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Environmental Concern Fuels Consumer Activism around the World

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Abstract

Consumer activism is one of the most impactful movements of our time. It involves citizens participating in changing human living patterns, particularly those related to production and consumption. Although its purpose is worldwide, research on this topic has primarily focused on developed countries. This study provides a global perspective to identify the variables that best explain varying levels of consumer activism. It examines secondary data from a sample of 29,339 consumers across 30 countries, spanning different continents and levels of development. The analysis employs the non-parametric CART (Classification and Regression Trees) technique to reveal that consumers' level of environmental concern and consumers' country of origin are the primary variables that best explain the different levels of consumer activism. In contrast, traditional sociodemographic factors such as gender, age, or level of education have no or minimal influence. Organizations must acknowledge and address this global concern, which fuels consumer activism, by demonstrating a clear commitment to environmentally responsible practices. Failing to meet these societal expectations may increase skepticism toward institutions and create a more adverse environment for corporate operations.

Keywords

Consumer activism, consumer social responsibility, environmental concern

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La Preocupación por el Medio Ambiente Impulsa el Activismo del Consumidor en todo el Mundo

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Resumen

El activismo consumidor es uno de los movimientos más relevantes de nuestro tiempo. Implica la participación ciudadana en el cambio de los patrones de vida humana, especialmente aquellos relacionados con la producción y el consumo. Aunque su propósito es global, la investigación sobre este tema se ha centrado principalmente en los países desarrollados. Este estudio ofrece una perspectiva global para identificar las variables que mejor explican los diferentes niveles del activismo consumidor. Examina datos secundarios de una muestra de 29.339 consumidores en 30 países, abarcando distintos continentes y niveles de desarrollo. El análisis utiliza la técnica no paramétrica CART (*Classification and Regression Trees*) y revela que el nivel de preocupación medioambiental de los consumidores y su país de origen son las principales variables que explican los diferentes niveles de activismo consumidor. Factores sociodemográficos más tradicionales como el género, la edad o el nivel educativo tienen una influencia nula o muy limitada. Las organizaciones deben reconocer y responder a esta preocupación global que impulsa el activismo consumidor, demostrando un compromiso con las prácticas ambientales responsables. No cumplir con estas expectativas sociales puede generar más escepticismo hacia las instituciones y crear entornos más adversos para la actuación de las empresas.

Palabras clave

Activismo del consumidor, responsabilidad social del consumidor, preocupación medioambiental

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The gravity of social problems, environmental degradation, and increasing citizen skepticism towards governments' efficacy in addressing these concerns are propelling the rise of consumer activism (CA). This phenomenon is gaining significance, with CA now recognized as the second most common form of political participation after voting (Lightfoot, 2019). In the 21st century, the proliferation of the Internet and the widespread use of social media have played a significant role in enabling information exchange and fostering group ties that stimulate participation in CA campaigns (Boulianne, 2022).

CA is catalyzing the demand for fundamental changes in the way humans live and, consequently, in production and consumption patterns (Lekakis, 2022). On the supply side, CA requires substantial changes in corporate practices, alongside the formulation of public policies to promote and facilitate these transformations (Geels et al., 2023). Simultaneously, on the demand side, CA encourages consumers to make decisions that positively impact the world beyond their interests (Thompson & Kumar, 2021). There is a pressing call -from social media, peer pressure, and government interventions- for significant shifts in consumer behavior to align purchasing decisions with these evolving concerns (Shah & Asghar, 2023). Consumers are awakening to the notion that each purchase is an ethical decision, with their choices influencing a diverse array of interest groups and impacting society, companies, and the environment (Botha, 2018; Zaman et. al., 2024).

However, despite the growing interest in this area of consumer social responsibility, limited research attention has been devoted to its study, as scholars have predominantly focused on corporate social responsibility (Jiang & Fang, 2024). Existing theory falls short in explaining the so-called intention-behavior gap (Köksal & Çabuk, 2023), which is the discrepancy between consumers' declarations regarding the importance of ethical values in consumption and their actual behavior as market activists (Smith & Kingston, 2021). Certainly, some consumers are more inclined to become activists and make decisions consistent with socially responsible consumption, while others have not yet translated these values into their purchasing behavior. A deeper cross-country investigation into the profile of consumers aspiring to drive social and environmental changes is imperative (Sargisson et al., 2020; Schwalb et al., 2023).

Moreover, there also exists a sociocultural imbalance in the literature on global CA, with studies predominantly focusing on developed Western countries (Rasool & Ogunbode, 2015; Kutaula et al., 2024). These authors emphasize that limited attention has been given to developing countries, underscoring the need for a more global perspective. Indeed, evidence shows that the findings of several consumer social responsibility studies conducted in developed countries do not always apply to the realities of developing ones, as reported by Rampedi & Ifegbesan (2022) in South Africa, Čater & Serafimova (2019) in Macedonia, Patel et al. (2017) in India, or Rasool & Ogunbode (2015) in Pakistan.

In this context, the present study aims to contribute to filling this gap. The research question is "What are the variables that best characterize the varying levels of consumer activism around the world?". To answer it, CA is analyzed across 30 countries, spanning different continents and development levels.

Consumer Activism

Consumer activism (CA) encompasses a spectrum of deliberate actions and decisions, particularly in the realm of purchasing and consumption, where consumers consciously and voluntarily strive to instigate change in either the public sphere, directing demands at governments, or the private sector, by targeting companies or entire industries (Lekakis, 2022). Driven by political, social, environmental, or similar convictions, CA engages citizens in participation and positions the consumer as the key agent of change (Botha, 2018; Lightfoot, 2019).

