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Corporate Social Responsibility and Environmental Management

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Corporate Social Responsibility and Circular Economy from the perspective of consumers: a cross-cultural analysis in the cosmetic industry

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Corporate Social Responsibility and Circular Economy from the perspective of consumers: a cross-cultural analysis in the cosmetic industry

Camila Kolling, José Luis Duarte Ribeiro, Donato Morea, Gianpaolo Iazzolino

Abstract: Corporate social responsibility (CSR) and circular economy (CE) have assumed considerable importance **in the efforts for sustainable development**. However, some consumers do not positively respond to CSR and CE activities, and few studies have analyzed the consumers' perspective about the topics. This study investigates consumer knowledge and perception about CSR and CE and their willingness to pay (WTP) for products from companies that follow these concepts, examining differences according to demographic characteristics. We carried out a survey with 302 Brazilian and Italian consumers of cosmetic products. Our results show that most consumers have a low understanding of CSR and CE and a low perception of the socio-environmental initiatives of companies that follow CSR and CE concepts. Nevertheless, most consumers show WTP for products from companies that follow these concepts. We identified demographic variables that allowed us to relate the profile of consumers with their knowledge about CSR and CE and their WTP. We provide insights for companies and policymakers in advancing toward CSR and CE.

Keywords: Corporate Social Responsibility. Circular Economy. Cosmetic industry. **Sustainable Development. Consumer engagement. Willingness to pay.**

1 Introduction

Corporate social responsibility (CSR) and circular economy (CE) have assumed considerable importance in achieving United Nations' sustainable goals (Puntillo, 2022; Rashed & Shah, 2021; Schroeder, 2018). CSR advocates that companies have responsibilities towards the societies in which they operate and make profits. They must behave ethically and respect the law (H. Wang et al., 2016). A circular economy represents a cyclical economic model of production and consumption, replacing the "end-of-life" concept with reusing, reducing, repairing, recycling, and recovering materials (Ellen MacArthur Foundation, 2013; Kirchherr et al., 2017). CE aims to minimize and eliminate waste and pollution and maintain the value of materials and resources as long as possible (Nobre & Tavares, 2021). These central topics demand increased environmental and social awareness from consumer and management perspectives (Esken et al., 2018; Jaca et al., 2018; Meseguer-Sánchez et al., 2021).

Previous studies have indicated that consumers are becoming more concerned about the environment and firms' operations in society, and they are raising their expectations regarding the sustainable responsibilities of companies (Bom et al., 2019; Garcia et al., 2021; Sarja et al., 2021). Consequently, companies have been increasingly engaged in CSR and CE activities (Mazzucchelli et al., 2022; Rashed & Shah, 2021). They are changing the way to run their business to help achieve Sustainable Development Goals (Morea et al., 2021) while aligning

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1 their environmental and social strategies to achieve competitive advantage (Zhang & Ahmad,
2 2021).

3 However, companies who engage in these sustainable initiatives are not always
4 recognized and rewarded by their consumers. Consumers do not always positively respond to
5 corporate social responsibilities (Afzali & Kim, 2021; Deng & Xu, 2017) and CE practices
6 (Sarja et al., 2021; Sijtsema et al., 2020). Nonetheless, sustainable activities' success depends
7 on consumers' motivations and attitudes toward purchasing decisions (Camacho-otero et al.,
8 2018; Lakatos et al., 2018; Testa et al., 2020). **Consumers, through purchase and post-purchase
9 choices and behaviors, are as responsible as companies (Cambra-Fierro et al., 2020).** Also,
10 significant efforts have been put into policies aimed at production processes, and only in recent
11 years has the importance of the consumption perspective been highlighted (Sijtsema et al.,
12 2020).

13 In this sense, recent studies emphasize the need for research on CSR (Waheed et al.,
14 2020) and CE (Kirchherr et al., 2017; Lakatos et al., 2018; Merli et al., 2018) from a consumer
15 perspective. Knowledge of consumers' perceptions provides valuable insights into how they
16 experience CSR and CE and if companies' initiatives bring desirable effects (Hur & Kim, 2017;
17 Shi et al., 2017; Sijtsema et al., 2020). Understanding consumers' perception also contributes
18 to companies establishing CSR programs (Huang et al., 2019) and designing circular business
19 models (Lakatos et al., 2018). There are also opportunities for empirical research exploring
20 CSR and CE and their influence on purchasing choices (Fortunati et al., 2020; Morea et al.,
21 2021).

