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A Pilot Study for Identification Responsible Food Consumption Determinants

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ABSTRACT

The present study aimed to identify and interpret the determining factors of responsible behavior in food consumption, combining the theoretical analysis of the concept with an exploratory research study, followed by the analysis of results through structural equation modeling. Considering the growing societal interest in adopting sustainable dietary practices and the limited number of studies addressing responsible food consumption behaviors in the Romanian context, this study aims to identify and interpret the determining factors of such behavior by combining the theoretical analysis of the concept with exploratory research, followed by the analysis of results through structural equation modelling (SEM-PLS). The exploratory research, conducted on 113 respondents from Galati County, employed the SEM-PLS method to evaluate the relationships among cognitive, attitudinal, and contextual variables employed in food consumption behavior. Obtained results indicated that public policies, technological monitoring, and media campaigns significantly influenced responsible behavior, accounting for 75.7% of variance. Additionally, food education and resource conservation play a mediating role in shaping sustainable behavior. In conclusion, the study demonstrates that responsibility in food consumption results from the interaction of individual, social, and institutional factors. Promoting nutritional education, informational transparency, and sustainable policies represents essential directions for fostering conscious and balanced food consumption in Romania.

1. Introduction

In the late years there was observed a growing interest in health and sustainability regarding food choice and consumption. Food is not merely a biological necessity but also a social (*Fischler, 1988*) and cultural act (*Oroian, 2021*). It carries symbolic and identity-related value, reflecting group affiliation, social status, and personal values (*Datculescu, 2006; Rozin, 2006*). Sustainable food consumption includes behaviors related to conscious food purchasing, such as to promote sustainable and nutritious diets that protect ones health (*Grunert, 2011*); understanding environmental (*Holenweger 2023*), economic, and social values (*Vermeir & Verbeke, 2008*) regarding future generations; and enabling the ethical and responsible consumption of food (*İnan & Konyalı, 2025*).

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Responsible food behavior requires a balance between information, awareness, and action (*Zaharia, 2012*). Correct information regarding the nutritional value and ecological impact of products (*Thøgersen, 2024*), awareness of the consequences of dietary choices (*Iovion, 2024*), and the practical implementation of healthy behaviors—such as avoiding food waste, recycling, and selecting local products—constitute the primary pillars of consumer responsibility (*İnan & Konyalı, 2025*).

2. Literature review

Food choice habits are important from two points of view. First, there is the heath implication of consumption and then the awareness of sustainability considering food production and waste. According to the World Health Organization (WHO, 2024), a balanced diet involves varied and moderate choices that meet nutritional needs, aligned with the body's rhythm and health. The WHO recommends are directed to limited sugar, salt, and saturated fat intake, increasing the consumption of fruits, vegetables, and whole grains, and promoting regular physical activity. On the other hand, reducing global food waste to half by 2030 is one of the United Nation's top priorities for United Nations Environment Programme, 2024 (Parfitt, 2010).

A complex set of internal and external factors shape consumer food behavior (*Bîlbîie,* 2021). These include cultural factors such as traditions, norms, and eating habits; social factors like family, reference group, and community influences; personal factors such as age, education, occupation, income, and lifestyle; and also psychological factors such as motivations, perceptions, attitudes, and personal values (*Kotler, 1999*). These factors operate within a dynamic economic and technological context, where food marketing and mass media (*Asif, 2025*) play a significant role in shaping preferences (*Cătoiu, 1997*). Another important element is perceived risk, which refers to how consumers evaluate food safety and their trust in product labeling (*Crivits, 2010*).

Normal food behavior involves respecting hunger and satiety cues, achieving nutritional balance, being aware of the eating process, and managing food-related emotions (*Gaiani, 2018*). Mindful eating entails attention to food quality, slow chewing, portion control, and avoiding the use of food for emotional compensation. This approach contrasts with modern tendencies toward chaotic eating influenced by stress, advertising, and convenience (*Lakatos, 2015*). Within scientific community, the profile of a responsible food consumer was established in relation to the healthy food pyramid (*Gustavsson, 2011*). Characteristics of such consumers include being well-informed, showing empathy toward the environment and community, planning purchases, preferring local products, avoiding food waste, and paying attention to product labeling. A SWOT analysis highlights strengths (growing interest in health and sustainability), weaknesses (high prices, lack of food education), opportunities (development of the organic and local product market), and threats (misinformation and competition from conventional products).

3. Research Aim and Objectives

The study primarily aim was to conduct a comprehensive analysis of the factors influencing consumers' food choices and to evaluate how Romanian consumers can be educated to adopt responsible behavior regarding their own health, the environment, and society (*Vermeir & Verbeke, 2008*). The main objectives focused on analyzing consumers' perceptions of their own food consumption, identifying patterns in food selection, and assessing the impact of nutritional information on purchasing behavior.