At its core, CA serves as a socially transformative force, encapsulated by the notion of "being the change you want to see in the world" (De Moor, 2017). It represents actions aligned with what consumers perceive as "the right things to do". CA is interconnected with the most influential social change movements of our time, driven by a vision of how the world should ideally function (Lekakis, 2022). Central to these definitions is the moral imperative placed on consumers to actively participate in implementing sustainability, recognizing that companies cannot implement social, environmental, or ethical changes without their involvement (Lekakis, 2022; Reppmann et al., 2025).

Lekakis (2022:14) broadens the scope of CA by defining it as any “highly or loosely organized, collective, or individual actions that employ the market as an area of contestation, broadening the field of consumption”. This inclusive approach underscores the diversity of actions -both individual and collective- that consumers can take to drive positive changes.

The individual dimension of CA encompasses consumption choices, mainly boycotts and buycotts. While boycotting typically aims to penalize companies for undesirable practices, buycotting seeks to reward those that demonstrate positive behaviors, such as fair trade, sustainability, or corporate social responsibility (Zorell, 2019). These basic forms of CA transform everyday consumption from a private act into a collective strategy for social change (Lightfoot, 2019). Boycotts and buycotts are referred to as “individualized collective actions” (Micheletti & Stolle, 2015), meaning that although they are actions performed privately, they possess a collective spirit in their origins, effects, and objectives, aiming to bring about change in markets or social situations deemed undesirable by consumers.

Both boycotting and buycotting constitute critical manifestations of anti-brand movements that reflect a broader politicization of consumer behavior (Zorell, 2019). These practices represent forms of market-based resistance, as they utilize purchasing decisions to express political beliefs or ethical concerns (e.g., regarding labor practices, environmental harm, or human rights) (Zorell, 2019). Such ideological motivations often act as catalysts for activism, challenging the dominance and perceived irresponsibility of powerful brands, and influencing corporate behavior (Coppeland & Boulianne, 2022).

Some authors limit the concept of CA to these market-oriented boycott and buycott actions. For consumers, CA “is a way to participate that does not involve anything more than deciding where to spend their money” (Lightfoot, 2019:307), so “nearly everyone can participate in consumer activism” (Lightfoot, 2019:306). However, this view is limited because it overlooks other forms of individual (or individualized collective) actions such as practicing minimal consumption, bartering, or engaging in alternative economic practices (Lekakis, 2022). Furthermore, this author includes within the individual CA dimension other types of actions

not directly related to consumption choices, such as donating to NGOs, clicktivism (using social media for activism), socially responsible investing and divesting, and petitioning the government, among others (Lekakis, 2022). These actions reflect a transformation in the cultural meaning of consumption, with a broader understanding of CA that extends into various forms of civic engagement (Lighfoot, 2019; Copeland & Boulianne, 2022).

On the collective dimension, CA involves coordinated, group, and publicly performed actions (Muraro & Rifon, 2023). Expressions of this form of CA are generally linked to public protests or the promotion of interest groups to advance a particular cause (public sit-ins, marches, or temporary occupations of public spaces, among others) (Lekakis, 2022).

Nowadays, CA functions not only as an economic choice in response to material conditions or individual consumption preferences (Lekakis, 2022). It also reflects deeper ideological motivations. It is inherently political, as it acts as a form of cultural resistance to contest dominant corporate power (Santos-Muraro, 2023) and to press for structural reforms in governance and accountability (Lekakis, 2022). By engaging in practices that disrupt conventional consumption patterns (individual dimension) and participating in public discourse (collective dimension), consumers renegotiate the social meanings of brands, demanding increased corporate accountability and ethical reforms (Lorenzini & Forno, 2022).

Despite the recent traction and increased research, CA remains the most unexplored area in the field of social responsibility (Soni et al., 2021a). To address this, there is a call for additional research focused on the profile of the activist consumer (Ríos-Rodríguez et al., 2021).

What Influences Consumer Activism?

CA is a complex social phenomenon influenced by a variety of socioeconomic, cultural, and institutional factors (Zorell, 2019; Lekakis, 2022; Copeland & Boulianne, 2022). In this section, the main variables that characterize the profile of an activist consumer are examined. Beyond the conventional socioeconomic variables commonly analyzed -such as gender, age, or education-, this study also assesses the relevance of consumers' country of residence and environmental concern.

Consumer's Gender

The literature consistently portrays women as more inclined toward CA than men. When consumers from developed economies are analyzed, the most common findings reveal a trend of women showing greater environmental awareness, stronger support for social and environmental causes, and a higher propensity for environmentally and socially conscious purchasing (Kennedy et al., 2015; Ríos-Rodríguez et al., 2021). This trend is also observable in some studies on emerging economies such as India (Patel et al., 2017) or Pakistan (Rasool & Ogunbode, 2015). However, some authors present a more nuanced picture, suggesting a weak association between gender and environmental variables (Sargisson et al., 2020) or even no significant relation (Čater & Serafimova, 2019; Okumah et al., 2021). Schwalb et al. (2023) also found that gender does not contribute to explaining the differences in boycotting and

buycotting. It is important to note that several of these studies are recent and focus on emerging economies.

Consumer's Age

Findings from the literature also indicate mixed results. Some studies report a positive relationship between age and several forms of CA. Older individuals would exhibit stronger environmental concern and more ecologically conscious behavior (Patel et al., 2017; Smith & Kingston, 2021). Conversely, other studies emphasize that consumer activists are often younger, characterized by a proactive stance on climate change, and are more likely to use social networks for environmental activism (Boulianne, 2022). A third group of studies has found higher levels of socially responsible consumption and environmental behavior among middle-aged consumers compared to younger and older consumers (Čater & Serafimova, 2019; Ríos-Rodriguez et al., 2021). Finally, some studies report no relationship between age and the perception of the severity of climate change (Sargisson et al., 2020) or with the level of political consumption (Schwalb et al., 2023). Smith & Kingston (2021) suggest that differences in pro-environmental attitudes across age groups are diminishing due to the growing awareness across generations of the increasingly evident consequences of climate change.

