and individual influences. External influences can be seen as inadequately structured and formulated legislation (Lyon-Montgomery, 2015; Rajesh, 2023), tension created by market pressures (Delmas-Burbano, 2015), or expectations from institutional regulations like SDG (Sustainable Development Goals) (Lashitew, 2021; Nishitani et al., 2021). The tension arising from serving consumer needs and maintaining an advantage over competitors can be interpreted as an organizational driving force. Poor or inadequate communication between management, communication units, and/or organizational production can also lead to greenwashing (Delmas-Burbano, 2015). Unrealized green actions, also known as greenwashing, are considered an individual-level factor.

In the case of greenwashing, a distinction must be made between greenwashing made at the corporate level and greenwashing that can be found at the product or service level. Within these categories, different types of greenwashing exist. These include claim-based greenwashing, such as the use of false eco-labels or communication that emphasizes misleading or unrealistic benefits, and execution greenwashing such as the sound of a storm, pictures from nature, and colours (Delmas-Burbano, 2015; Parguel et al., 2015; de Freitas Netto et al., 2020).

These categories contribute to the transparency of greenwashing. Within these categories, it is worth highlighting the list of “seven sins of greenwashing” created by TerraChoice (2010), which aimed to help consumers navigate among greenwashing practices. The seventh item on the list refers to the sin of engaging in the worship of false labels. This involves the utilization of labels or certifications that falsely imply the involvement of a non-existent third party (certification body).

2.2. Eco-Labels

The inception of the first eco-label programme in Europe occurred in Germany in 1978, and it was named Blue Angel (Dinu et al., 2012). The introduction of eco-labelling was partly driven by the insufficient information offered by manufacturers

concerning the environmental attributes of their products. Several studies have demonstrated that many consumers lack trust in environmental claims made by manufacturers, and they often feel bewildered by the multitude of claims in the market (Cope and Winward, 1991). The widespread lack of trust in environmental claims has prompted lawmakers to advocate for third-party labelling schemes (Wood, 1994).

Eco-labels are indicative of the overall environmental performance of a product or service (Rashid et al., 2009). They are a visual tool that designates a service/product based on predetermined standards and criteria with positive environmental benefits throughout the life cycle of the product or service (Delmas-Lessem, 2017). The eco-label identifies environmentally superior products in the same category compared to other products based on the product's environmental impact assessment (Grimmer-Bingham, 2013). An eco-label is a symbol or label that indicates that the product has undergone an environmental impact assessment process and is made from environmentally friendly materials (Crespi and Marette, 2005). Eco-labels are commonly granted by an independent third-party organization, ensuring the certificate's credibility for consumers (Castka-Corbet, 2016; Cai et al., 2017; Nilsson et al., 2004). These labels can be grouped into two main categories. One category is when the label's creation is financed by government support, and the other one is the result of private initiatives (Dinu et al., 2012). Most of these labels can be classified according to ISO 14024:2018, specifically under Type I Environmental Labelling Standards (<https://www.iso.org/standard/72458.html>). ISO 14024:2018 has already approved several eco-label certificates, which may differ by category and appearance (Horne, 2009). The European Union has also created a reliable certificate for consumers in Member Countries, called the EU Eco-Label, to promote environmental efforts. In addition, each country can freely create environmentally conscious certificates that meet the standards. For example, in Hungary, there is the *Környezetbarát Termék Védjegy* (Environmentally Friendly Product Trademark), in the Czech Republic the *Ekologicky Setrany Vyrobek*, in the Scandinavian countries the *Nordic Swan Label*, etc. These certificates can be classified into three different categories (Gallastegui, 2002).

1. Type 1 labels certified by third parties enable consumers to evaluate and compare products within the same category, as they are assessed based on specific criteria and are environmentally preferable throughout their life cycle. Most voluntary certifications, including the EU Eco-label and most national labels, fall into this category, and this is the type of label that the study focuses on.
2. Type 2 claims based on self-declarations: these are environmental assertions put forward by manufacturers, importers, or distributors about their products. Nevertheless, they are not independently verified, do not use predetermined and accepted reference criteria, and are unquestionably the least informative of the three types of environmental labels.

3. Type 3 environmental product declarations are generated using life cycle assessment (LCA) and are independently verified by third-party organizations. They provide quantified environmental information about a product's entire life cycle, utilizing verified LCA data, life cycle inventory data, and, in some cases, additional environmental information.