22 While the literature provides important studies on this topic, researchers often focus on
23 CSR perception and purchase intention. As Khan & Sukhotu (2020) mentioned, research on
24 customer perception of CSR is still developing. Additionally, so far, the literature regarding
25 consumers' perspectives and perceptions of CE has focused on specific solutions and studied
26 consumer acceptance of specific types of products. For example, there are studies involving
27 willingness to pay (WTP) for products with different end-of-life scenarios (reuse, recycling,
28 and remanufacturing) (Atlason et al., 2017), circular attributes (Boyer et al., 2021; Pretner et
29 al., 2021), or Product-as-Service-Systems (PSS) initiatives (Gülserliler et al., 2021; Loon et al.,
30 2018). In addition, consumers' perception of CE has been analyzed through qualitative studies
31 (Korsunova et al., 2021; Sijtsema et al., 2020).

32 To the best of our knowledge, there are no quantitative studies regarding consumer
33 perceptions of the CE practices of companies. The same research gap exists even in the

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1 relationship between CSR and CE. Little is known about how these concepts and companies' initiatives are perceived by consumers. Previous studies suggest that consumers' perceptions and responses toward responsible conduct of companies can vary according to age (Lakatos et al., 2018; Vázquez-Burguete et al., 2017), country (C. C. Wang, 2018), gender (Vázquez-Burguete et al., 2017), and educational level (Kevin van Langen et al., 2021). Additionally, there are differences in consumer perception between developed and developing countries (Huang et al., 2019) and, according to industry (C. C. Wang, 2018). However, analysis of the differences in consumer perception, consumer knowledge, and WTP according to different countries and demographic characteristics is still incipient.

10 Furthermore, although consumers' perceptions of CSR in the cosmetics sector are increasingly important, there are few studies on this topic (S. Wang et al., 2021). Today, many leading cosmetic companies publish exclusive CSR reports to communicate their participation in environmentally and socially responsible activities to various stakeholders, including consumers (Sahota, 2013; Tiscini et al., 2021). However, the study of Vázquez-Burguete et al. (2017) suggests that consumers are still little involved in what CSR represents concerning cosmetic products. Additionally, the importance of CSR and CE for cosmetic industries has been noted in many recent investigations (Fortunati et al., 2020; Kolling et al., 2021; Morea et al., 2021; Ramasamy et al., 2020; Tiscini et al., 2021; S. Wang et al., 2021). Cosmetics is a growing economic sector worldwide, with an annual growth rate of 4.75% (Terakeet, 2021). The global cosmetics market is projected to reach \$ 463.5 billion by 2027 (Allied Market Research, 2021). The attention to this sector is also related to the exposure to chemical ingredients, animal testing (Chun, 2016; S. Wang et al., 2021), social impacts of unfair trade, and improper disposal of cosmetics waste and packaging (Bom et al., 2019, 2020; Sahota, 2013).

25 Our study contributes to addressing the research mentioned above lacuna by analyzing the consumer's perspective on CSR and CE practices of cosmetic companies. To that end, this research contributes to (i) understand consumers' knowledge about CSR and CE, their WTP for products from companies that follow CSR and CE, and their perception regarding the engagement of cosmetic companies in meeting these concepts; and (ii) examine differences in consumers' knowledge, WTP and perception of CSR and CE according to gender, age, schooling, culture (Latin America x Europe). For that, initially, a survey was carried out with 302 Brazilian and Italian consumers of cosmetic products, and later the data were analyzed using descriptive statistics and robust regression.

We conducted the study considering that CSR at the organizational level, and CE at the operational level, can be used to assess corporate performance in the socio-environmental area. Additionally, to provide novel insights, we adopted a cross-sectional international research and analyzed consumers' perspectives according to different demographic characteristics. We provide quantitative insights about the cosmetic sector, which remains under-researched in this regard. The results reveal the profile of consumers who have less knowledge, attribute less value, or have a lower perception of actions in the social and environmental spheres. This information can be used by companies in the cosmetics sector that intend to invest in sustainable actions to plan more effective product lines and marketing campaigns that reach these less informed consumers. Hence, we provide valuable insights into business opportunities for cosmetic companies and implications for policymakers and the government in advancing the transition towards CSR and CE.