Consumer's Level of Education

Education is the demographic variable most consistently linked to environmental behavior (Franzen & Bahr, 2024), receiving the greatest attention from researchers (Patel et al., 2017). Ample evidence in the literature reveals that the higher the consumers' educational level, the greater their engagement in different forms of CA (Patel et al., 2017; Smith & Kingston, 2021; Rampedi & Ifegbesan, 2022; Schwalb et al., 2023). It is generally assumed that education is a facilitator factor for environmental consciousness to emerge (Sargisson et al., 2020). Highly educated individuals acquire knowledge about environmental issues through schooling. Thus, they are more likely to exhibit pro-environmental behavior, be willing to pay to protect the environment, and buy products with environmental labels (Patel et al., 2017). This pattern of behavior appears consistently among well-educated consumers from countries with different levels of development (see Noth & Tonzer, 2022 for Germany or Rampedi & Ifegbesan, 2022 for South Africa, among others). However, some studies report mixed results. In an international comparative study, Schwalb et al. (2023) conclude that education does not explain the level of CA in every country analyzed, but when it does, it seems to influence in the expected direction. Similarly, a few studies have found no relationship between educational level and environmental concern (Kennedy et al., 2015).

Consumer's Country of Residence

Home country conditions -geographical, economic, societal, and political- influence CA (Zorell, 2019, 2020). Societies that achieve economic security tend to shift their values from material and survival needs toward quality of life, self-expression, and social and

environmental concerns (Yeganeh, 2024). Conversely, in countries with lower levels of economic development, a significant portion of the population remains focused on fulfilling basic needs such as food, housing, health, and employment. CA, which often targets ethical, environmental, or social issues beyond the basic functionality of products, may thus be perceived as a first-world problem (Kutaula et al., 2024).

In developed countries, a high level of education and access to information lead to increased awareness of social and environmental issues, which in turn drives CA and facilitates the organization of activist movements (Rampedi & Ifegbesan, 2022). In contrast, in countries with lower educational attainment and limited access to information, awareness of topics such as labor rights, the environmental impact of production, or unfair business practices tends to be lower, reducing the likelihood that consumers will mobilize around these issues (Echegaray, 2016).

Citizens of developed countries generally possess greater purchasing power and more discretionary time than those in developing nations, enabling them to participate more actively in campaigns. In addition, they often benefit from more established consumer advocacy organizations and greater access to digital tools for mobilization and information dissemination (Copeland & Boulianne, 2022).

Regulatory frameworks for consumer protection and mechanisms for addressing complaints and grievances related to questionable business practices tend to be more robust in developed countries, thereby facilitating empowered CA (Schwalb et al., 2023). In contrast, in developing countries, where regulatory frameworks, consumer protection institutions, and law enforcement mechanisms are often weaker, CA is discouraged, as individuals may perceive their actions as unlikely to produce meaningful change (Soni et al., 2021b; Rampedi & Ifegbesan, 2022).

Finally, in countries with higher levels of development, where there is often a greater tradition of questioning authority and demanding responsible corporate behavior, CA is viewed as a legitimate form of civic participation (Lekakis, 2022). In contrast, in developing countries, social norms may prioritize conformity and acceptance of existing business practices, even when perceived as unfair. In these countries, public criticism of companies may be less common or even discouraged, thereby weakening CA (Zorell, 2020).

Consumer's Environmental Concern

Concern for the environment and awareness of environmental problems involve seriously considering the environmental issues, respecting nature, and being willing to improve the environmental situation (Noth & Tonzer, 2022; Rampedi & Efegbesan, 2022). Several studies report that individuals who value the environment and are more aware of environmental problems tend to exhibit greater CA in the market (Ergen et al., 2014; Patel et al., 2017; Memmott et al., 2021; Smith & Kingston, 2021; Schwalb et al., 2023). Concern for the environment is linked to an individual's willingness to make sacrifices to adopt pro-environmental behaviors. Therefore, if individuals are not willing to make the sacrifices required -such as changing habits, devoting time, accepting a less efficient product than the regular one, or spending more money on environmentally friendly products- they will not act

sustainably, even if they are concerned about the environment (Smith & Kingston, 2021). The willingness to sacrifice and commit to environmental causes is one of the main factors that influence consumer behavior and could explain the intention-behavior gap (Botha, 2018). Conversely, optimism about the environmental situation, promoted by those who minimize the seriousness of the environmental situation, acts as a barrier to environmental activism (Jiménez-Castillo & Ortega-Egea, 2015). If individuals do not perceive the environmental threats as serious and requiring immediate attention, they are less likely to engage in CA (Soni et al., 2021a).

Environmental awareness and concern for ecological issues constitute a global phenomenon that transcends the confines of developed nations and has shown a consistent increase in recent years (Glocalities, 2021). This increasing environmental awareness transcends social strata, encompassing individuals across advanced and developing economies, diverse geographical regions, various age cohorts, educational backgrounds, genders, and sociocultural value systems (Glocalities, 2021). This widespread concern underscores the universal relevance of environmental issues and suggests a broad-based foundation for CA. Although its expressions may vary across different national contexts, the fundamental impetus of environmental concern remains a common denominator on a worldwide scale (Franzen & Bahr, 2024).

Method

This study is based on secondary data provided by GlobeScan for 30 countries. Data were originally collected in each country by surveying representative online samples as part of a comprehensive research program called *GlobeScan Radar*, "a global public opinion research program of evidence and insights that helps influential organizations understand their material issues, societal trends, and public expectations" (GlobeScan, 2024). The fieldwork for the online surveys was done in June and July 2021 (GlobeScan, 2021). Concerning online sampling, it must be acknowledged that certain population segments may be underrepresented in regions where internet access is uneven due to infrastructural limitations, socioeconomic disparities, or rural-urban divides. As data were not weighted for this study, this could bias the results in some developing countries, leading to results that disproportionately reflect the views and experiences of more connected, urban, or affluent respondents.