Also, it should be noted that single-issue labels, such as Fairtrade, Forest Stewardship Council (FSC), or Energy Star, are not included in the above three types of categories and are industry-specific.

2.3. Ecological Labelling in the European Union

The European Commission introduced the EU eco-label system for all Member States in 1992 as part of the fifth environmental action programme, which focused on sustainability (Erskine-Collins, 1997). The goal was to establish an eco-label system that minimizes adverse effects on the environment, health, climate, and natural resources resulting from consumption and production practices. Products falling under this category are mandated to be founded on the highest environmental performance criteria (Iraldo-Barberio, 2017). The eco-label requirements must be clear and comprehensible, grounded in scientific evidence, and consider the most recent technological advancements. To prevent the proliferation of different eco-label systems and to increase environmental performance in sectors where the impact on the environment influences consumer choices, the applicability of the EU eco-label should be extended. When establishing the criteria for the EU eco-label, a scientific foundation is essential, and the entire life cycle of the products must be considered. In doing so, the following factors must be considered: a) minimizing the most significant environmental impacts, b) substituting hazardous substances with safer ones, c) health and safety considerations, d) where necessary, social and ethical considerations, and e) reducing animal testing (European Commission, April 2023).

The European Commission registered 21,301 EU eco-label products in 2010, a number that increased to 88,045 by March 2023. Spain (18.35%) and Italy (15.00%) have the most EU eco-label products, while Luxembourg (0.01%), Malta (0.01%), and Slovakia (0.01%) have the least. Among the different product groups, the most popular in terms of the number of products are as follows: outdoor and indoor paints and varnishes (41%), tissue paper and tissue products (17%), textiles (10%), and hard surface cleaners (8%) (European Commission, April 2023).

3. Materials and Methods

The investigation of the topic was based on secondary and primary research. In terms of secondary research, it relied primarily on Internet databases. For these, it has made use of the webpage of the Ministry of Environment, Water and Forests (<http://www.mmediu.ro>) and the webpage for the EU eco-label operated by the European Commission (<https://environment.ec.europa.eu/>); additionally, several related Internet portals and journals have been reviewed.

In the case of the second part of the research, defining a problem is essential to any research. Exploratory research is crucial in enhancing our comprehension of a problem and defining its parameters (Stebbins, 2001). The objective of this study is to present Hungarian native-speaker consumers living in Romania with knowledge concerning eco-labels. To achieve this, direct research was conducted through an online survey, utilizing a structured questionnaire tailored to the research's purpose and objectives.

The study was carried out in April 2023, involving a sample of 165 respondents. Web-based surveys are known for their effectiveness in collecting data quickly and at a minimal cost (Schonlau et al., 2002; Greenlaw and Brown-Welty, 2009; Loomis-Paterson, 2018). The convenience sampling method was adopted for the sampling process, and the questionnaire was distributed to contacts from Facebook™ online social networks. The questionnaire consisted of 14 questions, comprising five socio-demographic and nine subject-specific inquiries, all in Hungarian language. The research targeted Hungarian native speaker consumers living in Romania. Although neither the sample size nor the socio-demographic variables may be considered representative, researchers emphasize that online questionnaires present a relatively affordable, swift, and widely adopted approach for exploratory research (Leiner, 2017; Schonlau-Couper, 2017; Lehdonvirta, 2021). The responses received from this survey can offer valuable insights and lay a solid groundwork for future research in this area. The questionnaires were shared in Facebook Groups, and consumers in Romania were reached through these groups.

The final sample has the following socio-demographic characteristics:

- Gender: female 55.4%, male 44.6%;
- Age: average years: 33, lowest age: 14, highest age: 65;
- Place of residence: urban: 71.7%, rural: 28.3%;
- Occupation: employee (full- or part-time): 51.8%, student: 7.8%, employer: 16.3%, other (parental or maternity leave, unemployed, homemaker, retired): 24.1%;
- Education: primary school: 6%, vocational school: 9.6%, high school: 20.5%, university: 42.8%, postgraduate education: 21.1%.

4. Discussion

4.1. Secondary Research – Ecological Labelling in Romania

4.1.1. *The Legal Environment of the Eco-Labels*

The eco-labelling process and the determination of individual requirements for different product and service groups allow consumers to choose services that reduce the impact on the environment and receive information on the environmental characteristics of eco-labelled products. Eco-labels are complementary tools for implementing environmental policies alongside traditional regulations and other market-based instruments. In addition to voluntary agreements, environmental taxes, and trade permits, they belong to the “new environmental instruments” category.

