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Article

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A CONCEPTUAL MODEL OF CONSUMER INTENTION TO CONTINUE BUYING ECO-LABELED PRODUCTS

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Abstract

The study of eco-labeled product purchasing behavior usually starts from a multidisciplinary set of fundamental theories and models depending on the approach towards the ecological behavior of the consumer. The proposed conceptual model is based on quantitative research on the intention of consumers to continue to buy eco-labeled goods for personal use. The model is analyzed using the structural equation modeling (SEM) technique, based on variance analysis, on a sample of 587 respondents. The analysis process consisted of two distinct stages, evaluating the accuracy of measurements, and testing the hypotheses. The conformity of the model was validated by studying its specific indicators. The 17 study hypotheses were tested by path coefficient analysis within the structural model, as well as the postulated moderating effect. Based on the conformity indices obtained, the model has good predictive and explanatory capacity.

The only hypothesis refuted is the relationship between consumers' perception of personal effectiveness and their intention to continue buying eco-labeled products. This relationship was not verified at the chosen significance threshold of .01. By analyzing the indirect and total effects, we demonstrated the existence of certain beliefs that directly influence consumers' intention to continue buying eco-labeled products. The influence is also indirect through other variables such as perceived trust and perceived usefulness. The existence of a statistically significant effect from variables on an indirect path (expectations confirmation, ease of use of the ecolabel in purchasing eco-products) was also demonstrated. The explanatory and predictive capacity of the intention to continue buying eco-labeled products was increased by validating the proposed model.

Keywords: ecolabel, purchase intent, structural equation modeling, green marketing, consumer behavior, purchase continuance.

JEL Classification: C52, C39, M31, M30.

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Introduction

An influencing marketing communication tool for companies in response to the green agenda, ecolabels are a demonstration of green credentials that lead to perceptions of the eco-friendliness of products (D'Souza et al., 2021).

As part of the policies that make up the EU Green Deal, the Farm to Fork strategy (European Commission, 2019) is more than likely to impact food consumption and purchase decisions, with measures taken to increase organic farming, innovative packaging and cutlery, new changes in protein options and changes in food labels. Ecological products are those that do not contribute to the negative impact on the environment and generally come with an identification label commonly known as the ecolabel to show that the product is environmentally friendly (Lin et al., 2016). It is also safe to appreciate and observe that, as the interest for green products grows, so does the number of ecolabel products (European Commission, 2021). Companies turn to ecolabel criteria for guidance in product line development and eco-friendly practice, and consumers turn to ecolabel information when evaluating alternatives for green product purchases (Noblet & Teisl, 2015).

Successful application of the Farm to Fork strategy implies changes in behavior and decision-making from actors across the entire food chain, with an increased focus on primary producers and the consumer (Hoek et al., 2021). As far as green marketing is concerned, key roles in current practices are played by closed-loop supply chains and reverse logistics (Dangelico & Vocalelli, 2017), appropriate definition of advertisement messages, and the use of ecolabels (Marini et al., 2021; Wijayanto & Uripi, 2018; Dangelico & Vocalelli, 2017). Furthermore, the recent diffusion of green marketing practices has increased the importance of ecolabels as tools in differentiation strategies, consumer assurance, and a reflection of companies' green marketing philosophy (Dangelico & Vocalelli, 2017; D'Souza et al., 2015).

Recent research shows that there has been little increase in the market share of eco-labeled products (Marini et al., 2021) despite the green-oriented consumers' expression of willingness to pay for such products (Wijayanto & Uripi, 2018). The market is likely to grow when general consumers are the main target of eco-labeled products (Hwang et al., 2016; Sharma & Kushwaha, 2019). The propensity to use ecolabels in product choices is positively influenced by the perceived usefulness of the ecolabel, the consumers' environmental concerns, and the level of information on environmental issues (Luceri et al., 2021).

The objective of this study is to design, test, and validate a conceptual model on the influence of eco-labels on the intention to continue purchasing such products. Another goal of the study is to contribute to the understanding of how an eco-labeled product is perceived. By extending previous models towards a unified approach to green purchasing decisions, this study empirically examines the proposed model and the factors influencing the intention to continue purchasing eco-labeled products. The present paper also proposes relevant perspectives to stimulate the purchase of ecologically labeled products.

1. Literature review

The ecolabel is a voluntary tool through which companies certify the low impact of their products on the environment, as well as certain quality attributes (Murali et al., 2019). Eco-labels are essential in providing clear information to consumers and enabling manufacturers to demonstrate the ecological accreditation of their products (Iraldo et al., 2020).

Scholars generally agree on the business benefits for companies associated with environmental protection practices and green marketing strategies in terms of eco-labeling (Khan et al., 2020; Duffett et al., 2018). The eco-label innovates the purchasing process because of the relative benefits it brings, such as consumer information on low environmental impact, stimulating the sustainable development of products and services, and lower government spending compared to government regulation of environmental standards (Rais & Suzianti, 2021).

As far as the buyer's interest in eco-labels is concerned, these labels act as additional sources of information at the point of sale, but can also change the architecture of consumer choice once they are recognized and trusted (Folkvord et al., 2020).