Some of the operational variables were measured directly through specific questions in the questionnaire:

- Age. Measured in years.
- Gender. Provided as a dichotomic variable, male and female.
- Country of Residence. A nominal variable.
- Level of Education. An ordinal variable ranked from 1 ("Not having completed high or secondary school") to 4 ("Having completed university studies").

Other variables, however, were constructed by the authors by selecting, from among the available questions in the original GlobeScan questionnaire, those considered most appropriate:

• Consumer Activism (CA). The dependent variable was measured with the question: "*In the past year, have you done any of the following to make a difference on an economic, environmental, social, or political issue that you care about?*". Respondents were presented with five actions, shown in random order:

a. Expressed my opinion online.
b. Changed my purchase choices.
c. Donated money or volunteered my time.
d. Protested publicly at events and rallies.
e. Organized support in my community for the issue.

Action (a) reflects digital and expressive activism. Action (b) captures market-based or ethical consumer behavior. Action (c) measures commitment through resource allocation. Action (d) indicates political and public engagement. Action (e) highlights grassroots and community-based activism. These items may not fully capture the complexity of the CA construct, but they were chosen from the questionnaire for their ability to reflect a diverse and representative range of activist behaviors commonly discussed in the previously presented literature.

For each action, respondents answered either "yes" (coded as 1) or "no" (coded as 0). Rather than simply summing the affirmative responses, dividing the total by five, and generating a basic CA index, responses were weighted in advance. Following the recommendations of Barry et al. (2022), the researchers acknowledged that each action could reflect different levels of personal effort and intensity in CA. To validate this assumption, fifty experts -university professors from Europe and Latin America- were consulted. In addition to confirming the face validity of the five actions as indicators of the two dimensions of CA, panelists rated each action based on its perceived level of effort and activism intensity, using a scale from 0 (lowest) to 10 (highest). The average scores and standard deviations for each action were as follows:

a. 5.16 (2.28).
b. 7.58 (1.71).
c. 7.32 (1.96).
d. 6.82 (2.10).
e. 8.12 (2.34).

Given the high internal consistency of the ratings for each action (low values of standard deviations), a weighted factor was computed by dividing each action's mean score by the sum of the mean scores across all five actions. For example, an affirmative response to action (a) *Expressed my opinion online* was weighted as follows: 5.16 / (5.16 + 7.58 + 7.32 + 6.82 + 8.12) = 0.147 CA points.

The final quantitative variable "Consumer Activism" was computed as the sum of the five weighted responses. It ranges from 0 (no participation in any action) to 1 (participation in all five actions).

• Environmental Concern. It was measured using two items. The first one was an ordinal measure based on respondents' answers to the question: "*How much would you like to change your lifestyle to be more environmentally friendly, reducing your impact on the environment and the climate?*". Response options were: 0 ("Not at all"), 1 ("A little"), 2 ("Moderately"), and 3 ("A great deal"). This item assessed the respondent's *intention to change* their lifestyle due to their environmental concern. The second item was also an ordinal measure, based on respondents' answers to the question: "*Have you made any changes to your lifestyle in the past year to be more environmentally friendly, reducing your impact on the environment and the climate?*". Response options were: 0 ("No"), 1 ("Yes, minor changes"), 2 ("Yes, some changes"), and 3 ("Yes, major changes"). This item measured *real changes* in the respondent's lifestyle due to their environmental concern.

Following the methodology proposed by Schwalb et al. (2023), which combines intentional and real behaviors into a single quantitative measure, the *real changes* item was weighted by a factor of 3 to emphasize its importance. This aligns with the Theory of Planned Behavior proposed by Ajzen (2005), which argues that, when assessing behavior, greater emphasis should be placed on real performance rather than on intention to act, as intentions do not always result in action. While intention reflects a favorable attitude toward a given behavior, it does not constitute action itself and therefore warrants a lower score.

Additionally, one extra point was added if a respondent's *intention to change* score exceeded their *real change* score. For example, if a respondent selected 2 ("Yes, some changes") for *real changes* and 3 ("A great deal") for *intention to change*, the total Environmental Concern score would be 7 (2×3=6 for real changes + 1 extra point, because the *intention-to-change* score is higher than the *real-change* score). This point would not be added if the respondent selected 0 ("Not at all"), 1 ("A Little"), or 2 ("Moderately") for *intention to change*. This adjustment, when applicable, acknowledges respondents who wish to change their lifestyles but have not yet fully translated their intentions into actions at the same level. The panel of 50 experts unanimously supported the inclusion of this additional point and agreed on the content validity of the resulting variable. The final Environmental Concern score is represented as a quantitative variable ranging from 0 (consumers who do not consider making any changes in their lifestyle due to environmental concern) to 9 (consumers who have implemented major changes in their lifestyles motivated by environmental concern).

Table 1 presents the sample sizes and the main descriptive results of the operational variables crossed by country.

Table 1(a)