According to <http://www.ecolabelindex.com>, a total of 24 recognized eco-labels are in use in Romania. According to the website of the Romanian Ministry of Environment, Water, and Forests (<http://www.mmediu.ro/>), the EU eco-label corresponds to the tool that measures environmental performance. Romania creates no other official eco-labels, nor does it designate any labels created by other countries as accepted. Since there is no official regulation regarding which eco-label certificates are accepted or supported by the government, Romanian businesses that want to have an eco-label must go through the verification process of either the EU eco-label certificate or other third-party certificates recognized and created by others to obtain the label, choosing from several options.

The Government Decree 189/2002 of the Romanian legislation defines the eco-label as “a graphic symbol or brief textual product description, which can be applied on products or found in other informative documents and presents up to three environmental impacts of the product or service” (Albu-Chitu, 2012). The eco-label, in conjunction with control and certification procedures resulting from long expertise, increases demand for recyclable and sustainable products. The ecological label, or “eco-label certificate” has become the identifier for environmentally friendly products and services.

The competent authority for requesting the eco-label is the Ministry of Environment and Water Management (Ministerul Mediului și Gospodăririi Apelor), which, together with specialized institutes and a committee dealing with the awarding of the national eco-label, makes the decision on awarding the label. Therefore, the National Eco-Label Committee (Comisia Națională pentru Acordarea Etichetei Ecologice) was established as an advisory body with a role in making decisions related to the eco-label and supporting the work of the Ministry of Environment, Water Management and Forestry in Romania (Moraru, 2015).

If the decision on the application is positively evaluated, it will be announced on the European Union Eco-Label website. The fee for the application ranges from 300 to 1,300 euros. After obtaining the label, economic players are obliged to pay an annual fee for using it. Following the obtaining of the European eco-label, the competent authority establishes a contractual agreement with the economic operator in accordance with regulation 661/2011, which sets out the conditions of use (Dinu et al., 2012). In the event of a change in the product or service, the competent authority must be informed, even if these changes do not affect compliance with the criteria on which the eco-label was obtained. If these changes affect compliance with the eco-label criteria, a new application must be submitted to gain the eco-label.

To ensure that the product continues to meet the requirements of the European eco-label, the competent authority – the Romanian Ministry of Environment, Water and Forests, including authorized representatives – is entitled to carry out regular inspections of the beneficiaries. They check whether the beneficiary complies with the criteria for the product group and usage conditions, as well as the provisions of the contract concluded. The ecological criteria for individual products are reviewed every 3-5 years. Therefore, the eco-label is only awarded for the duration of the validity of the criteria, after which the application must be renewed (<https://infocons.ro/>, 26 April 2023). Duraziv S.R.L. was the first company in Romania to receive the EU eco-label in 2015, and as of March 2023, 99 products and services in total had the EU eco-label. Romanian products and services are found in 8 out of 11 defined categories, with a total of 16 companies involved (<http://www.mmediu.ro/>, 25 April 2022).

4.1.2. EU Eco-Labeling of Products

Compared to the database of the Ministry of Environment and the EU eco-label, out of the 99 registered products, 55 products have the right to use the active label provided by 11 companies in 5 categories. This is shown in *Table 1*. This also means that several companies did not renew their right to use the label. The reason for this may be that they still need to meet the requirements or expectations associated with it. Examining the websites and marketing activities of companies currently having the EU eco-label, the following can be observed.

SC Axia Roteal S.R.L. has its own website and Facebook page. On the website, they indicate five different product families, two of which are relevant to this topic: the Ecolit and Herbaris product families. The Ecolit product family is presented as environmentally friendly products with EU eco-label, while Herbaria products are labelled as natural products. One slider on their website provides information about this, but there is no related information on their social media page. What is noteworthy about the Herbaris category is the packaging of the products. Upon

closer inspection of the product labelling, a bio logo was placed, which does not indicate the presence of a third party that is not linked to any of the certificates listed by Ecolabel Index.