There are several theories on purchasing behavior factors that are also used in research on eco-labeled products (Sharma & Kushwaha, 2019). Thus, many of the patterns of buying behavior enrich the research framework of the Theory of Reasoned Action (TRA), and the Theory of Planned Behavior (TPB) (Ajzen, 1991) with specific variables from the Dissemination of Innovation Theory (DOI) (Rogers, 1995), such as the relative advantage, the complexity, the compatibility of the individual with the new way of buying, etc. Overall, based on the expansion of each model, there is a tendency towards improving the predictive power of attitudes and intentions to buy eco-labeled products (Sharma & Foropon, 2019).

Starting from the Behavioral Intention Model, which underwent improvements, revisions, and verifications, Fishbein and Ajzen laid the groundwork for the TRA in 1980, repositioning the attitudes, subjective norms, intent, and behavioral causality variables within this theory (Ajzen, 1991; Montano & Kasprzyk, 2015). TRA postulates that individuals behave rationally to obtain favorable results and not to disappoint the expectations of others (Park & Levine, 1999). According to this model, behavioral intent is the predecessor of actual behavior and is determined by attitudes toward the behavior in question and subjective norms. Attitude variables consist of behavioral beliefs, namely the assessment of the probability of behavior to generate a series of results, and the evaluation of these results as favorable or unfavorable (Hale et al., 2002).

Subjective norms are the individual's perception of matching one's behavior with the opinions of those close to them (Hale et al., 2002; Montano & Kasprzyk, 2015). Behavioral intent is a function of the variables called "attitude" and "subjective norm" (Hale et al., 2002). Herr (1995) argues that self-assessment of behavioral intent increases the likelihood of actual behavior materializing. However, TRA has applicability only on voluntary, rational behavior (Nadlifatin et al., 2016), thus excluding the possibility of predicting spontaneous, impulsive, habitual behavior, etc. (Hale et al., 2002).

Verhoef and Langerak (2001) proposed a model for the adoption of vegetable and fruit shopping, starting from TRA, indicating that the level of superiority, compatibility, and complexity of the purchasing process is influenced by certain perceived advantages and disadvantages, such as convenience, or saving time or money (Varhoef and Langerak, 2001). This extended assessment of a certain type of behavior is derived from the concept of behavioral assessment in TRA.

Kim et al. (2009) introduced the concept of "perceived benefit" and "trust" in TRA, justifying perceived benefits as a major buying incentive, demonstrating a direct and positive link between perceived benefit and intent to conduct a business transaction and a direct and positive link between trust and intention (Kim et al., 2009).

TPB was introduced by Ajzen Icek in 1985 and is an extension of TRA, adding the perceived behavioral control variable. TPB was developed to consider the situations in which the individual does not have complete volitional control (Ajzen, 1991), and behavior can be influenced by non-motivational factors, such as the existence of certain opportunities and resources. Intention remains the main factor in determining actual behavior, but several influencing factors are identified (Riskos et al., 2021). Behavioral intent increases the likelihood that a behavior will be accomplished (Ajzen, 1991). Subjective norms, as in TRA, refer to social pressure to adopt or reject a behavior (Suki, 2013). The perceived behavioral control variable includes the ease or difficulty of adopting a certain behavior and is determined both by past experiences and by anticipated impediments or obstacles (Bandura, 1982; Ajzen, 1991).

Taylor and Todd (1995) developed TPB by decomposing its variables, hence the name “Decomposed Theory of Planned Behavior” (DTPB). This version of the theory has an increased ability to explain behavioral intentions and a more specific model by increasing the number of variables that influence intention or mediate the connection between attitude and intention. The DTPB is based on the assumption that certain perception beliefs can be derived from the innovation literature, namely the characteristics of innovation in Rogers’ (1995) study. Three of these characteristics, namely relative advantage, complexity, and compatibility, are directly and positively associated with adoption decisions in general (Taylor and Todd, 1995).

If we treat the eco-label as an innovation, the relevant studies on the dissemination of innovation began in 1940-1950, in a series of independent studies. In 1962, Everett M. Rogers published his first book, “Dissemination of Innovation,” which describes a general pattern of dissemination. Rogers (1995) mentioned Gabriel Tarde, one of the ancestors of sociology and social psychology, the proponent of the laws of imitation, according to which the process of imitating a new idea takes the form of the letter S. The equivalent of Tarde’s concept of “imitation” is the concept of “adoption” in the contemporary scientific literature (Rogers, 1995; Kijek, 2015). Innovation is “an idea, a practice, or an object that is perceived as new by an individual (...)”. The author clarifies the perception of innovation novelty as subjective, because “if an idea seems new to an individual, then it is an innovation” (Rogers, 1995). Innovation has also been studied specifically in predicting the intention to buy eco-labeled products (Choshaly, 2019).

Attitude theories, DOI, TRA, and TPB (Ajzen, 1991), play the role of explaining behavioral directions depending on the individual attitude towards behavior and subjective norm resulting from social influence. The TPB is rounded out by introducing the concept of perceived behavioral control when behavior cannot be explained only by motivational factors. Perceived behavioral control indicates the influence of non-motivational factors, such as the availability of opportunities or resources (Montano & Kasprzyk, 2015).

Subjective norms are a function of two components: perceptions of the opinion of the reference groups on the selected behavior, and the motivation to comply and act in accordance with the opinion of the reference groups (Hale, 2002). Theories such as TRA, TPB, and DTPB (Taylor & Tod, 1995) use social influence to explain the desire of individuals to conform to reference groups.