The remainder of the paper is structured as follows. After this introduction, Section 2 reviews the literature about CSR and CE and how these two topics are addressed in the cosmetics industry. It also presents the proposed hypotheses. Section 3 describes the Materials and Methods, explaining that we developed a cross-sectional international survey, demonstrating the information about the sample, instrument, and data analysis. Section 4 presents the analysis and discussion of the results. Finally, Section 5 presents the conclusions, limitations, directions for future research, and implications for the theory, practice, and policymaking.

2 Theoretical background and hypotheses development

2.1 CSR and CE in the cosmetic industry

The idea of CSR emerged in the 1950s, with the first scientific studies and the publication of Bowen (1953), who highlighted the social impact of business. Over the decades, the theme gained strength and has received attention in academic and professional communities worldwide (Carroll & Shabana, 2010; H. Wang et al., 2016). Although there is no universally agreed definition, the basic idea of CSR is that companies have responsibilities toward the societies in which they operate. In addition to generating profit, they must behave ethically, respecting the law (H. Wang et al., 2016). CSR encompasses a set of policies and practices integrated into the operations and decision-making process of companies, comprising aspects of business ethics, community and environmental concerns, and human rights (Koh et al., 2022).

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1 Following Dahlsrud (2008), we believe CSR is appropriately represented by five
2 primary dimensions: the environmental dimension, related to a cleaner environment,
3 environmental protection, and the incorporation of environmental concerns; the economic
4 dimension, focusing on economic development while preserving profitability; the social
5 dimension, covering social concerns and contributing to the community; the stakeholder
6 dimension, involving taking into consideration the needs of stakeholders, such as employees,
7 customers, and suppliers; and the voluntary dimension, regarding performance beyond
8 regulatory requirements, based on ethical values and philanthropic activities. Given this, CSR
9 can be considered an approach closer to management and strategic definitions.

10 According to Wang et al. (2016), globalization has driven much of CSR evolution, and
11 as an organizational phenomenon, CSR has become present in organizations. Reports released
12 by cosmetics companies, especially multinationals, show that the cosmetics industry is no
13 exception (Sahota, 2013). Previous studies have shown that cosmetic companies have
14 undertaken advances concerning CSR, although there are opportunities for improvement
15 (Kolling et al., 2021; Morioka et al., 2021). By analyzing the socio-environmental actions of a
16 cosmetics company operating in Brazil and England, Borges et al. (2019) identified significant
17 positioning differences according to each country's socio-environmental policies. The results
18 of the CSR reports of multinational cosmetic companies show evidence of a good level of
19 attention to CE actions in drafting the reports (Fortunati et al., 2020; Morea et al., 2021).
20 Similarly, Tiscini et al. (2021) identified a considerable increase in CSR reports disclosed by
21 cosmetic companies quoting CE.

22 In the last few years, many definitions of CE have been provided. Ellen MacArthur
23 Foundation (2012, p.7) defined CE as “an industrial system that is restorative or regenerative
24 by intention and design. It replaces the ‘end-of-life’ concept with restoration, shifts towards the
25 use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims
26 for the elimination of waste through the superior design of materials, products, systems, and,
27 within this, business models.” The idea is to target zero waste and pollution throughout
28 materials’ lifecycles, from environment extraction to industrial transformation and final
29 consumers (Nobre & Tavares, 2021).

30 Aiming to accomplish sustainable development, the circular model replaces the ‘end-
31 of-life’ concept of reducing, alternatively reusing, recycling, and recovering materials in
32 production, distribution, and consumption processes (Kirchherr et al., 2017). It aims to retain
33 the product value as long as possible (Korhonen et al., 2018; Puntillo, 2022) and recovers waste

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1 value (Prieto-Sandoval et al., 2018). The circular model requires cyclical and regenerative
2 environmental innovations in how society legislates, produces, and consumes (Prieto-Sandoval
3 et al., 2018).