S.C. Don Pedro S.R.L. currently has 13 EU eco-labelled products in the personal care product category. This company also has a website and Facebook page, which shows that they have 5 product families, but it is not evident from their website or social media page that they have environmentally-friendly products in any of the categories. The only hint is a post related to the topic on their Facebook page, but it provides little information.

Table 1. *List of certified Romanian EU eco-label products*

Category	Romanian products/ services	Company name	Number of products/ services
Cleaning	Hand dishwashing detergent	S.C. Axa Roteal S.R.L.	1
		S.C. Fabi Total Grup S.R.L.	1
	Hard-Surface Cleaning	S.C. Ekomax International S.R.L.	2
		S.C. Eurototal Comp S.R.L.	7
		S.C. Axa Roteal S.R.L.	3
		S.C. Fabi Total Grup S.R.L.	3
		S.C. Thomas Maister S.R.L.	2
Paper Products	Tissue Paper and Tissue Products	S.C. Sofidel Romania S.A.	2
Coverings			
Lubricants			
Electronic equipment			
Gardening			
Personal care products	Absorbent hygiene	S.C. Mg Tec Industry S.R.L.	6
		S.C. Don Pedro S.R.L.	13
	Cosmetic products	S.C. Ekomax International S.R.L.	1
		S.C. Eurototal Comp S.R.L.	1
		S.C. Thomas Maister S.R.L.	1
Clothing and textiles		S.C. Sofitex S.R.L.	1
Do-it-yourself		S.C. PPG România S.A.	9
		S.C. Köber S.R.L.	2

Source: own edition based on www.mmediu.ro

According to the EU eco-label catalogue, *S.C. Ekomax International S.R.L.* has three eco-labelled products. They prominently display this certification along with other authentic ones on their website and Facebook page, where they detail the benefits of these products in several posts. It should also be noted that even though the EU eco-label catalogue currently lists only 3 of their products as having an authentic certification, they have 12 products labelled as eco-labelled in the eco-label category. *S.C. Fabi Total Grup S.R.L.* also has a website, which only provides information on their services and collaborations with other manufacturers. However, there is no information about their products sold under the name Higea, which has an EU eco-label. They are not present on social media. *S.C. Eurototal Comp S.R.L.* has eight products with EU eco-label. However, their online communication only provides information about their services, which strive for environmental consciousness. However, there is no mention of the products they have that are eco-labelled and used in their services. *S.C. Köber S.R.L.* is one of the companies that has two products certified with the EU eco-label. Köber's products are perhaps one of the best known among Romanian companies with EU eco-label. There is no information on the company's website about the EU eco-label, only a slider highlighting the environmental friendliness of the Ecolux products. Only by browsing through the catalogue available on the website can one find information on which product is certified with the EU eco-label. In their communication on Facebook, as well as on their website, they emphasize the environmental friendliness of the Ecolux product certified with the EU eco-label. On Instagram, they highlight Köber as a product that cares about consumers' homes and the environment thanks to the EU eco-label, but they do not specify whether this applies to all the company's products. *S.C. Mg Tec Industry S.R.L.* has eight products certified with EU eco-label. Their website is currently under development, and they do not have a social media presence. *S.C. PPG Romania S.R.L.*'s Oskar product line has nine products with EU eco-label. Although they obtained the certification in February 2023, there is no information about it on the company's or the product line's website or on their Facebook page. *S.C. Sofidel Romania S.A.* is an international company that has two products manufactured in their Romanian factory with an EU eco-label. The homepage of their international website presents the diversity of the company's certificates, including the EU eco-label, but does not provide specific information on which products are manufactured in Romania and which ones have the corresponding certification. Their Facebook page applies not only to Romania but to their entire market, and only two posts have been made on the subject without going into detail. *S.C. Softex S.R.L.* manufactures polyester fleece, but no further information is available about the company. *S.C. Thomas Maister S.R.L.* has three products in total with an EU eco-label in two categories, but their website does not provide any information on this, and they are also absent from social media. Table 2 summarizes this information.