Adapting the mentioned theories to the study of eco-labeled products’ purchase behavior, we will define perceived ease of use as a variable that represents the consumer’s beliefs regarding

the degree of effort required to buy an eco-labeled product. The measurements of perceived ease of use are adapted from Davis (1989).

Simply adopting an innovation does not imply continuity. A person can always give up buying eco-labeled products, resulting in the discontinuity of the decision to buy. Thus, there is a second direction of study in modeling purchasing behavior, namely studies focused on the post-adoption phenomenon. These papers make an important contribution to the literature, proposing explanations on the intention of consumers to continue shopping for eco-labeled products. Research on the continuity of the intention to buy such products is based, almost exclusively, on the theoretical framework of EDT – The Theory of Unconfirmed Expectations (Oliver, 1981). The intention of consumers to continue to buy ecolabel products is influenced by three variables, respectively, consumer satisfaction with the respective goods and services purchased, the relationships with the sellers, but also by the perceived performance of the new product.

There is a radical separation between the two areas of study, namely the intention to purchase and the intention to continue purchasing eco-labeled products. This is due to the different research frameworks underlying the proposal of behavioral models (Waris & Hameed, 2019). This separation fragments the specialized literature, and thus there is a need for an integrative model of the behavior of buying eco-labeled products (Table no.1).

Table no.1. Relevant variables of the integrative model and their theories/models

Variable	Theory/model
Attitude (AT)	TRA
Intention (Int)	TRA
Perceived usefulness (UP)	Davis (1989)
Subjective norms (SN)	TRA TPB
Personal effectiveness (PE)	TPB IDT DTPB
Compatibility (C)	DOI
Satisfaction (SAT)	EDT
Expectation confirmation (EC)	TRA DOI EDT
Loyalty (L)	DTPB
Perceived usefulness (PU)	Davis (1989) DTPB
Trust (I)	Kim et al. (2009)

By including the variables specific to the theories presented above, we start from the premise that certain fundamental beliefs of the individual lead him to adopt the eco-label in the purchasing process and will continue to have a perhaps weaker, but still significant effect in determining the intention to continue this behavior.

2. Research methodology

Against the background of the need to develop trade in ecolabel products in the context proposed by the Green Deal, we define the objective of this research as proposing, testing, and validating an integrated intentional model, intended to explain the intention of consumers to continue to buy eco-labeled products.

Modeling the intention of consumers to continue purchasing eco-labeled products for personal use involves several hypotheses. Attitudinal theories (Ajzen, 1991) prove the relationship between consumers' attitudes toward behavior and behavioral intention. We thus propose the first hypothesis of the research:

- H1: Consumers' attitudes towards eco-labels have a significant impact on their intention to continue to buy eco-labeled products.

The same theories state the formation of attitudes based on the fundamental values and beliefs of individuals. Based on a review of the literature, we have identified several fundamental consumer beliefs. These are consumer perceptions of the usefulness of using ecolabels during purchasing, the ease with which ecolabel products are purchased, personal effectiveness, identified as the extent to which the consumers believe they possess abilities and knowledge on buying ecologically certified products (Taufique et al., 2016; Waris et al., 2021), and consumer compatibility with eco-labeled products. Therefore, we propose the following research hypotheses:

- H2: Consumers' perceptions of the usefulness of eco-labels in the purchasing process have a significant impact on their intention to continue to buy eco-labeled products.
- H3: Consumers' perceptions of the usefulness of eco-labels in the purchasing process have a significant impact on their attitude towards eco-labeled products.
- H4: Consumers' perceptions of the ease with which they buy eco-labeled products have a significant impact on their attitude toward eco-labels.
- H5: Consumers' perceptions of how easily they buy eco-labeled products have a significant impact on their perceptions of the usefulness of eco-labels.
- H6: Consumers' perceptions of personal effectiveness have a significant impact on consumers' perceptions of the ease with which they evaluate eco-labeled products.
- H7: Consumers' perceptions of personal effectiveness have a significant impact on their intention to continue to buy eco-labeled products.
- H8: Consumers' perceptions of their compatibility with eco-labeled products have a significant impact on attitudes toward eco-labeled products.

Along with psychological variables, in the explanation of a certain type of behavior, the exogenous variables – which define the components of the social environment – make an important contribution (Cătoi and Teodorescu, 2004). To highlight the influence of the family and the members of the consumer reference (membership) groups, we formulate the following hypothesis:

- H9: Social influence from reference groups has a significant impact on consumers' intention to continue to buy eco-labeled products.

Moreover, it is necessary to study the direct influence of consumer perceptions, specific to an environment characterized by uncertainty and insecurity: perceived trust. Therefore, we formulate the following research hypothesis:

- H10: Consumers' perceptions of trust in ecolabel traders have a significant impact on their intention to continue to buy eco-labeled products.

A large body of research has been attributed to the study of consumer satisfaction in order to explain and quantify the relationship between satisfaction and continuity of behavioral intent (Oliver, 1981). Thus, we formulate the following hypotheses:

- H11: Consumer satisfaction with the purchase of eco-labeled products has a significant impact on their intention to continue purchasing them.
- H12: Consumer satisfaction with the purchase of eco-labeled products has a significant impact on their attitude toward eco-labeled goods.