4 Following the mentioned studies, CE can be represented by actions to reduce or
5 eliminate waste and the use of toxic chemicals, recover the value of waste, and encourage
6 responsible consumption. It also involves concerns about reducing, reusing, and recycling
7 materials. Hence, we understand that CE is an approach closely related to technical and
8 operational decisions.

9 Fortunati et al. (2020) and Morea et al. (2021) mentioned that cosmetic companies could
10 use raw natural materials, design durable products whose packaging is easily recyclable,
11 reusable, or disassembled, and prevent obsolescence while maintaining products and materials
12 to produce maximum value. In this sense, strategies oriented to circularity in this sector involve
13 the adoption of circular design or eco-design, use of vegetal origin ingredients, zero waste
14 actions, recycling/reuse actions, reduction of water/energy consumption, reduction of
15 emissions, promotion of responsible use of products, among others (Fortunati et al., 2020;
16 Morea et al., 2021).

17 2.2 Consumer Knowledge and WTP

18 Knowledge is related to the understanding of any topic, attitude, or feeling toward it
19 (Kuźniar et al., 2021). In this study, consumer knowledge refers to understanding the meaning
20 and concept of CSR and CE. Previous studies have found that consumers do not clearly
21 understand CSR (Öberseder et al., 2014) and CE (Sijtsema et al., 2020). Often, companies
22 themselves lack an understanding of CSR (Alizadeh, 2022; Mahmood et al., 2021; Zou et al.,
23 2021) and CE (Sarja et al., 2021). **Likewise, business scholars, entrepreneurs, and managers
24 often have a narrow understanding of the concept of CSR (Hoque et al., 2018).**

25 In contrast to developed countries, people in developing countries tend to be less
26 informed about social and environmental issues (Ali et al., 2017). Prior evidence indicates that
27 customers in developing countries have little knowledge about sustainability or CSR practices
28 (Goyal & Kumar, 2017; Zou et al., 2021). Additionally, there is evidence of the significant
29 effect of age and education on CSR knowledge (Sudha, 2017). Based on the above, there are
30 good reasons to assume that many consumers do not know the concepts of CE and CSR, and
31 the knowledge is influenced by demographic characteristics.

32 Regarding WTP, it is defined as the maximum price a customer is likely to pay for a
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1 product or service (Wertenbroch & Skiera, 2002). In this study, we investigate consumer WTP
2 premium prices for products sold by companies that meet CSR and CE elements. Previous
3 studies have found that CSR has significant positive effects on premium prices (C. C. Wang,
4 2018). Hwang et al. (2020) identified that philanthropic CSR positively influences attitudes
5 toward a brand and WTP premium prices. Similarly, there are consumers willing to pay more
6 for circular products (Magnier et al., 2019; Pretner et al., 2021). Some cosmetics companies
7 also recognize that consumers are willing to pay more for sustainable products (Kolling et al.,
8 2021). Indeed, some consumers pay extra prices for eco-friendly cosmetics products (Singhal
9 & Malik, 2018). Building on that, we hypothesize that consumers are willing to pay a premium
10 for products from companies that follow CSR and CE concepts.

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The study of Hsu & Bui (2022) identified that CSR does not have the same influence on
customer purchase intention in all countries investigated. The findings of Chu & Lin (2013)
also demonstrated significant differences between the United States and China concerning
purchase intentions of cosmetics. They found that Chinese consumers are more likely to reward
organizations for socially responsible behavior than American consumers are. Miller et al.
(2017) identified that WTP premium prices for social responsibility in fruit and vegetable
products can vary between countries. Therefore, we hypothesize that the country impacts the
WTP premium prices from sustainable responsible companies.

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In a study about users' perception of end-of-life scenarios for electrical and electronic
appliances, Atlason et al. (2017) found that gender, age, and educational level significantly
affect the WTP premium price for the environmental advantage. Vázquez-Burguete et al. (2017)
identified that women show a stronger desire to acquire cosmetics from responsible companies
than men. The study of Patak et al. (2021) confirms differences in purchase behavior of green
products like detergents, cleaning agents, and cosmetic products depending on gender and is
influenced by the level of education. Based on the above, we expect that gender, age, and
educational level affect the WTP premium prices.