Table 2. *List of companies' online communication activities regarding EU eco-label*

Company name	Webpage	Social media management			
		Activity regarding EU eco-label	Facebook™	Activity regarding EU eco-label	Instagram™
S.C. Axa Roteal S.R.L.	+ missing	+	no communication	-	
S.C. Don Pedro S.R.L.	+ missing	+	no communication	-	
S.C. Ekomax International S.R.L.	+ active	+	active communication	-	
S.C. Eurototal Comp S.R.L.	+ missing	-	-	-	
S.C. Fabi Total Grup S.R.L.	+ missing	-	-	-	
S.C. Köber S.R.L.	+ missing	+	some reference	+	
S.C. Mg Tec Industry S.R.L.	+ missing	-	-	-	
S.C. PPG România S.A.	+ missing	+	-	-	
S.C. Sofidel Romania S.A.	+ active	+	+	-	
S.C. Softex S.R.L.	- missing	-	-	-	
S.C. Thomas Maister S.R.L.	+ missing	-	-	-	

Source: own collection

In summary (*Table 2*), only a tiny percentage of companies mention having the EU eco-label, and even those that do tend to give little emphasis to it in their communication or do so in an incomplete manner. Several studies have shown that companies that actively and appropriately use eco-labels in their communication have positive outcomes in terms of the perception of their businesses and the pricing of their products (Galarraga Gallastegui, 2002; Yenipazarli, 2015; Fanasch, 2019).

4.1.3. Eco-Labeling of Services

In the case of services in Romania, there are currently two eco-tourism certification systems for tourism services: first is the EU eco-label designated for accommodations, and the second is the eco-tourism label of the Association of Eco-Tourism in Romania (AER) for small accommodations and tours. In previous years, two accommodations in Romania had EU eco-labels, but currently no accommodation has a valid certificate.

This can be explained by the lack of interest and knowledge of Romanian hotel owners regarding eco-certification. This justifies further environmental education for accommodation operators and the need to promote the European eco-label (Constantin et al., 2013).

The AER certification system targets two different categories: small accommodations located in rural and natural areas and eco-tourism programmes/tours offered by travel organizers. Currently, there are 37 accommodations and tours that have received the AER eco-label and are located in rural areas with unique natural values (AER, 2023). Since this study primarily focuses on the EU eco-label and there are currently no accommodations in Romania with this certification, accommodations with AER certification are not the subject of analysis.

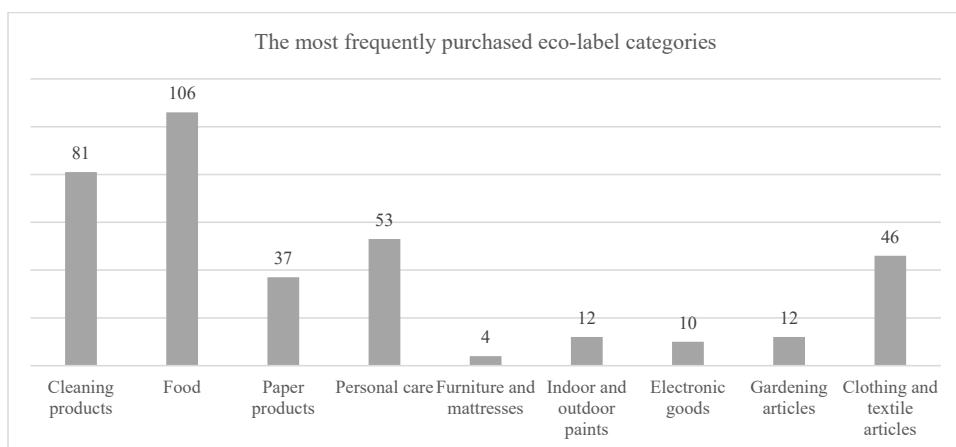
As a summary of secondary research, which primarily focuses on the use of the EU eco-label, it can be said that Romania faces shortcomings both in registered products and services compared to more developed countries, as well as in the related communication, which is often incomplete, misleading, and, most importantly, not present. Improper use and dissemination of eco-labels can be a tool for greenwashing, but their proper use is an important tool for preventing it. Environmentally-friendly manufacturing processes that are verified can help protect the environment, and raising people's awareness towards products and services that genuinely take into account natural and environmental factors is important in the long run to protect the Earth. The primary tool for this in the European Union is the EU eco-label, but there are also other officially recognized third-party-certified labels that have been accepted within Romania even though they are not officially documented by the Romanian Ministry of Environment, Water and Forestry.

4.2. Consumers' Knowledge Regarding Eco-Labels

The third objective of the study is to demonstrate the level of eco-label knowledge among consumers living in Romania. To achieve this, an online survey was conducted using convenience sampling, with a sample size of 165 respondents. Based on the data obtained, 99.4% of the respondents had heard of environmentally friendly products, and 91% had already purchased such products. In this sense, the concept can be considered familiar among consumers in Romania.