Satisfaction, defined in this study as the degree of consumer fulfillment of the decision to buy ecolabel products, is determined directly or indirectly by certain consumer perceptions, identified in the literature (Bhattacharjee, 2004). Thus, we state the following research hypotheses:

- H13: Confirmation of consumers' initial expectations has a significant impact on their satisfaction with the purchase of eco-labeled products.
- H14: Confirmation of consumers' initial expectations has a significant impact on consumers' perceptions of the usefulness of eco-labels.
- H15: Consumers' perceptions of the usefulness of eco-labels have a significant impact on their satisfaction with the purchase of eco-labeled products.

Closely related to the concept of satisfaction, we meet the concept of loyalty to an alternative way of buying (e.g., ecolabel products). Thus, we propose the following hypotheses:

- H16: Consumer satisfaction with the purchase of eco-labeled products has a significant impact on their loyalty toward eco-labeled products.
- H17: Consumer loyalty toward eco-labeled products has a significant impact on their intention to continue purchasing eco-labeled products.

In defining the study hypotheses, the construct labeled "consumers' intention to continue purchasing ecolabel products" or "consumers' intention to buy ecolabel products again" is a manifestation of the continuity of the decision to adopt the use of ecolabels to purchase goods for personal use. As we discussed in the previous section, referring to DOI, the adoption of a certain behavior can result either in continuity, when the individual continues to perform that behavior, or in discontinuity, when the individual gives up performing the behavior in question.

The study hypotheses are represented graphically as links within the conceptual model (Figure no. 1). The arrows express the causal relationships between the variables and their direction.

Data was collected through the ad-hoc online survey method, through an online questionnaire, distributed via e-mail and social networks. The selection of the investigated population was made using the filter question: "Have you purchased an eco-labeled product in the last 3 months?" The sample consists of 587 Romanian respondents, residing in urban and rural areas, aged over 18 years. Given that the sample was used to investigate the intention of consumers to continue buying eco-labeled products, the attribute "bought an eco-labeled product in the last 3 months" was chosen as the key attribute. No analysis of

demographic characteristics (gender, age, profession, income) or environment (urban-rural) or region was intended.

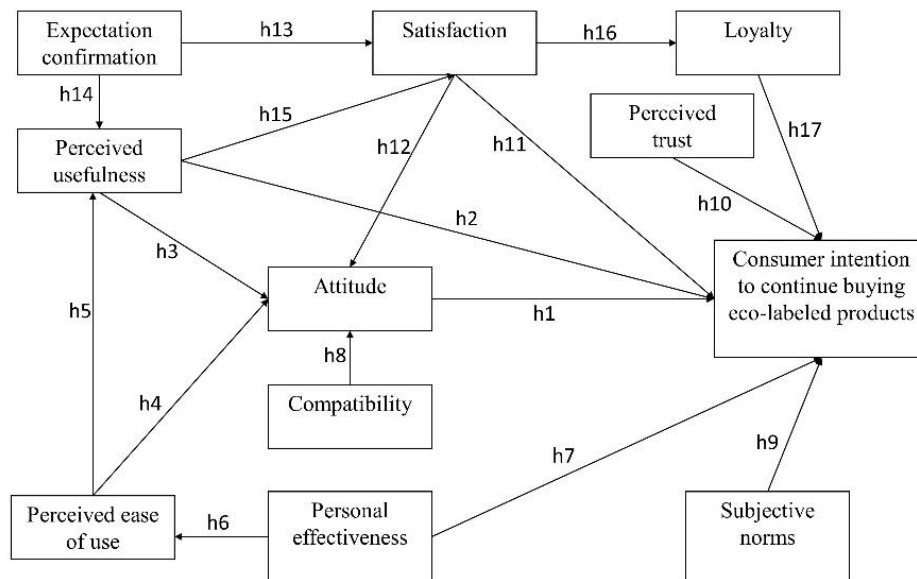


Figure no. 1. Conceptual model – Measuring consumers' intention to continue buying eco-labeled products

The proposed conceptual model was analyzed based on the structural equation modeling (SEM) technique based on variance analysis (PLS), using the WarpPLS 7.0 program. PLS uses the non-parametric bootstrapping re-sampling technique to obtain the standard errors required to test the hypotheses and does not imply the existence of normally distributed data. The analysis process consists of two distinct stages, testing the accuracy of measurements and testing hypotheses. The need for two different stages is based on the literature (Hair et al., 2011) to ensure both the validity of the measurements used and the validity of the structural model. The testing of the hypotheses was achieved after testing model conformity through specific indicators, through path coefficient analysis within the structural model.

3. Results and discussion

To test the measurement accuracy using composite reliability coefficients, the results obtained are presented in Table no. 2. It is observed that all composite reliability coefficients exceed the recommended minimum threshold of .6, with values between .821, in the case of the variable personal efficacy, and .912, in the case of consumers' intention to continue buying eco-labeled products. Composite reliability coefficients indicate a good measurement consistency.

Table no.2. Composite reliability

INT	AT	UP	US	EP	C	CN	IN	CO	S	L
.912	.89	.85	.873	.821	.853	.869	.879	.885	.898	.883

Convergent validity was tested using the statistical software, which generates factor loadings and cross-loadings based on a structure matrix, a pattern matrix, and a combination of the two, the result of these three methods being generated separately. The elements of each construct load excellently inside the construct and very poorly outside it. Factor loadings show values above .50 and cross-loadings show values below .50, thus confirming the divergent validity. Each item loads very well inside the construct, with loading values greater than 0.50, at $p < .001$, thus fulfilling the convergent validity criteria. The P -values associated with factor loadings are less than .05, the recommended significance threshold.