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Some studies have shown that environmental knowledge affects sustainable
consumption behavior (Saari et al., 2021). For Pretner et al. (2021), environmental knowledge
might influence WTP more for circular products. Lee & Shin (2010), Sudha (2017), and Boccia
& Sarnacchiaro (2018) found that consumers' knowledge of CSR practices affects their
purchase intentions from companies that implement them. Similarly, Sijtsema et al. (2020) have
identified that consumer acceptance of CE depends, among other factors, on knowledge and
understanding. Building on that, we hypothesize that consumer knowledge of CSR and CE

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1 influences the WTP premium prices.

2 Based on the above arguments, the study proposes to examine the relationship between
3 demographic characteristics and consumer knowledge about CSR and CE. Additionally, it
4 analyzes the relationship between demographic characteristics, consumer knowledge about the
5 concepts, and WTP premium prices. We propose the following research hypotheses.

6 **H1:** Many Consumers do not know the concepts of CE and CSR, and the knowledge of these
7 concepts depends on country, gender, age, and schooling.

8 **H2:** Many Consumers are willing to pay a premium price for products from companies that
9 follow the CSR and CE concepts (WTP for CSR and CE products), and the WTP depends on
10 the country, gender, age, schooling, and Knowledge of Environmental and Social concepts
11 (knowledge of E&S).

12 13 *2.3 Consumer perception*

14 Perception is related to the selection, organization, and interpretation of information by
15 someone (Kotler & Keller, 2006). CSR perception is understood as how consumers believe that
16 a company is socially responsible (Hur & Kim, 2017). Similarly, in this paper, CE perception
17 is understood as the extent to which consumers believe companies adhere to the CE principles.
18 In addition to the mentioned, perception in this study also refers to knowledge about socio-
19 environmental initiatives.

20 We have found studies regarding consumer perception of CSR initiatives and
21 companies. Boccia & Sarnacchiaro (2018) indicate that consumers lack knowledge about
22 responsible corporate initiatives. Similarly, Ramesh et al. (2019) found that the respondents felt
23 no company differed regarding CSR activities. Therefore, we hypothesize that many consumers
24 do not perceive either socio-environmental initiatives or CSR and CE companies.

25 Previous studies suggest that CSR perception differs according to consumers'
26 demographic characteristics and knowledge about the concept. For example, Maignan (2001)
27 examined the consumers' perception of three countries and found that US consumers value
28 corporate economic responsibilities more than the French or Germans, who are more concerned
29 with businesses' legal and ethical standards. Hur & Kim (2017) found that consumers' cultural
30 values affect their perception of the responsible conduct of companies. Chu & Lin (2013)
31 identified that Chinese consumers revealed a higher level of perceived importance of CSR and
32 expectations about CSR of cosmetics companies than respondents in the United States.
33 Similarly, the study of Oe & Yamaoka (2022) suggests that consumer perceptions and behavior

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1 towards CSR of cosmetic companies may differ between consumers in emerging economies
2 and those in developed countries. Building on that, we intend to confirm that consumers from
3 different countries may have different perceptions about the sustainable responsibilities of
4 companies.

5 Vázquez-Burguete et al. (2017) demonstrate that women show a greater interest and
6 knowledge in responsible cosmetics and companies than men. Therefore, we hypothesize that
7 gender impacts the consumers' perception of CSR and CE companies and initiatives. Regarding
8 circular business models, the study of Lakatos et al. (2018) found differences in sustainable
9 consumption attitudes between the X generation, Millennials (Y), and Post-Millennials (Z).
10 Vázquez-Burguete et al. (2017) also identified differences in the interest and awareness of
11 consumers about the sustainable responsibilities of cosmetics companies according to the
12 participants' age. Based on that, we hope to empirically confirm that age affects consumers'
13 perceptions.

14 Similar to the identified by Calabrese et al. (2016), we expect that consumers'
15 educational level influences their perceptions. The authors found that the greater the level of
16 education, the greater the sensitivity of customers concerning CSR. Furthermore, we also
17 expect that the people's knowledge of CSR and CE and WTP premium prices affect the
18 consumers' perception of companies and initiatives.