Sample Sizes and Descriptive Statistics of the Operational Variables

Country	n	Age		Gender (%)		Level of Education (%)			
		$\overline{X}$	S	Fem.	Male	1	2	3	4
Argentina	1,000	40.1	15.6	51.0	49.0	5.1	25.6	39.3	30.0
Australia	1,053	46.0	18.3	58.6	41.4	9.9	22.8	25.8	41.5
Brazil	1,200	40.0	15.1	50.6	49.4	.7	2.8	50.1	46.4
Canada	1,000	45.8	17.9	50.9	49.1	4.2	28.9	29.1	37.8
China	1,005	37.1	13.0	46.3	53.7	1.1	10.6	35.0	53.2
Colombia	1,000	41.3	15.5	51.2	48.8	19.3	22.5	22.5	35.7
France	1,028	46.9	17.7	53.8	46.2	20.3	24.6	21.6	33.5
Germany	1,000	45.7	18.1	50.9	49.1	3.5	14.2	63.8	18.5
Hong Kong	501	40.0	14.3	54.1	45.9	4.4	22.4	19.4	53.9
India	1,005	37.4	14.9	47.6	52.4	4.3	11.9	11.2	72.5
Indonesia	1,019	37.4	13.0	48.5	51.5	3.4	35.7	6.4	54.5
Italy	1,000	45.7	17.6	53.6	46.4	5.2	54.7	9.7	30.4
Japan	997	47.8	17.6	50.5	49.5	2.9	35.3	22.0	39.8
Kenya	1,021	30.1	8.8	49.4	50.6	1.1	15.6	20.0	63.4
Mexico	1,000	38.3	13.6	51.2	48.8	5.0	27.5	15.2	52.3
Netherlands	1,008	46.0	18.2	51.4	48.6	16.3	14.5	35.7	33.5
Nigeria	1,000	31.6	9.1	46.2	53.8	3.7	12.2	11.1	73.0
Peru	1,000	34.9	12.3	50.8	49.2	14.8	15.6	31.3	38.3
Portugal	1,000	42.4	15.8	52.6	47.4	8.3	34.2	27.5	30.0
Russia	1,000	41.9	15.7	53.7	46.3	2.3	16.3	37.5	43.9
Singapore	500	43.7	16.7	50.8	49.2	13.0	13.0	23.2	50.8
South Africa	1,000	38.6	15.0	51.2	48.8	3.1	34.9	32.0	30.0
South Korea	1,001	42.1	16.1	50.8	49.2	2.5	25.5	15.7	56.3
Spain	1,000	44.1	17.1	50.9	49.1	8.4	27.0	34.6	30.0
Sweden	1,000	48.8	17.8	50.0	50.0	9.6	47.8	12.6	30.0
Thailand	1,000	38.3	13.5	51.6	48.4	8.3	23.5	8.4	59.8
Turkey	1,001	34.8	12.0	52.0	48.0	3.9	27.8	7.2	61.1
United Kingdom	1,000	46.5	18.5	50.8	49.2	10.9	25.4	26.9	36.8
United States	1,000	45.2	18.3	50.8	49.2	3.1	30.1	36.8	30.0
Vietnam	1,000	34.4	11.9	51.8	48.2	1.4	21.5	6.7	70.4

TOTAL	29,339	41.1	16.3	51.1	48.9	6.6	24.2	24.9	44.3

Table 1(b)

Sample Sizes and Descriptive Statistics of the Operational Variables

Country	Consumer Activism		Environmental Concern	
	$\overline{X}$	S	$\overline{X}$	S
Argentina	.305	.215	6.08	2.51
Australia	.229	.221	5.02	2.87
Brazil	.314	.225	6.00	2.30
Canada	.228	.209	5.02	2.72
China	.412	.243	6.59	2.13
Colombia	.347	.218	7.11	1.98
France	.229	.199	5.54	2.71
Germany	.242	.200	4.95	2.81
Hong Kong	.295	.224	5.14	2.30
India	.392	.247	6.98	2.19
Indonesia	.368	.237	6.71	1.88
Italy	.286	.209	6.19	2.28
Japan	.165	.180	3.80	2.61
Kenya	.380	.249	6.67	2.21
Mexico	.314	.204	6.77	2.12
Netherlands	.221	.203	4.41	2.79
Nigeria	.359	.232	6.39	2.43
Peru	.357	.220	6.95	1.99
Portugal	.263	.195	5.46	2.39
Russia	.198	.185	4.60	2.80
Singapore	.240	.209	5.28	2.41
South Africa	.329	.231	5.90	2.50
South Korea	.204	.187	4.96	2.43
Spain	.257	.215	5.67	2.59
Sweden	.256	.224	4.63	2.77
Thailand	.362	.237	6.83	1.94
Turkey	.321	.220	6.35	2.44
United Kingdom	.213	.206	4.84	2.78
United States	.235	.216	5.10	2.94

Country	Consumer Activism		Environmental Concern	
	$\overline{X}$	S	$\overline{X}$	S
Vietnam	.412	.226	7.09	1.93
TOTAL	.292	.228	5.79	2.61

Given the nature of the dependent variable (quantitative) and the independent variables (categorical or quantitative), the CART method (Classification and Regression Trees) was chosen for data processing. CART is an algorithm for constructing decision trees. It is a robust non-parametric data analysis technique which, in its regression version, is used to predict the value of a quantitative dependent variable based on predictor variables, by splitting observations into more homogeneous subsets concerning the dependent variable. CART considers variance reduction to select the optimal split at each node. This process is repeated recursively until a predefined stopping criterion is met, evaluating all features and cutoff points at each node.

One of the main advantages of CART decision trees is their interpretability. These models allow for the visualization of the decision-making process, making it easier to understand how predictions are generated, which enhances the transparency and communicability of results (Everitt, 2005). As a non-parametric technique, CART decision trees are highly flexible and can handle both numerical and categorical data without requiring additional preprocessing, which makes them highly adaptable to a wide range of data types. Another significant advantage of CART is its ability to reveal relationships between variables that could not be discovered using more rigid, parametric techniques. For example, it does not require data normalization, as it is not sensitive to the scale of the features. Furthermore, while linear regression assumes a linear relationship between independent and dependent variables, CART does not impose such constraints, making it particularly useful when the underlying structure of the data is unknown or difficult to model parametrically (Zhu et al., 2012). Since earlier research has highlighted that consumers may use a variety of approaches to voice their activism (Lekakis, 2022; Schwalb et al., 2023), a non-linear approach offers a more accurate way to reflect the spectrum of activist actions.

Results

The resulting CART model is presented in Figure 1. The final number of nodes in the model is 9. It is also observed that:

- Consumer's Environmental Concern splits nodes 1 (initial sample), 2, 6, and 15.
- Consumer's Country of Residence" splits nodes 3, 4, and 5.
- Consumer's Level of Education" splits nodes 7.