The discriminant validity is confirmed in Table no. 3, the average extracted variance of each construct exceeding the critical threshold of .50. Values close to the critical threshold are found in the case of the variables “personal effectiveness” and “compatibility.”

Table no. 3. Average variance extracted

INT	AT	UP	US	EP	C	CN	I	CO	S	L
.722	.669	.587	.633	.536	.594	.624	.645	.719	.689	.715

3.1. Model results

To validate the model by interpreting compliance indicators (Table no. 4), WarpPLS generates three such indices: path coefficient (APC), average R squared (ARS), and the average variance of inflation factors (AVIF).

Table no. 4. Model fit indices

Model fit indices	Eligibility criteria
APC=.232, $p < .001$	$p < .05$
ARS=.291, $p < .001$	$p < .05$
AVIF=1.224	AVIF < 5
Simpson's paradox ratio (SPR)=1.000	acceptable if $\geq .7$, ideally = 1
R-squared contribution ratio (RSCR)=1.000	acceptable if $\geq .9$, ideally = 1
Statistical suppression ratio (SSR)=1.000	$\geq .7$

Based on the conformity indices obtained, APC = .232 ($p < .001$), ARS = .291 ($p < .001$) and AVIF = 1.224, the conformity of the model is confirmed, meaning that the model has a good predictive and explanatory capacity. The variation of inflation factors (VIF) adds to the conformity of the model, by detecting the presence of multicollinearity between latent variables.

Table no. 5. Variation of inflation factors (VIF)

	INT	AT	UP	US	EP	C	CN	I	CO	S	L
INT		1.46	1.329		1.018		1.144	1.572		1.761	1.312
AT			1.246	1.061		1.186				1.212	
UT				1.012					1.012		
S			1.067						1.067		

Variation inflation factors are shown in Table 5 for each latent variable that has more than one predictor. Following Table no. 5, we observe that all inflation factors are less than 1.761 (the VIF value between the variables satisfaction and intention), which indicates a lack of multicollinearity.

Standardized β coefficients or path coefficients (Table no. 6) are the first step in validating the proposed hypotheses. They calculate a separate regression that includes the direct causal effect of the endogenous variable for each structural equation.

Table no. 6. Path coefficients and associated p values

	INT	AT	UP	US	EP	C	CN	I	CO	S	L
INT		.221 .001	.158 .001		.046 .075		.124 .001	.229 .001		.199 .001	.06 .011
AT			.295 .001	.122 .001		.132 .001				.258 .001	
UT				.165 .001					.237 .001		
US					.275 .001						
S			.232 .001						.471 .001		
L										.512 .001	

Each path coefficient and the associated p -value are displayed in a row box, where the column refers to the predictor variable. Analyzing Table no. 6 and Figure 2 we can see that all hypotheses are verified at a significance threshold of .01, less the hypothesis H7.

The study of path coefficients and associated p -values allows the validation or invalidation of the hypotheses. The only hypothesis invalidated is the direct and positive relationship between consumers' perception of personal effectiveness and their intention to continue to buy products with the eco-label, a relationship that is not verified at the chosen threshold of .01.

The averages of the scores obtained by the items that measure personal effectiveness have values of more than 5.95 (where the value 6 represents the agreement on the Likert scale of 7 points). Thus, it can be stated that most of the respondents believe that they have the skills and knowledge to buy eco-labeled products. If in the adoption phase of the ecolabel in the buying process, personal effectiveness had a significant impact on the intention to buy, in the post-adoption period it lost its significance.

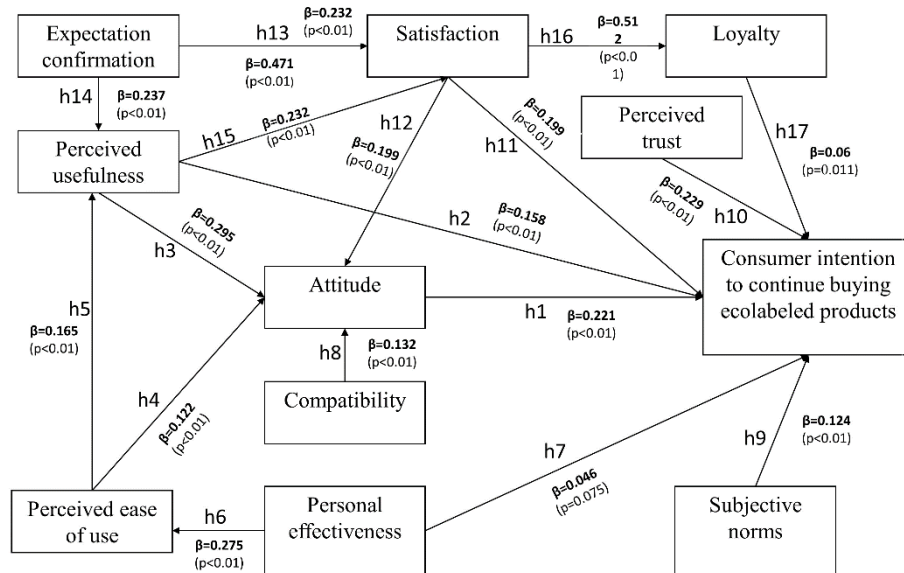


Figure no. 2. Model results

Also, the direct and positive impact of loyalty on consumers' intention to continue to buy ecolabel products is validated with certain deductions, given the acceptance of a significance threshold of .01. Even in this case, the value of the path coefficient β is small, only .06.