Regarding the question of whether they had heard of eco-labels, 77.1% of the respondents answered "yes", and 22.9% answered "no". Of those who had heard of eco-labels, 75.9% reported purchasing products with such labels. In terms of product categories, consumers mostly purchase food (as shown in *Figure 1*) with eco-labels, as well as cleaning products, beauty products, and clothing, while furniture, mattresses, and electronics are the least likely to have eco-labels. It is

important to note that the European Commission has implemented two certificates: the EU organic logo, which is awarded explicitly to products from controlled farming, mostly organic food products found in stores, and the EU eco-label, which is the focus of this study and can be awarded to products and services within the 11 categories. The EU eco-label catalogue also includes many products within the same product categories, as indicated by the results obtained (European Commission, 29 April 2023).

















Source: own edition

Figure 1. *If you buy eco-labelled products or services, in which category do you buy them?*

Nearly half of the respondents (48.2%) think that products and services provided with eco-labels are environmentally friendly and healthy, 11.4% believe that it is just good marketing, and 5.5% think that they are both environmentally friendly and healthy but also a good marketing tool.

Consumer knowledge linked to labels was measured as follows. Fourteen logos were offered as a choice, and the respondent had to choose which ones they believed to be authentic certificates. 5 of the 14 logos were also included in Internet image editing programs and were freely available to anyone, meaning they were not authentic certificates. This is shown in *Table 3*. The logos framed in the first column are not genuine certificates, while the nine logos in the second column are authentic certificates (from left to right: EKO energy, EU Organic Agriculture, EU Eco-Label Austrian Bio Garantie, Eco Cert, FSC, Global Organic Textile Standard, Nature Cosmetic, Fairtrade).

Table 3. List of optional logos

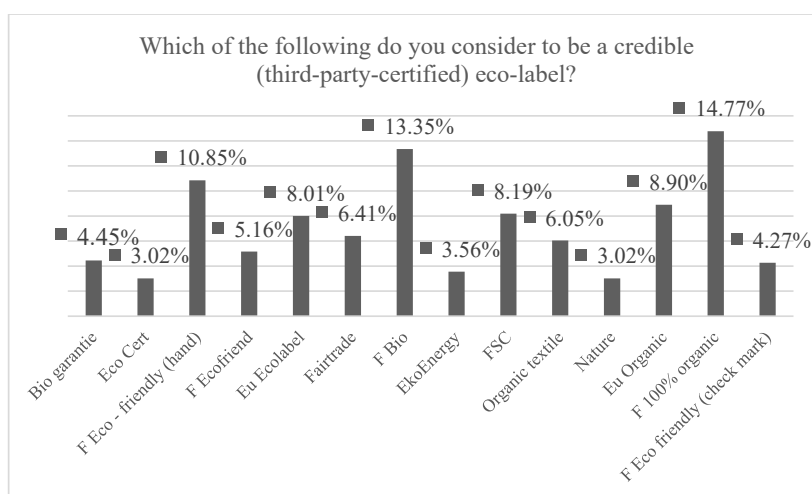
False eco-labels (downloaded from the Canva editor program)	Certified, third-party approved eco-labels
Eco Friendly – Check mark 	EKO energy 
Bio 	EU organic logo 
Eco Friendly - Hand 	EU Eco-label 
Eco Friend Nature 	Bio Garantie 
100% organic 	ECO CERT 
	FSC 
	Organic Textile 
	Nature 
	Fairtrade 

Source: own edition

Answers given to this question (Which of the following do you consider to be a credible (third-party-certified) eco-label?) are shown in *Figure 2*. The concept of “certified” was not conceptualized in the questionnaire, based on the extent to which they know the meaning of the symbols they see on the packaging (authentic

or false eco-labelled). The fake eco-labels were taken from the Canva editor program (labels that anyone can use in their marketing communications at any time, whether they cover real green actions or not). The selected authentic eco-labels are those that are used in Romania (Ecolabel Index) and are internationally recognized certificates. This was a multiple-choice question: the percentages shown in *Figure 2* reveal the percentage distribution of the responses received related to eco-labels, and the eco-labels marked with the letter F indicate fake labels.