Associated with this model, Table 2 presents the main statistics (size, mean, and deviance) for each "father" node before and after its splitting into the two "child" -upper and lower-

nodes. The last column shows the deviance reduction in the child nodes compared to their parent node. The global deviance reduction for the whole sample is 259.663. Finally, mean squares are calculated to perform an F-test and conclude that all node splits result in a significant reduction of deviance compared to the parent node ($p<0.001$).

Figure 1
CART Model

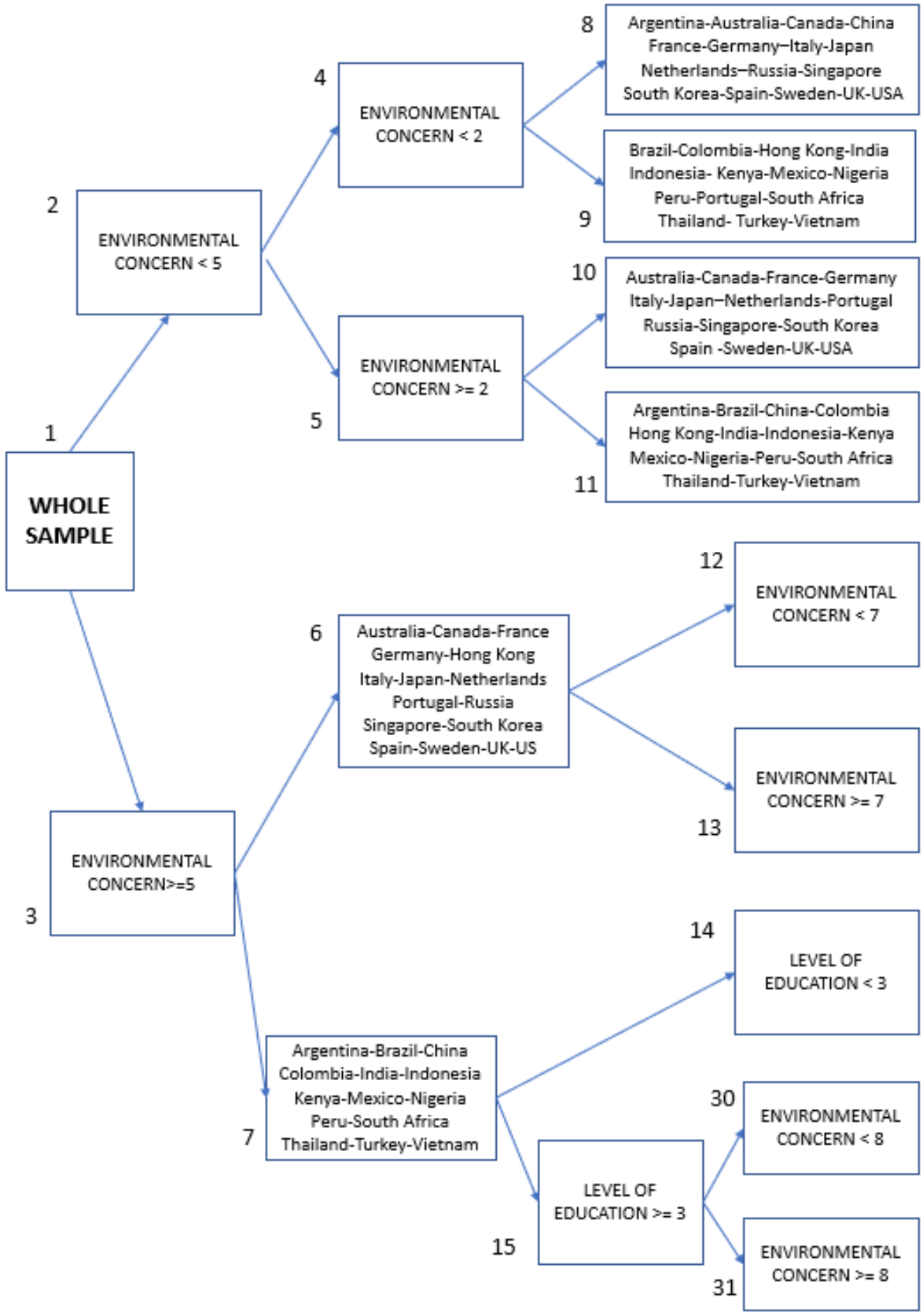

Table 2(a)

Descriptive Statistics of the Model Nodes and F Test for Node Splits

Node	FATHER NODE			
	n	$\bar{x}$	Total deviance	Variable that splits the node
1	29,339	0.292	1,519.385	Environmental Concern
2	9,838	0.195	385.053	Environmental Concern
3	19,501	0.341	994.205	Country
4	3,597	0.123	107.936	Country
5	6,241	0.236	248.202	Country
6	9,221	0.294	396.788	Environmental Concern
7	10,280	0.384	558.193	Education
15	7,759	0.404	428.667	Environmental Concern

Table 2(b)

Descriptive Statistics of the Model Nodes and F Test for Node Splits

Father Node	UPPER CHILD NODE				LOWER CHILD NODE				Deviance explained by the node division
	Node	n	$\bar{x}$	Remaining deviance	Node	n	$\bar{x}$	Remaining deviance	
1	2	9,838	0.195	385.053	3	19,501	0.341	994.205	140.127
2	4	3,597	0.123	107.936	5	6,241	0.236	248.202	28.916
3	6	9,221	0.294	396.788	7	10,280	0.384	558.193	39.224
4	8	2,422	0.095	56.046	9	1,175	0.183	45.742	6.148
5	10	3,805	0.202	129.714	11	2,436	0.289	107.419	11.069
6	12	3,852	0.252	141.193	13	5,369	0.324	244.075	11.521
7	14	2,521	0.321	116.630	15	7,759	0.404	428.667	12.897
15	30	4,633	0.375	228.014	31	3,126	0.447	190.892	9.761
									259.663