Both Table no. 6 and Figure no. 2 show the main predictors of consumers' intention to continue to buy eco-labeled products: consumers' attitude toward the use of the eco-label in the purchasing process (H1), the general satisfaction felt after the process of buying eco-labeled products (H11), consumers' perceptions of the usefulness of using the eco-label in the purchasing process (H3), consumer confidence in eco-label traders and eco-labels (H10), but also subjective norms (H9).

The average R^2 of the variable "consumer intention to continue to buy eco-labeled products" is .648, which means that 64.8% of the change in intent is due to the changes in latent variables.

It should be noted that the "perceived confidence" variable continues to be of particular importance in the post-adoption period. The relationship between perceived confidence and consumers' intention to continue to buy eco-labeled products is positive, with a standardized β coefficient of .229 at $p < .001$, which shows that consumer confidence in retailers and eco-labeled products will determine their intention to buy eco-labeled products again.

The attitudes of consumers after purchase are directly determined by consumers' perceptions of the usefulness of using the eco-label in the purchase process (H2), the consumer perceptions of the ease of buying eco-labeled products (H4), consumer beliefs about compatibility between this way of buying and their needs, desires, the values, and lifestyle (H8) and, finally, the satisfaction felt after the buying process (H12). Moreover, the general satisfaction of the consumers is the most important predictor of the post-purchase attitude,

with a β coefficient value of .258 at $p < .001$. Endogenous variables manage to explain 31.5% of the attitude variation, the R^2 coefficient being .315.

Consumer satisfaction with the purchase process is primarily determined by the confirmation of consumers' initial expectations, a second-order formative variable that measures the confirmation of expectations at each stage of the purchase process, but also by the perceived usefulness of using eco-labels in the purchase process. The relationship between the confirmation of expectations and satisfaction is strong, with a β coefficient of .471 at $p < .001$. Confirmed expectations and usefulness perceptions of using the eco-label in the purchasing process, manage to capture 33% of the variation in satisfaction.

3.2. Analysis of indirect and total effects

The indirect effects of exogenous on endogenous variables, as well as total effects involving the cumulation of direct and indirect effects, require a separate study. Table no. 6 shows the analysis of the indirect effects, the number of links through which an indirect effect is achieved, at a significance threshold value lower than .05.

Table no. 7. Analysis of indirect effects

	INT	AT	UP	US	EP	C	CN	IN	CO	S
INT			.132 (4)	.075 (6)	.021 (6)	.029 (1)		.104 (1)	.204 (8)	.088 (2)
AT			.06 (1)	.059 (2)	.05 (3)				.205 (3)	
UT					.045 (1)					
S				.038 (1)	.011 (1)				.055 (1)	
L			.119 (1)	.02 (1)	.005 (1)				.269 (2)	

We previously studied the direct effect of perceived usefulness (UP) on consumers' intention to continue to buy eco-labeled products (INT). Perceived usefulness also indirectly influences the intention through four links:

- perceived usefulness (UP) – attitude (AT) – intention (INT): connection with 2 segments, namely UP – AT and AT – INT. This time, the indirect effect of the perceived usefulness on the intention goes through the variable 'attitude.'
- perceived usefulness (UP) – satisfaction (S) – intention (INT): a path with 2 segments, namely UP – S and S – INT. This time the indirect effect of perceived usefulness on intention goes through the variable 'satisfaction.'
- perceived usefulness (UP) – satisfaction (S) – loyalty (L) – intention (INT): a path with 3 segments, namely UP – S, S – L, and L – INT.
- perceived usefulness (UP) – satisfaction (S) – attitude (AT) – intention (INT): a path with 3 segments, namely UP – S, S – AT, and AT – INT.

Similarly, perceptions of the ease of buying eco-labeled products indirectly influence the intention to buy eco-labeled products through six links, cumulating an indirect influence $\beta = .075$. Consumers' perceptions of personal effectiveness have a small indirect influence, with a value of .021, obtained through six links.

Consumers' perceptions of compatibility both indirectly influence the intention to buy eco-labeled products through a single link, through attitude, with a value of .029. Confirmation of expectations, on the other hand, has an indirect influence on the intention, accumulating a value of .204 through no less than eight links.

Satisfaction influences consumers' intention to continue to buy eco-labeled products, both directly and indirectly through two links:

- satisfaction (S) – attitude (AT) – intention (INT): a path with 2 segments, namely S – AT and AT – I.
- satisfaction (S) – attitude (AT) – intention (INT): a path with 2 segments, namely S – L and L – I.

By combining indirect effects and direct effects, we obtain the total effects of all latent variables on endogenous variables. The analysis of indirect and total effects (Table no. 7) is necessary all the more as the proposed model is a complex one, in which several variables have a mediating effect.