Secondary objectives included raising awareness of personal dietary habits, integrating social, economic, and psychological factors into the analysis of consumption decisions, and highlighting the demographic characteristics of consumers from Galati County.

The topic is grounded in the current need to understand how food-related decisions reflect individuals' levels of knowledge, awareness, and responsibility within a global context characterized by rapid lifestyle changes, industrialization, and economic pressures.

The research also incorporates the analysis of national and European legislation regarding responsible consumption. Key regulations include the Romanian Government Decision no. 488/2018 on the National Strategy for Sustainable Consumption, Law no. 200/2018 on reducing food waste, and EU regulations on labeling and food safety (*Regulation 1169/2011*). Global initiatives by the FAO and UN aimed at reducing food loss and promoting agricultural sustainability were also discussed (*Law 211/2011; Bercea et al., 2018*).

4. Materials and methods

In order to identify the responsible food consumption determinants, SEM-PLS research method was applied (*Matric et al., 2024*). First, scientific literature from Google Scholar, Scopus, and Science Direct databases were analyzed in order to design a conceptual model of market research (Figure 1). It represents a theoretical framework that facilitates the understanding and organization of the research process in marketing (Darie et al., 2023). This model provides a perspective on the key elements and their interrelationships within market research. In the present study, the conceptual model of responsible consumer behavior was structured around three main components: information, awareness, and action. The research method employed structural equation modeling with the partial least squares algorithm (SEM-PLS) after the method of Drăgan et al. (2025) and Capatina et al. (*2024)*. In this respect the Smart PLS-4 program was used (*SmartPLS GmbH, Bönningstedt, Germany*).

To analyze responsible food consumption behavior determinants (CRCR) six different predictors were tracked as presented in Figure 1:

- Attracting consumer attention through mass media regarding responsible consumption (AAC);
- Trends in consumer food education (TEAC);
- Romanian consumer awareness of food excess in their own household (CEA);
- The consumer's decision to save money in the food preparation (DCE);
- Policies and legislation on consumer responsibility (PLR);
- Monitoring and sensing in the circular economy (MoSe).

We chose the research method based on structural equation modeling, using the partial least squares method (SEM-PLS), because for each previously mentioned variable, acting as a predictor of responsible food consumption behavior, we identified specific indicators that contribute to its relevancy. The developed structural model is presented in Figure 1, highlighting the relationships between variables through seven hypotheses.

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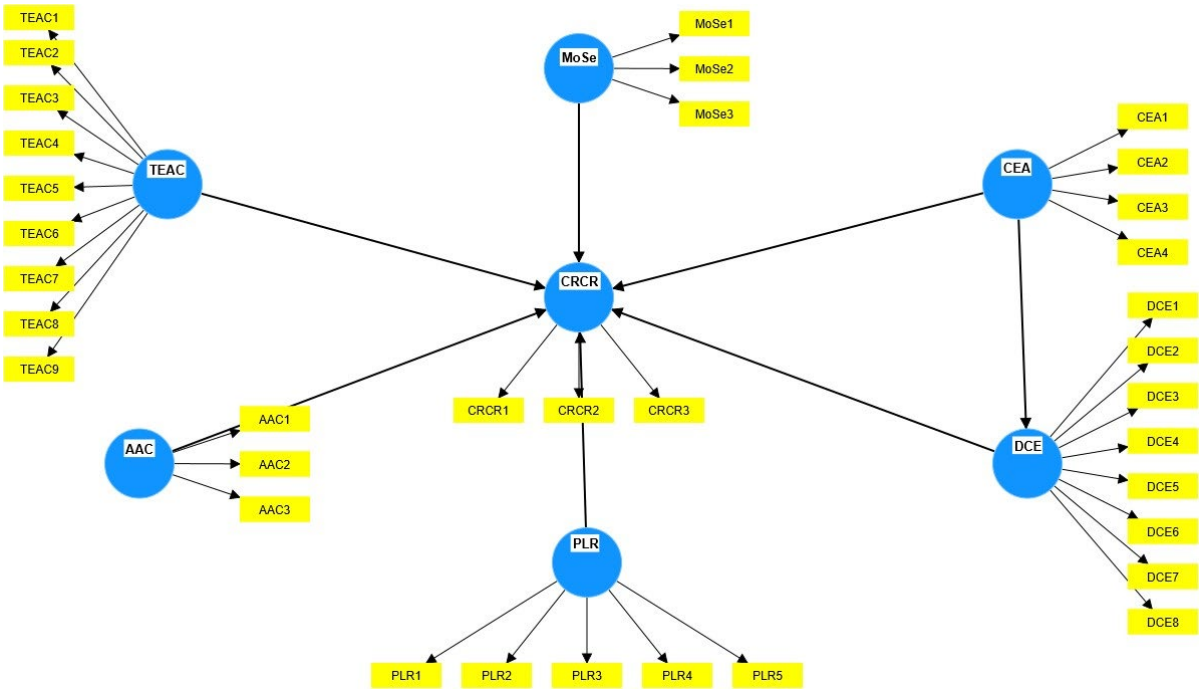