Table 2(c)

Descriptive Statistics of the Model Nodes and F Test for Node Splits

Node	MEAN SQUARES			F	p
	Total (df=n-1)	Explained (df =1)	Remaining (df=n-1-1)		
1	0.05179	140.127	0.04701	2,980.52	<0,001
2	0.03914	28.916	0.03621	798.61	<0,001
3	0.05098	39.224	0.04898	800.87	<0,001
4	0.03002	6.148	0.02831	217.12	<0,001
5	0.03978	11.069	0.03801	291.22	<0,001
6	0.04304	11.521	0.04179	275.67	<0,001
7	0.05430	12.897	0.05305	243.08	<0,001
15	0.05525	9.761	0.05400	180.74	<0,001

Figure 1 and Table 2 show that:

- When Environmental Concern splits a node, the resulting child node with the lower level of environmental concern consistently exhibits a lower level of CA. This pattern is observed in the splits of node 1 (creating nodes 2 and 3, with CA values of 0.195 and 0.341), node 2 (creating nodes 4 and 5, with CA values of 0.123 and 0.236), node 6 (creating nodes 12 and 13, with CA values of 0.252 and 0.324), and node 15 (creating nodes 30 and 31, with CA values of 0.375 and 0.447).

- When Country of Residence splits a node, the resulting division generally, with minor exceptions, assigns countries with a higher Human Development Index (HDI, see UNDP, 2025) to the upper child node, and those with a lower HDI to the lower child node. Notably, the node containing countries with higher HDI consistently exhibits a lower CA value than its counterpart comprising countries with lower HDI. This pattern is observed in the splits of node 3 (creating nodes 6 and 7, with CA values of 0.294 and 0.384), node 4 (creating nodes 8 and 9, with CA values of 0.095 and 0.183), and node 5 (creating nodes 10 and 11, with CA values of 0.202 and 0.289).

- When Level of Education splits a node, the resulting child node with a lower level of education also exhibits a lower level of CA. This is observable in the split of node 7 (creating nodes 14 and 15, with CA values of 0.321 and 0.404).

- The two groups exhibiting the highest levels of CA are located within nodes 31 (CA = 0.447) and 30 (CA = 0.375). These consumers exhibit high levels of education (at least 3, as they originate from node 15) and belong to countries with lower HDI (dominant country profile in node 7). The primary distinction between these two groups lies in their

Environmental Concern (EC) scores: in node 31, EC is notably high—the highest in the sample, with a score of at least 8 on a scale from 0 to 9— whereas in node 30 EC is somewhat lower, falling below 8 but remaining at or above 5, originating from node 3.

• Conversely, the two groups with the lowest levels of CA are situated within nodes 8 (CA = 0.095) and 9 (CA = 0.183). These consumers exhibit very low Environmental Concern (less than 2 on a scale from 0 to 9, originating from node 4). The key difference between these groups pertains to their countries' profiles: in general, those in node 8 are nations with higher HDI than those in node 9.

Analysis and Discussion

Table 3 summarizes the relative contribution of each independent variable to the global deviance reduction (17.09%). Environmental Concern emerges as the most contributing variable, accounting for 73.29% of the explained reduction, followed by Country of Residence at 21.74%. In contrast, Education accounts for only 4.97%.

Table 3
Relevance of the Independent Variables in the Model

VARIABLE	Explained deviance	Deviance explained by the variable	
		as % of the total deviance in the initial node	as % of the deviance explained by the whole model
Environmental Concern	190.325	12.53	73.29
Country of Residence	56.441	3.71	21.74
Level of Education	12.897	0.85	4.97
	259.663	17.09	100.0

CA appears to be more strongly associated with contextual and situational factors that go beyond conventional sociodemographic variables such as gender identity and age. Gender does not contribute to explaining any significant differences in the level of CA (see Table 3). This finding contradicts the widely accepted view in the literature regarding the so-called "reversed gender gap in politically motivated consumption" (Gundelach & Kalte, 2021), which suggests that women tend to be more sensitive than men to environmental issues (Patel et al., 2017), exhibit stronger pro-environmental behavior (Ríos-Rodríguez et al., 2021), and act more responsibly as consumers (Čater & Serafimova, 2019). However, this lack of gender influence is not entirely new and aligns with recent studies that report no relationship between gender and pro-environmentalism (Okumah et al., 2021), or between gender and political consumer behavior (Schwalb et al., 2023). The lack of a relationship between age and the CA level is also consistent with the findings from various studies (Patel et al., 2017; Sargisson et al., 2020;

Schwalb et al., 2023). It seems as if the widespread access to information via the internet and social media has allowed individuals of all genders and age groups to engage with the same content, social movements, and campaigns. This shared exposure may contribute to similar levels of CA, regardless of a person's demographic profile.

Regarding the contextual and situational factors, consumers' level of education accounts for 4.97% of the explained deviation (see Table 3). Much of the literature evidences a direct relationship between education and CA in well-educated consumers around the world, regardless of their level of economic development. Examples include Germany (Noth & Tonzer, 2022), Ghana (Okumah et al., 2021), India (Patel et al., 2017), Macedonia (Čater & Serafimova, 2019), Pakistan (Rasool & Ogunbode, 2015), Turkey (Ergen et al., 2014), the United States of America (Smith & Kingston, 2021; Memmott et al., 2021), or South Africa (Rampedi & Ifegbesan, 2022), among others. However, in this study, this effect cannot be generalized to the entire sample, because consumer education only influences the CA level of consumers from countries with the lowest HDI levels. This may be explained by the marginal effect of education in countries with a high HDI level. In these countries, where the overall educational level is higher and more homogeneous, the impact of education on CA tends to be diluted. In other words, education ceases to be a differentiating factor, as even individuals with lower levels of formal education are typically exposed, through media, public policies, or social networks, to messages about ethical consumption and sustainability. In contrast, in countries with lower HDI levels, generally developing economies or less developed countries, social and economic inequalities are more pronounced, and education can still play a more transformative role. That is, it provides not only knowledge but also fosters critical awareness of unfair or unsustainable practices, which in turn may encourage higher levels of CA.