Table no. 7. Analysis of total effects

	INT	AT	UP	US	EP	C	CN	I	CO	S	L
INT		.221 (1)	.289 (5)	.075 (6)	.067 (7)	.029 (1)	.124 (1)	.333 (2)	.204 (8)	.287 (3)	.060 (1)
AT			.354 (2)	.181 (3)	.050 (3)	.132 (1)			.205 (3)	.258 (1)	
UT				.165 (1)	.045 (1)				.237 (1)		
US					.275 (1)						
S			.232 (1)	.038 (1)	.011 (1)				.526 (2)		
L			.119 (1)	.020 (1)	.005 (1)				.269 (2)	.512 (1)	

For example, in the previous section, we reported a direct effect of satisfaction on consumers' intention to continue to buy eco-labeled products of .199 and an indirect effect of .088, which, combined, give the total effect of satisfaction on the intention to buy eco-labeled products: .287.

Table 7 shows the sum of the total effects, the number of links through which the indirect effect is achieved, at a value of the significance threshold less than .05. But following only the standardized β coefficients we cannot estimate the magnitude of the effect of an exogenous variable on an endogenous variable. For such a prediction, the effect magnitude must be calculated (Table no. 8). The WarpPLS 7.0 statistics program determines Cohen's f^2 effect size coefficients, according to which effect sizes can be evaluated, based on the recommended values of .02, .15, and .35 for a small, medium, and large effect, respectively.

Table no. 8 Total effect sizes

	INT	AT	UP	US	EP	C	CN	I	CO	S	L
INT		.127	.143	.022	.007	.011	.047	.198	.083	.168	.019
AT			.160	.044	.004	.043			.068	.109	
UT				.032	.003				.060		
US					.076						
S			.081	.008	0				.278		
L			.021	0	0				.088	.262	

According to calculations in Table no. 8, we notice that the effect of both perceived satisfaction and trust on consumers' intention to continue buying eco-labeled products is medium, exceeding the .15 threshold.

The attitude of consumers towards eco-labels in the purchasing process, the perceived usefulness of using eco-labels in the purchasing process, the ease of use of eco-labels in the purchasing process, normative beliefs, confirmation of initial expectations of consumers from the different stages of the process of buying eco-labeled products have small effects on consumers' intention to buy eco-labeled products, with values greater than .02 and up to .15.

Negligible effects on consumers' intention to continue to buy eco-labeled products are recorded in terms of personal effectiveness, compatibility, and loyalty, with values below 0.02.

3.3. Discussion

By analyzing the coefficients, we identified the main factors with a direct effect on consumers' intention to continue to buy eco-labeled products. These are satisfaction, attitude, subjective norms (or normative beliefs), perceived usefulness (or motivation), but also other fundamental consumer beliefs and trust in retailers of eco-labeled products.

A direct and positive link between consumer satisfaction with the decision to buy eco-labeled products and the continuity of behavioral intent was demonstrated by analyzing direct links. Any acquired behavior, in this case using the eco-label in the purchase of goods for personal use, can result in either continuity or discontinuity. For a consumer to continue to buy eco-labeled products, they need to be satisfied with their decision to buy. Satisfaction occurs when the consumer shows a certain degree of fulfillment given by the right choice. With more ways to buy, the consumer chooses to buy eco-labeled products; it is a decision that can be satisfactory or unsatisfactory after evaluating their experiences. The more satisfied consumers are with their decision, the more likely they will show the intention to buy again.

But satisfaction influences not only directly but also indirectly the consumers' intention to continue to buy eco-labeled products. The study of indirect effects and total effects shows an indirect influence from satisfaction through loyalty to the new way of buying and through the post-purchase attitude. Calculating the magnitude of the total effect shows an average influence of satisfaction on the intention of consumers to continue to buy eco-labeled products.

A direct and positive link between consumers' attitudes towards eco-labels and the intention to continue purchasing eco-labeled goods was demonstrated by analyzing direct links. The

degree to which consumers believe that buying eco-labeled products is useful, wise, and enjoyable depends on their intention to buy again.

No indirect influence of attitudes on the intention of consumers to continue to buy eco-labeled products was identified. In this case, the total effect is determined only by the direct relationship between the variables. By calculating the magnitude of the total effect, there is little influence of the post-purchase attitude on the intention of consumers to continue to buy eco-labeled products.

A direct and positive link between subjective norms and the continuity of behavioral intent was demonstrated by analyzing direct links. If members of the reference groups agree to buy eco-labeled products, if they think that buying eco-labeled products is a good idea, and if the members of reference groups buy eco-labeled products and recommend buying eco-labeled products, then the consumer is inclined to declare the continuity of this type of behavior.

Calculating the magnitude of the total effect, only through the direct connection between the two variables, we observe a small magnitude of the relationship between normative beliefs and the continuity of behavioral intent.

A direct and positive link between motivation and the continuity of behavioral intent was demonstrated by analyzing direct links. In this case, the motivation is the perceived usefulness of using the ecolabel when shopping. The more the consumer perceives the usefulness of using the ecolabel to buy goods, the more they intend to buy again.

A consumer who perceives buying eco-labeled products as convenient will tend to buy again. A consumer who believes that buying eco-labeled products will save them money by finding the same or similar products at a lower price, also benefiting from price reductions or other incentives, will be inclined to buy eco-labeled products again. A consumer who believes that the eco-label provides access to a greater variety of products, brands, and prices, thus offering him more power to choose, will tend to buy eco-labeled products again.