The figure shows that respondents mainly selected three logos as genuine certifications that are actually not authentic. This is followed by three genuine certifications: the EU Eco-Label, EU Organic Agriculture, and FSC. Consumers least frequently considered Eco Cert and Nature as genuine eco-label certifications.



Source: own edition

Figure 2. *The proportion of eco-labels that is considered to be authentic*

The knowledge of the labels is also related to the fact that respondents believe that they encounter 100% organic, bio logos and the FSC certification when making purchases. This can also be elucidated by the fact that on the product packaging the bio, eco inscriptions and signs are placed on the front side while certifications are usually placed on the back side of products, next to the ingredients.

However, to the question as to whether they are willing to pay more for a product or service with an eco-label, 81.3% of respondents answered positively, confirming the results of other studies (Laroche et al., 2001; Kang et al., 2012; Namkung-Jang, 2017; Wei et al., 2018; Li-Kallas, 2021), which also highlights the benefits of businesses investing in eco-labels because consumers are willing to pay more for products or services with eco-labels.

5. Conclusions

To increase ecological performance, achieve sustainable goals, and prevent greenwashing, Romania should prioritize the spread and importance of eco-labelling. Research shows that economic players in Romania do not show great interest in eco-labelling systems, especially the EU eco-label, and those who do show interest do not know how to utilize its advantages properly. This may be due to the voluntary nature of the eco-label and the general misconception that its application increases the cost of products or services, leading to reduced consumer interest. Results also indicate that Romanian economic players need to understand the benefits of the eco-labelling systems and how they can contribute to the growth of demand for eco-friendly products and services.

Both the quantity of Romanian eco-labels and the communication of businesses with the EU eco-label, as well as the responses of those filling out the questionnaire, demonstrate that there is a significant gap in awareness and education. Making use of the opportunities presented by eco-labels is essential to educate consumers about what authentic eco-labels are and how to recognize them. Eco-labels, backed by both non-governmental organizations and the government, play a crucial role in educating consumers about products that adhere to specific environmental standards. Political decision-makers and non-governmental organizations should work together as much as possible to centralize eco-labelling in order to boost the credibility of eco-labels and the associated knowledge. Since customers have a limited understanding of the differences between such labels, companies should be encouraged to use individually alleged eco-labels or logos, such as already established third-party eco-labels, on their products. Standardizing and rationalizing eco-labels would improve consumer recognition and understanding, thereby reducing the possibility of greenwashing. To achieve this, clear communication is primarily needed from responsible government agencies on which labels are accepted at the Romanian level among the eco-labels appearing on the market. It is also important to raise awareness among consumers on the one hand and to promote activities related to this by economic organizations on the other.

The primary objective of this research was to explore and present the eco-labelling system in Romania. In this case, it turned out that the officially recognized eco-certificates in Romania are the EU eco-label, EMAS, and the EU organic agriculture logos. The study focused on using the EU eco-label, which revealed that Romania lags far behind other, mainly developed countries both in terms of products and services with EU eco-labels and in educating businesses and consumers.

The second objective was to present the online marketing activities of enterprises using the EU eco-label. It is evident that the online marketing activities of businesses are primarily poor, and when they do appear, they are not clearly defined. The information could be clearer to consumers about which products the EU eco-label

applies to. In terms of services, Romania is struggling with a complete lag since there is currently no accommodation with an EU eco-certificate.

The third and last objective was to evaluate the knowledge of consumers related to eco-labels. In this case, it has been revealed that Romanian consumers in this segment are aware of the eco-label concept but are not actually aware of which certificates are authentic. However, they indicated their willingness to pay a higher price for products with such certifications. An important conclusion in this regard is that there is consumer interest in environmentally-responsible behaviours and purchasing environmentally-friendly products, but the associated knowledge to help navigate and avoid possible greenwashing is lacking.

Although the three aims have been addressed, further research is required to identify and address the gaps mentioned above and to explore opportunities for making suggestions to businesses and the government. For an improved understanding, this topic can be better explored with a representative sample size and by including multiple counties or countries. It is also important to conduct research that delves into specific details and involves in-depth analysis through personal interviews. Understanding the government's perspective on the use of eco-labels and the underlying strategy is crucial. Additionally, it is essential to examine the positive and negative factors that companies associate with the use of eco-labels. From a consumer perspective, several questions need clarification such as the availability of eco-labelled products and services in the local market and how different consumer segments perceive these products.

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