Figure 1. The conceptual model of the research

Source: output Smart PLS 4 software

Hypothesis 1. The **Romanian Consumer Awareness of Food Surplus in Their Own Household (CEA)** significantly influences the consumer's decision to save money in the food preparation process (DCE).

Hypothesis 2. The **Romanian Consumer Awareness of Food Surplus in Their Own Household (CEA)** significantly influences the Responsible food consumption Behavior of Romanian Consumers (CRCR).

Hypothesis 3. The consumer's decision to save money in the food preparation process (DCE) significantly influences the Responsible food consumption Behavior of Romanian Consumers (CRCR).

Hypothesis 4. Policies and Legislation on Consumer Responsibility (PLR) significantly influences the Responsible food consumption Behavior of Romanian Consumers (CRCR).

Hypothesis 5. Attracting consumer attention through mass media regarding responsible consumption (AAC) significantly influences the Responsible food consumption Behavior of Romanian Consumers (CRCR).

Hypothesis 6. Trends in Consumer Food Education (TEAC) significantly influences the Responsible food consumption Behavior of Romanian Consumers (CRCR).

Hypothesis 7. Monitoring and Sensing in the Circular Economy (MoSe) significantly influences the Responsible food consumption Behavior of Romanian Consumers (CRCR).

The quantitative research was conducted using a survey method, employing an online questionnaire distributed via Google Forms. The items included in the questionnaire are presented in Table 1. The questionnaire was constructed after Likert scale with five options (from 1 - total disagreement to 5 - total agreement). The research included a minimum of 100 respondents aged over 18, all residents of Galati County of Romania. The research was carried out during the 2023–2024 period.

Table 1. Latent variables and their corresponding items from the structural model considered in the present study to analyze the responsible food consumption behavior of Romanian consumers

Latent variable (construct)	Item
Responsible food consumption Behavior of Romanian Consumers (CRCR)	CRCR1. I believe that responsible food behavior involves respect for the environment, community, and society.
	CRCR2. I believe that food responsibility is demonstrated through the consumption of sustainable products, proper recycling, and supporting companies in their ethical practices.
	CRCR3. I believe that a responsible consumer needs skills in budget management and efficient purchasing of healthy foods, as well as the ability to recognize the advantages and disadvantages of financial choices.
Attracting consumer attention through mass media regarding responsible consumption (AAC)	*AAC1.* I believe that there is sufficient information available about responsible consumption practices and policies.
	AAC2. I believe that information regarding responsible consumption practices and policies is clear and accessible to the average consumer.
	AAC3. I believe that the existence of ONGs promoting responsible consumption is beneficial for advancing the idea of responsible consumption.
Trends in Consumer Food Education (TEAC)	*TEAC1.* I have sufficient knowledge about my body's nutritional needs (regarding caloric intake, macronutrients — proteins, fats, carbohydrates — and micronutrients — vitamins and minerals).
	TEAC2. I am able to correctly read and understand food labels in order to make informed choices about nutritional value, allergens, and other information relevant to me.
	TEAC3. I am capable of planning balanced meals and adapting them to my personal needs (considering age, gender, physical activity level, and other specific factors).
	TEAC4. I have adequate knowledge about safe food handling practices, personal hygiene, and preventing food contamination in order to avoid foodborne illnesses.
	TEAC5. I am able to cook my own meals (I have the necessary practical skills and know the preparation techniques that help preserve nutritional value).
	TEAC6. I have the knowledge required to recognize common allergens and their symptoms, so that I can avoid them.
	TEAC7. I am interested in learning about the origin of foods, production methods, and sustainable agricultural practices.
	TEAC8. I am able to understand issues related to genetically modified organisms (GMOs) and their potential impacts on health and the environment.
	TEAC9. I am capable of critically evaluating advertisements and marketing messages (related to food), in order to make informed choices and avoid manipulation.
Romanian Consumer Awareness of Food Surplus in Their Own Household (CEA)	CEA 1. I am aware that my purchasing behavior is sometimes irrational.
	CEA 2. I agree that irresponsible purchasing behavior leads to the need to reorganize storage space.
	CEA 3. Irrational purchasing behavior results in an increased number of unnecessary shopping trips or transports for the same purchases.
	CEA 4. I agree that irresponsible purchasing behavior leads to poor management of food waste and contributes to food loss.
The consumer's decision to save money in the food preparation process (DCE)	DCE 1. I believe that responsible behavior has benefits in terms of saving time.
	DCE 2. I believe that responsible behavior has benefits in terms of saving money.