A third relevant outcome is the significant influence of consumers' country of residence in explaining the different levels of CA. This variable accounts for 21.74% of the explained deviation (see Table 3). However, the results of this study evidence that CA is no longer confined to the Global North. These results contradict the findings of Zorell (2019, 2020), who indicates that countries with a more organized political life and greater social capital -generally corresponding to countries with a high HDI value- also tend to have higher levels of CA (Schwalb et al., 2023). A possible explanation for this contradictory finding may be a potential bias due to the sample composition in developing countries: consumers with internet access and generally high educational levels. Another more conceptual explanation could be reflected in the assertion of several authors (Rampedi & Ifegbesan, 2022 in South Africa; Čater & Serafimova, 2019 in Macedonia; Patel et al., 2017 in India). They assert that the results of consumer social responsibility studies conducted in developed countries do not always apply to the reality of developing countries. Certainly, in countries with lower levels of HDI, populations are more directly affected by social and environmental problems. Consumers in these countries are increasingly aware of how globalization or the negative impacts of business practices are taking place in a way that can comparatively harm their countries (Lekakis, 2022). This exposure could have led to a heightened critical awareness and a stronger perceived need to take action to address this inefficiency. The GlobeScan (2024) report also indicates that people in developing countries are more directly affected by the impacts of climate change, and suggests that this heightened awareness may lead to stronger levels of citizen demands for climate justice and more effective environmental policies. Furthermore, these countries also

tend to have weaker institutions and fewer consumer protection regulations, which may prompt individuals to turn to CA as an informal form of pressure, particularly when other avenues for civic engagement, such as voting or formal protest, are less effective or accessible. In these countries, consumers may perceive their own choices as more influential or even necessary to safeguard their interests and those of their communities (Echegaray, 2016).

The last and most relevant finding involves environmental concern, which is the variable that contributes the most to explaining the differences in the level of CA across the whole sample, accounting for 69.11% of the explained deviation (see Table 3). In this study, a significantly positive relationship is observed: the greater the consumer's environmental concern, the higher their level of CA. This important finding matches the assertions of several authors (Memmott et al., 2021; Smith & Kingston, 2021; Noth & Tonzer, 2022). It also aligns with Schwalb et al. (2023), who conclude that environmental awareness is the variable that contributes most to explaining the behavior of boycotters and buycotters. Finally, results support the UNDP's (2024) key message: the population around the world has integrated environmental awareness into their everyday thinking and life decisions. Environmental concern serves as the fundamental motivation for CA because it directly relates to the well-being of both current and future generations. This awareness fosters a sense of responsibility expressed worldwide (UNDP, 2024).

Conclusion

This study reveals that environmental concern is the main driving force behind consumer activism (CA) worldwide. As people around the globe become more aware of the ecological challenges that the planet is facing, they increasingly seek to align their purchasing decisions with their values, fostering a more sustainable and environmentally conscious marketplace. Other traditional sociodemographic variables have no impact (such as gender or age), or only a limited one (such as level of education), on the degree of CA.

The findings challenge the conventional assumption that CA is predominantly a feature of highly developed societies. This reinforces the idea that, beyond environmental concern, there is no one-size-fits-all international profile for consumer activists. The characteristics of CA in developing countries cannot be assumed to be the same as those in more developed countries. In developing countries, CA becomes not merely an ethical stance, but a mode of resistance and a means of reclaiming agency in environments where formal mechanisms for accountability are limited. These insights call for a broader, more inclusive understanding of CA—one that recognizes its diverse manifestations across different developmental settings.

In a world increasingly affected by climate change, pollution, and biodiversity loss, an informed and conscious population is key to generating meaningful change. Today's consumer can easily share positive or negative information about brands and corporations, and markets are increasingly shaped by conscious consumer choices. This growing environmental concern will ultimately have a direct influence on both public and corporate decisions. Organizations must understand and respond to this global concern by demonstrating a commitment to responsible environmental practices, supported by specific, clear, and honest communication campaigns. This is particularly important for businesses operating in contexts where consumer

activism is high. Failure to align with these societal expectations may result in heightened levels of CA. This, in turn, could lead to greater public skepticism towards businesses or, even worse, an increasingly hostile environment that threatens their license to operate. Policymakers should promote stricter environmental regulations that require businesses to adopt sustainable practices, minimize their ecological footprint, and be held accountable through transparent reporting. To increase consumer environmental awareness, they could support targeted educational campaigns, ensure equitable access to verified environmental information, and empower individuals to make more informed and ethical choices. Collaborating with social organizations and establishing formal channels for citizen participation in environmental policymaking would also foster public trust in climate-related policies.

Finally, this study presents several limitations that should be explicitly acknowledged. First, reliance on online data collection may have introduced sampling biases, particularly in regions with limited internet access. This could compromise the external validity of the findings. Future research should employ more demographically representative sampling strategies to address this concern. Second, certain variables were assessed using only a limited number of items. Although a panel of experts deemed these items suitable indicators of the intended constructs, their validity could be strengthened by using more comprehensive measurement scales in future studies. Lastly, the country variable warrants a more nuanced analysis. It is suspected that variations in CA are shaped not only by socioeconomic disparities but also by deeper socio-cultural factors (e.g., local activist networks) and institutional factors (e.g., institutional mistrust) embedded within each country. These factors were not directly measured in the present study and should be examined more explicitly in future research.

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