19 Concerning the cosmetics industry, Ramasamy et al. (2020) studied the effect of human
20 values on consumers' perception of CSR practices. They found that values such as self-
21 enhancement and openness to change significantly influence consumer CSR perception.
22 Additionally, cosmetics companies recognize that not all customers demand and value
23 sustainable actions (Kolling et al., 2021).

24 Based on the arguments explained above, the study proposes to examine the relationship
25 between demographic characteristics, knowledge about the concepts, and WTP premium prices
26 with the consumers' perception of socio-environmental initiatives and also with CSR and CE
27 cosmetics companies. We propose the following research hypotheses.

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29 **H3:** Many consumers do not perceive socio-environmental initiatives (E&S initiatives), and the
30 level of perception depends on the country, gender, age, schooling, knowledge of E&S, and
31 WTP for CSR and CE products.

32 **H4:** Many consumers do not perceive CSR and CE Companies, and the level of perception
33 depends on the country, gender, age, schooling, knowledge of E&S, and WTP for CSR and CE

10

1 products.

2 Figure 1 illustrates the theoretical model used to test the four hypotheses.

3

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Figure 1

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6 **3 Materials and Methods**

7 *3.1 Data collection and sample description*

8 We performed a cross-sectional international survey in two countries: Brazil and Italy.

9 Both countries have intrinsic characteristics that justify the research. Brazil ranks among the

10 largest cosmetic markets worldwide as the most important in the Latin American region

11 (Statista, 2021). According to a report by the Brazilian Association of the Personal Hygiene,

12 Perfumery and Cosmetics Industry (ABIHPEC, 2021), Brazil is the world's fourth-largest

13 consumer market for personal care, perfumery, and cosmetics, with total sales of \$23.738

14 billion in 2019 and the third market in the global ranking of countries that launch the most

15 products annually. Italy has one of the largest cosmetics markets worldwide, and the country is

16 the tenth-leading market for cosmetics, fragrances, and personal care products (Statista, 2020).

17 Additionally, these two data sources allowed us to obtain evidence of consumer perception in

18 two different economic, social, and industrial development contexts, providing richer data

19 about turbulence phenomena. Brazil is an emerging country, while Italy is considered a

20 developed country.

21 Table 1 presents a characterization of the sample. The data was collected from 302

22 respondents, higher than the suggested sample size to run the multivariate analyses (i.e., a

23 minimum of five cases per parameter/item) (Hair et al., 2007). This study used a non-

24 probabilistic convenience sampling method. The convenience sampling method has often been

25 used in sustainable consumption studies (Alvarado-Herrera et al., 2017; Deng & Xu, 2017;

26 Singhal & Malik, 2018; Waheed et al., 2020; Zhang & Ahmad, 2021). Convenience sampling

27 is the prevailing non-probabilistic sampling method, in which respondents at hand are recruited

28 at events or locations based on the researchers' convenience of questionnaire collection (Wolf

29 et al., 2016). Regarding the data collection procedures, we used non-personal data collection

30 through the Google Docs tool. The questionnaire was sent to respondents through social media

31 apps and email.

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Table 1

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1 3.2 Survey Instrument

2 The data collection instrument used in this research was a structured questionnaire
3 divided into blocks (Appendix). The collection instrument was built based on the literature, and
4 the main articles that served as a basis are presented in Table 2. The first block of questions was
5 related to CSR, while the second block was related to CE. In both blocks, after answering their
6 knowledge about the two concepts, the respondents were asked to indicate their agreement with
7 each of the statements about CSR and CE on a 7-point Likert Scale (from 1 = Fully Disagree
8 to 7 = Fully Agree). Still, both blocks address multiple-choice questions that investigate the
9 willingness to pay for products sold by companies that implement CSR and CE issues and
10 knowledge about these companies. In the end, the questionnaire addressed issues related to
11 sustainable initiatives developed by cosmetic companies (the possibility to select more than one
12 option), in addition to the characterization of the sample. The questionnaire was originally
13 developed in English but applied in each country's native language (i.e., Italian and Portuguese).
14 The Italian and Portuguese languages have many similarities in their grammatical structure,
15 reducing the potential discrepancies between versions. Before application, a pre-test with 12
16 respondents from each country was conducted to evaluate the questionnaire length, content, and
17 understanding.