Latent variable (construct)	Item
	DCE 3. I believe that responsible behavior contributes to saving personal effort (labor).
	DCE 4. I believe that responsible behavior helps save ingredients during food preparation.
	DCE 5. I believe that responsible behavior involves saving water and energy.
	DCE 6. I believe that using innovative products (in terms of resource efficiency) has a positive impact on the environment.
	DCE 7. I believe that using innovative products (with improved features) contributes to improving quality of life.
	DCE 8. I believe that biodegradable packaging helps protect the environment.
Policies and Legislation on Consumer Responsibility (PLR)	PLR 1. I believe that products meeting sustainability standards should be given priority in promotional campaigns.
	PLR 2. I believe that educational programs on responsible consumption should be promoted more frequently (e.g., sustainable products, proper recycling, composting, or reuse of waste).
	PLR 3. I believe that legislation should regulate the donation of surplus food (collection and distribution).
	PLR 4. I believe that there should be mechanisms to encourage responsible consumer behavior.
	PLR 5. I believe that there should be mechanisms to sanction or penalize irresponsible consumer behavior.
Monitoring and Sensing in the Circular Economy (MoSe)	MoSe 1. I am aware of the need for specialized sensors to monitor packaging (e.g., color changes on a label or lid).
	MoSe 2. I am aware of the need for devices to manage the stock of individual consumers.
	MoSe 3. I am aware of the need for programs or applications (e.g., mobile apps linked to QR codes on the container) that monitor individual stock levels with scanning.

Source: Author's contribution

5. Results and discussion

All path coefficients associated to the structural model are presented in Figure 2. The conceptual model provides empirically tested data estimation on the relationships between indicators and latent variables (reflective or formative measurement models), as well as relationships between latent variables (structural model). The purpose of **structural equation modeling using Partial Least Squares (SEM-PLS)** is to maximize the explained average variance (R^2) of the endogenous latent variables in the structural model. **Figure 2** illustrates the relationships between the latent variables included in the research model, indicated by arrows pointing from the exogenous latent variable (predictor) to the endogenous latent variable (dependent). The diagram also shows the variables that can be measured using a reflective approach (**TEAC** – Trends in Consumer Food Education; **AAC** – Attracting Consumer Attention via Mass Media Regarding Responsible Consumption; **PLR** – Policies and Legislation on Consumer Responsibility; **CEA** – Romanian Consumer Awareness of Food Surplus in Their Household; **DCE** – Decision to Save During Food Preparation; **MoSe** – Monitoring and Sensing in the Circular Economy), with arrows oriented from the latent variables toward their indicators.

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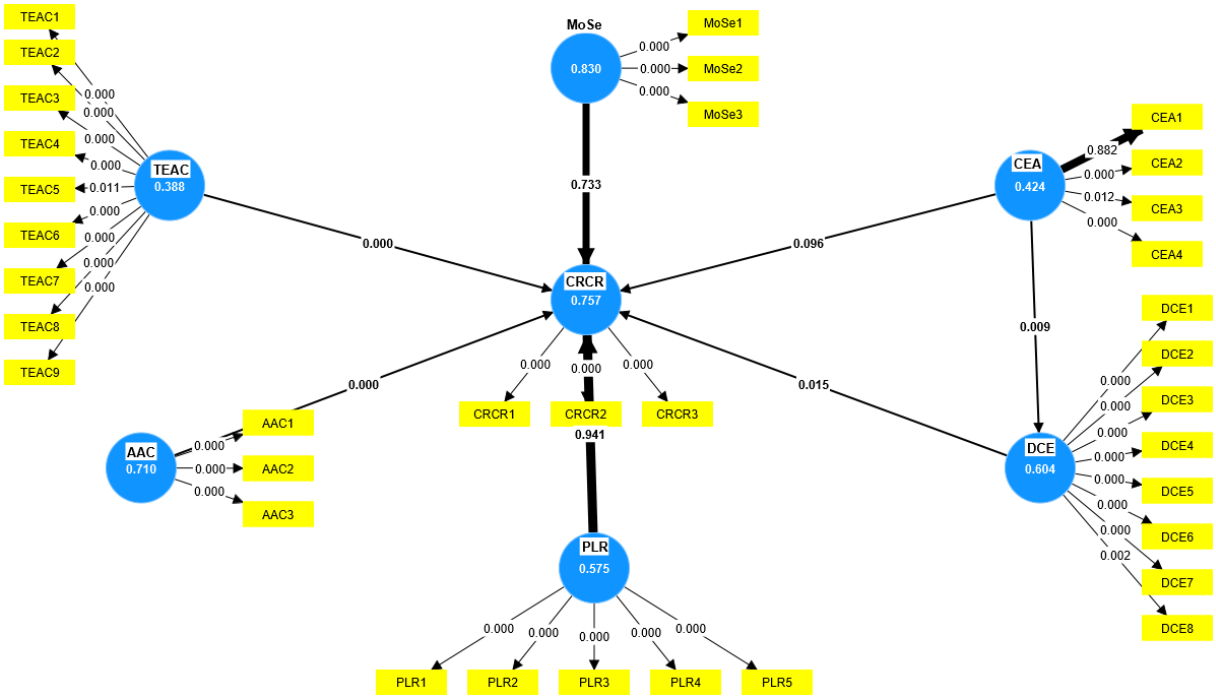