But the usefulness perceived by consumers influences the intention to buy eco-labeled products not only directly but also indirectly through several variables. Combining the direct effect with the indirect one, a total effect of $\beta = 0.289$ was obtained, with an effect magnitude that varies between a weak and a medium effect.

A direct and positive link between perceived trust and the continuity of behavioral intent was demonstrated by analyzing direct links. The perceived trust supports two dimensions. First and foremost, it is about trusting the producers of eco-labeled products. The extent to which consumers believe that sellers keep their commitments and promises without disappointing them depends on their intention to continue to buy eco-labeled products. Secondly, it is about trust in the eco-label. The extent to which consumers trust the eco-label and believe that this is a safe and reliable way to certify a product depends on their intention to continue to buy eco-labeled products.

From the analysis of the magnitude of the total effects, it can be concluded that the most important predictors of the intention to continue buying eco-labeled products are represented by perceived trust and satisfaction, followed by utilitarian motivation (perceived usefulness).

Although there is a direct and positive relationship between consumer loyalty towards eco-labeled products and the intention to continue purchasing, the magnitude of the effect is too small to be considered significant. Moreover, the hypothesis of a direct and positive

relationship between consumers' perceptions of personal effectiveness and their intention to continue to buy eco-labeled products has not been validated. These beliefs tend to have no impact on the continuity of behavioral intent when the consumer has all the knowledge, skills, and abilities necessary to buy eco-labeled products.

In the analysis of the magnitude of total effects, the confirmation of consumer expectations and the perceptions on the ease of buying eco-labeled products have an indirect influence on the intention to continue purchasing eco-labeled products.

Conclusions

The studied theoretical framework led to a better understanding of the purchasing behavior regarding eco-labeled products. Integrating all these approaches into a single intentional model not only provides an integrative view of purchasing behavior, but it increases the explanatory and predictive power of a "continuous intention" model, providing a better understanding of the predictors of consumer acceptance and support for the ecolabel, a step toward the transformation preached by the Green Deal.

We emphasize the first theoretical contribution of this research: proposing, testing, and validating a model of consumer intention to continue to buy eco-labeled products, with greater explanatory and predictive power. This objective was achieved by integrating the fragmented literature. An integrative model of green purchasing behavior serves as a starting point for future studies. It is no longer necessary to go through all the existing approaches in the literature. The model starts from what is already known, to broaden the sphere of scientific knowledge.

Another theoretical contribution is related to the integration of the two directions of the study. The eco-label is a relatively new phenomenon, and the present research clearly distinguishes between adoption and post-adoption. Moreover, the fundamental beliefs of the individual that lead him to purchase eco-labeled products will also influence the intention of consumers to continue to buy these products. Although most previous studies neglect these factors, the present paper introduced, tested, and empirically validated the influence of several variables. Consumer reference groups continue to have a statistically significant influence even after the behavior has been adopted. The consumer lives surrounded by people whose opinion he or she appreciates. The degree to which this type of behavior is tolerated, encouraged, and practiced in their group of friends, colleagues, and family members will influence the degree to which the consumer decides to continue to buy eco-labeled products.

Even if consumers have enough confidence in eco-label manufacturers and the safety of the eco-label, consumers' own experience may change their beliefs. Trust in the eco-label is a fundamental consumer belief, subject to change with every purchase. Thus, it would be wrong to think that it only influences the person's intention to adopt the purchase of eco-labeled products and will no longer have any influence on the continuity of the behavioral intent. The introduction of the fundamental beliefs that determine the purchase of ecologically labeled products not only has a logical basis, but has been validated through structural equation modeling in the study of the continuity of behavioral intent.

Another theoretical contribution is the integration of satisfaction in the intentional model. We have empirically validated the fact that the post-purchase attitude is the result of several fundamental beliefs, including consumer satisfaction. Attitude theory was formulated in the

context of pre-decision assessments, i.e., before the individual buys and consumes the respective products. Satisfaction theory explains post-decision assessments, i.e., after the individual has decided to buy and consume a particular product or service. Thus, the two theories – the attitude theory (TRA and TPB) and the paradigm of confirmed expectations – exist separately and independently of each other.

We treated the attitude as a post-purchase consumer belief, influenced by the level of consumer satisfaction with their own decision to buy eco-labeled products. Consumers initially form an attitude towards the idea of buying these products based on information from friends, family, and the media. It is not necessary for a consumer to buy eco-labeled products in order for them to form an attitude towards this purchase. But, like any belief, it changes with experience. After purchase, consumers can change their attitude regarding future purchases. The resulting model is an intentional model that is limited to studying the intention of consumers to continue buying eco-labeled products. In the absence of longitudinal research, it is impossible to study actual behavior. We thus identify the first possibility for the development of research: the inclusion of actual behavior, in a longitudinal study based on the proposed model.

It is also necessary to specify that the present paper deals with planned eco-labeled product shopping and does not consider the possibility of buying eco-labeled products on the basis of impulse or after developing compulsive shopping habits. The research also does not take into account hedonic motivations in the study of consumers' intention to buy eco-labeled products, although there have been studies that consider "pleasure" as a statistically significant motivating factor in adopting eco-labeled product shopping. In this regard, we would recommend in future studies the inclusion of pleasure as a motivational factor of the hedonic type, to determine the intention of consumers to continue buying eco-labeled products.

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