Figure 2. Path coefficients in the structural model applied in the present study

Source: Processed using Smart PLS 4 software

Relationship coefficients were calculated using **Smart PLS 4 software** and are illustrated in Figure 2. The structural model shows that **Policies and Legislation on Consumer Responsibility (PLR)** had the strongest effect on **Responsible Behavior of Romanian Consumers (CRCR)** (effect coefficient = 0.941) and on **Monitoring and Sensing (MoSe)** (effect coefficient = 0.733), while **Romanian Consumer Awareness of Food Surplus (CEA)** and **Decision to Save During Food Preparation (DCE)** had weaker effects on CRCR (effect coefficients = 0.096 and 0.015, respectively). Since there is also a relationship between **CEA** and **DCE** (effect coefficient = 0.009), it can be stated that a mediating effect exists between these variables within the research sample. The variables **PLR, MoSe, CEA, and DCE** explain **75.70% of the variance** in the endogenous variable **CRCR** (relation coefficient R^2 = 0.757).

Table 2 reflects the distribution of the indicators reflected by the items included in the questionnaire. The item with the highest mean was **DCE2 (4.660)**, while the items with the lowest mean were **AAC1 and AAC2 (3.485).** The standard deviations do not reveal significant differences among the indicators. The **Skewness** index assesses the degree to which the distribution of a variable is symmetrical. If the distribution of responses for a variable extends toward the right or left tail, the distribution is considered skewed (*Hair, 2022*). A general guideline for Skewness is that a value higher than +1 or less than –1 indicates a substantially skewed distribution. As can be seen from table 2, 21 out of 35 variables showed skewed distribution. The **Kurtosis** index evaluates the peakedness of a distribution. A high Kurtosis value indicates a distribution with values that are more dispersed from the mean. For Kurtosis, a value higher than +1 suggests a distribution that is too peaked, while a value less than –1 indicates a distribution that is too flat *(Hair, 2022*). In the case of the data collected in this research (Table 2), the distributions of all indicators associated with the latent variables in the conceptual model can be considered **approximately normal**.

Table 2. Descriptive statistical indicators associated with the conceptual model of the present study

No.	Variable	Mean	Median	Observed min	Observed max	Standard Deviation	Excess kurtosis	Skewness	Cramér-von Mises test statistic
1	AAC1	3.485	4.000	1.000	5.000	1.284	-0.838	-0.526	0.761
2	AAC2	3.485	4.000	1.000	5.000	1.268	-0.583	-0.633	0.782
3	AAC3	4.252	5.000	1.000	5.000	1.012	2.422	-1.613	1.776
4	CEA1	4.184	4.000	1.000	5.000	0.993	1.603	-1.348	1.463
5	CEA2	4.301	4.000	2,000	5.000	0.748	0.853	-0.985	1.606
6	CEA3	4.155	4.000	1.000	5.000	0.953	3.028	-1.617	1.637
7	CEA4	4.621	5.000	2,000	5.000	0.670	5.049	-2.126	3.363
8	CRCR1	4.437	5.000	1.000	5.000	0.931	5.038	-2.155	2.576
9	CRCR2	4.340	5.000	1.000	5.000	1.001	4.098	-2.028	2.201
10	CRCR3	4.447	5.000	1.000	5.000	0.932	5.111	-2.179	2.670
11	DCE1	4.485	5.000	1.000	5.000	0.787	6.473	-2.198	2.349
12	DCE2	4.660	5.000	1.000	5.000	0.718	12.813	-3.215	3.781
13	DCE3	4.350	5.000	1.000	5.000	0.867	2.912	-1.566	1.833
14	DCE4	4.427	5.000	1.000	5.000	0.831	4.406	-1.873	2.145
15	DCE5	4.417	5.000	1.000	5.000	0.865	3.458	-1.751	2.270
16	DCE6	4.272	4.000	1.000	5.000	0.827	1.213	-1.072	1.476
17	DCE7	4.369	5.000	1.000	5.000	0.800	2.173	-1.349	1.806
18	DCE8	4.612	5.000	3.000	5.000	0.642	0.835	-1.433	3.472
19	MoSe1	4.155	4.000	2.000	5.000	0.943	-0.003	-0.953	1.355
20	MoSe2	4.078	4.000	1.000	5.000	0.932	0.854	-0.961	1.111
21	MoSe3	4.223	4.000	1.000	5.000	0.934	1.711	-1.334	1.487
22	PLR1	4.447	5.000	1.000	5.000	0.747	3.938	-1.659	2.071
23	PLR2	4.631	5.000	3,000	5.000	0.521	-0.218	-0.964	3.337
24	PLR3	4.612	5.000	2.000	5.000	0.595	2.820	-1.566	3.112
25	PLR4	4.447	5.000	2.000	5.000	0.693	1.542	-1.227	2.054
26	PLR5	4.087	4.000	1.000	5.000	1.015	0.305	-0.968	1.222
27	TEAC1	4.010	4.000	1.000	5.000	0.970	0.547	-0.925	1.081
28	TEAC2	4.252	4.000	2.000	5.000	0.821	0.270	-0.930	1.447
29	TEAC3	4.117	4.000	2.000	5.000	0.828	0.725	-0.952	1.554
30	TEAC4	4.165	4.000	1.000	5.000	0.860	2.872	-1.443	1.663
31	TEAC5	4.427	5.000	1.000	5.000	0.951	3.821	-1.986	2.694
32	TEAC6	3.835	4.000	1.000	5.000	0.966	0.095	-0.840	1.622
33	TEAC7	4.214	4.000	2.000	5.000	0.888	0,066	-0.943	1.410
34	TEAC8	4.097	4.000	2.000	5.000	0.819	0,127	-0.722	1.324
35	TEAC9	4.340	4.000	2.000	5.000	0.718	0,694	-0.936	1.694

Source: Report generated by Smart PLS 4 software

Additionally, exploratory.io Collaborative Data Science Platform was used to farther analyze results. From the figure 3, it can be observed that there was a strong positive correlation between variables DEC4 and DCE3 (0.82), as well as between DCE4 and DCE5 (0.83), and between DCE1 and DCE2 (0.75). The consumer's decision to save was strongly correlated with saving time, money, personal labor, and

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ingredients. The consumer shows interest in innovative products both in terms of environmental protection and improving quality of life — with a correlation of 0.78. In order to facilitate the management of raw materials within their own household, the consumer is willing to invest in devices and inventory management programs, as indicated by the correlation between MoSe2 and MoSe3 (0.79). The consumer also pays attention to information about science and the environment disseminated through mass media, as shown in Figure 3 by the strong correlation between AAC1 and AAC2 (0.79).

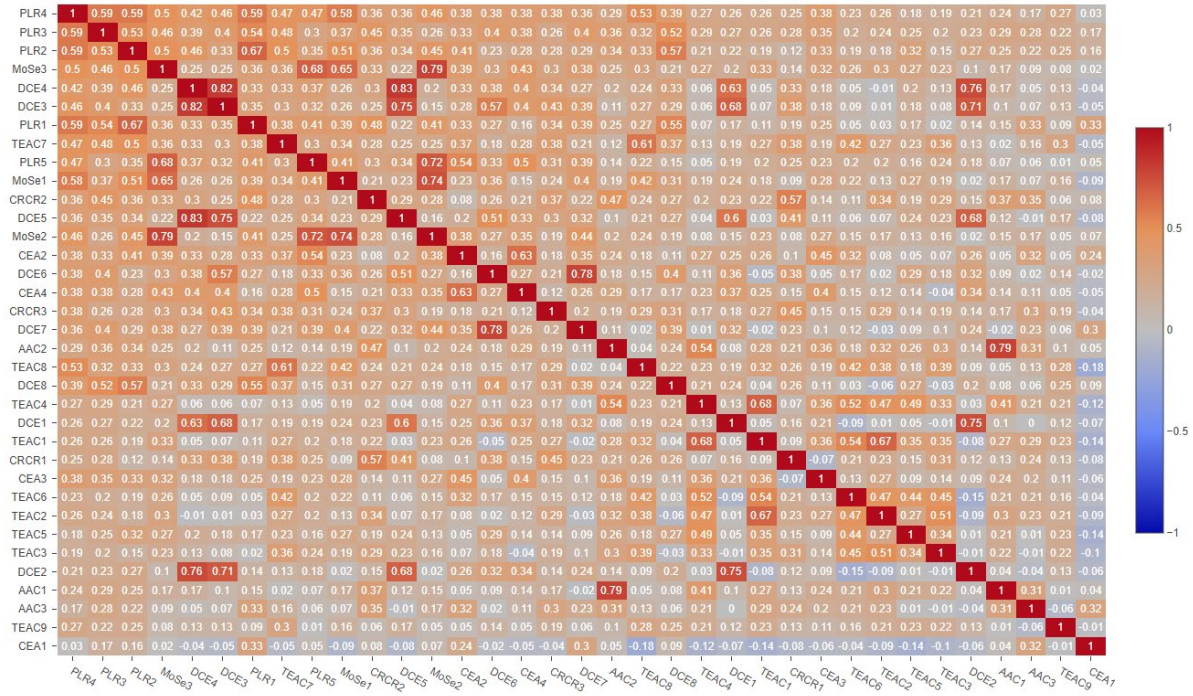

Figure 3. Correlation between variables

Source: https://exploratory.io

The estimation of the conceptual model provides empirically tested data on the relationships between the indicators and the latent variables (reflective measurement model in our case), respectively the relationships between the latent variables (the structural model). The purpose of structural equation modelling using the partial least squares (PLS-SEM) method is to maximize the average explained variance (value of the coefficient of determination) of the endogenous latent variables in the structural model.

The evaluation of the reflective measurement model was carried out by determining the level of internal consistency (Cronbach Alpha and the composite confidence level) and convergent validity (assessed by the mean variance extracted - AVE).

Cronbach Alpha is a measurement indicator of the internal consistency or reliability related to a latent variable, reflecting how correlated the variables within the structural model are. The minimum accepted threshold for this indicator is 0.7. Average Variance Extracted (AVE) is a statistical parameter used to evaluate the measurement model's convergent validity. High levels of composite reliability is a statistical proof that all your items constantly measure the same construct. As can be seen from Table 3, all

composite reliability values were higher than the 0.70 threshold (except for CEA), while all AVE values in this structural model were higher than the 0.50 threshold (except for CEA si TEAC), considered acceptable for convergent validity.

Table 3. Assessment of the structural model's convergent validity

Variable	Cronbach's alpha	Average variance extracted (AVE)
CRCR	0.840	0.757
AAC	0.801	0.711
TEAC	0.826	0.459
CEA	0.648	0.448
DCE	0.897	0.604
PLR	0.816	0.581
MoSe	0.901	0.830

The Variance Inflation Factor (VIF) is a measure of multicollinearity among a set of variables in a multiple regression. Values higher than 5 indicate high multicollinearity. Multicollinearity occurs when a group of independent variables are highly correlated with each other. VIF quantifies how much the variance of the estimated coefficients is inflated due to multicollinearity, compared to the situation where no collinearity exists within the structural model. It should be noted that Smart PLS 4 software generates VIF values for both formative and reflective variables (Matric et al., 2024).

Data resulted for Variance Inflation Factor (VIF) of the present study results are presented in Table 4. It can be seen that the reflective indicator DCE5 presented the highest variance inflation level (8.760), while the reflective indicator CEA3 showed the lowest variance inflation level (1.179). Three VIF values exceed the threshold of 5.00. For the remaining values, multicollinearity did not reach critical levels for any of the formative or reflective variables, and therefore can`t be considered to pose problems for estimating the analyzed structural model.

Table 4. Evaluation of the statistical collinearity test

Variable	VIF	Variable	VIF	Variable	VIF	Variable	VIF
CRCR1	2.383	DCE1	3.191	TEAC1	2.673	MoSe1	2.245
CRCR2	2.086	DCE2	3.936	TEAC2	2.344	MoSe2	3.971
CRCR3	1.762	DCE3	5.582	TEAC3	1.693	MoSe3	3.251
AAC1	6.047	DCE4	7.788	TEAC4	2.693	PLR1	1.955
AAC2	5.858	DCE5	8.760	TEAC5	1.437	PLR2	1.819
AAC3	1.216	DCE6	4.783	TEAC6	2.301	PLR3	1.613
CEA1	1.220	DCE7	2.908	TEAC7	2.025	PLR4	2.033
CEA2	1.754	DCE8	1.430	TEAC8	1.807	PLR5	1.390
CEA3	1.179			TEAC9	1.232		
CEA4	1.496						

Source: Processed using Smart PLS 4 software

PLS-SEM works on a non-parametric bootstrap procedure to test the significance of relationship coefficients estimated in the model. In the bootstrapping procedure, subsamples are created with observations generated randomly from the original data set. This process is repeated until a large number of random data samples, approximately 5,000, have been created. Parameter estimates

(weights, outlier loadings, and relationship coefficients estimated from subsamples) are used to obtain standard errors for the estimates. T-test values and asymptotic significances (p-values) are determined to assess the acceptance or rejection of each research hypothesis (Table 5) (Capatina et al. *2024*).

Table 5. Determination of the p-values associated with the relationships between the variables of the structural model

Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
AAC -> CRCR	0.538	0.524	0.100	5.361	0
CEA -> CRCR	-0.136	-0.131	0.149	0.912	0.362
CEA -> DCE	0.376	0.409	0.144	2.622	0.009
DCE -> CRCR	0.250	0.244	0.102	2.445	0.015
MoSe -> CRCR	-0.034	-0.037	0.099	0.341	0.733
PLR -> CRCR	0.010	0.038	0.140	0.074	0.941
TEAC -> CRCR	0.323	0.325	0.078	4.132	0

As can be observed from table 5, three of the six hypotheses (**CEA, MoSe, PLR**) were invalidated, as their **p-values** exceeded the maximum significance level of 0.05. Additionally, the **T-test** indicated the magnitude of the correlation between the latent variables in this structural model. Thus, **AAC** presented the strongest impact on **CRCR** (**T-test = 5.361**, p-value approaching zero), while **DCE** has the weakest impact on **CRCR** (**T-test = 2.445**, p-value = 0.015), as shown in table 4.

A synthesis of hypotheses' test results is outlined in Table 6.

Table 6. Overview on considered hypotheses of the present study

Hypothesis	Decision
The attracting consumer attention through mass media regarding responsible consumption has a significant effect on the responsible food consumption behavior determinants	Supported
The Romanian consumer awareness of food surplus in their own household has a significant effect on the responsible food consumption behavior determinants	Rejected
The Romanian consumer awareness of food surplus in their own household has a significant effect on the consumer's decision to save money in the food preparation	Supported
The consumer's decision to save money in the food preparation has a significant effect on the responsible food consumption behavior determinants	Supported
The monitoring and sensing in the circular economy has a significant effect on the responsible food consumption behavior determinants	Rejected
The policies and legislation on consumer responsibility has a significant effect on the responsible food consumption behavior determinants	Rejected
The trends in consumer food education have a significant effect on the responsible food consumption behavior determinants	Supported

The strongest correlation was identified between **attracting consumer attention through mass media regarding responsible consumption (AAC)** and **trends in consumer food education (TEAC),** which had a significant effect on the **determinants of responsible food consumption behavior (CRCR),** providing important opportunities for **promoting sustainable eating habits and raising awareness of the impact of food choices on health and the environment.**

6. Conclusions

Using the SEM-PLS method, the study analyzed variables such as Attracting Consumer Attention via Mass Media (AAC), Trends in Consumer Food Education (TEAC), Awareness of Food Surplus (CEA), Decision to Save during Food Preparation (DCE), Policies and Legislation on Consumer Responsibility (PLR), and Monitoring and Sensing in the Circular Economy (MoSe). Each variable was measured through specific indicators that captured various aspects of responsible food consumption behaviour. The developed structural model allowed for testing hypotheses regarding the interrelations between these variables and their influence on Responsible Behaviour of Romanian Consumers (CRCR).

Research findings indicate that Policies and Legislation on Consumer Responsibility (PLR) and Monitoring and Sensing (MoSe) had the strongest direct impact on CRCR. Awareness-related variables (CEA) and the decision to save during food preparation (DCE) showed smaller direct effects, although their indirect influence through mediation effects remains relevant. Together, these four variables explained 75.7% of the variance in responsible behaviour ($R^2 = 0.757$), demonstrating the high predictive power of the model. Analysis also highlighted the importance of media attention (AAC) and decision-making in food saving (DCE), with T-test results showing strong statistical significance. This emphasizes the critical role of communication, media education, and practical economic considerations in shaping responsible consumption behaviour.

By applying SEM-PLS, this study demonstrated the complex interplay between cognitive, attitudinal, and contextual factors influencing responsible food consumption. Public policies and technological monitoring mechanisms emerge as the strongest drivers of behaviour, while education and media campaigns remain essential to foster conscious engagement. The research highlights that responsible consumption is not only an individual choice but also a collective moral obligation, requiring coordinated action through policy, education, and technological support.

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