18
19 Table 2

21 3.3 Validity and reliability tests

22 We validated the variables consisting of more than one item (CSR and CE) using
23 confirmatory factor analysis (CFA). The analysis was performed using Robust Diagonally
24 Weighted Least Squares (RDWLS) (DiStefano & Morgan, 2014; Li, 2016). The overall model
25 fit indices were satisfactory ($\chi^2 = 115.795$, $df = 34$, $\chi^2/df = 3,405$, $CFI = 0.984$, $TLI = 0.979$,
26 $RMSEA (90\% CI) = 0.089 [0.072, 0.108]$ suggesting the models' acceptability. Additionally,
27 all factor loadings were significant (Brown, 2015). The internal coherence coefficient was
28 assessed using composite reliability (CR). We obtained values higher than 0.7 (Hair et al., 2007),
29 indicating that each block coherently captured the expected constructs. The items and scales
30 used to assess the variables are detailed in Appendix.

32 3.4 Common method bias

33 Following Podsakoff et al. (2012), we used two approaches to check potential bias:

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1 procedural and statistical. Common method variance bias addresses the variance derived from
2 the measurement method rather than the measures themselves (Podsakoff et al., 2012). Firstly,
3 we checked procedural aspects that could indicate a low risk of common method bias. Before
4 fully implementing the questionnaire, we pre-tested it in both countries to check for language
5 clarity and interpretation, aiming to avoid differences due to cultural factors. Additionally, we
6 used different scales for dependent and independent variables. Secondly, we used statistical
7 approaches to check for potential method bias. We conducted the Harman's single-factor test
8 by using exploratory factor analysis. The first factor of the Principal Component Analysis
9 explained 26.53% of the variance, which suggests that common method bias is minimal and
10 allows proceeding with the analysis.

11 12 *3.5 Data analysis*

13 To test the proposed hypotheses, we analyzed the data using a multiple linear regression
14 model based on the weighted least squares (WLS) linear regression algorithm (Chatterjee &
15 Mächler, 1997). WLS regression is a robust regression approach indicated for situations where
16 there is a considerable presence of outliers (De Carvalho et al., 2017), which allows avoiding
17 outlying points from biasing the regression results such as in ordinary least squares (OLS)
18 regressions (Kiers, 1997; Wooldridge, 2020). WLS regression's algorithm de-weights outlying
19 observations that act as leverage points and bias the estimation of effect sizes and significances
20 in OLS regression (Chatterjee & Mächler, 1997; Kiers, 1997). Initially, we performed an OLS
21 regression and saved the student residuals. Then, we calculate the weight to include in the WLS
22 regression, according to Equation 1, and finally, we estimate the WLS model using the
23 calculated weight.

$$24 \quad \text{Weight}_i = \frac{1}{(0.5 + (SR_i)^2)}$$

25 *(Equation 1)*

26 where Weight_i is the weight assigned to the i -th observation, and SR_i refers to the
27 studentized residue of i -th observation obtained from the OLS regression. The analyses were
28 performed using the software Statgraphics Centurion XVI Version 16.2.04.

29 We also used descriptive statistics for some questions. Aiming to understand if the
30 respondents have a positive or negative perception of companies' CSR and CE practices, we
31 calculate the mean and standard deviation of the responses related to CSR and CE perception.
32 We used Pareto charts to analyze the frequency of companies that respondents cited that adhere
33 to the principles of CSR and CE. We also used Pareto charts to analyze the elements of CSR

13

1 and CE that respondents most perceive as being carried out by companies. Finally, we used a
2 chart based on response frequencies to analyze the most known sustainable initiatives
3 developed by companies.

4 The variables were coded to perform the statistical analyses, as shown in Table 3.

5 Table 3

7 **4 Results and Discussion**

8 *4.1 Knowledge of CSR and CE concepts*

9 Table 4 presents the coefficients and p-values obtained in modeling respondents'
10 knowledge about the concepts of CSR and CE. The models were built preserving only the
11 significant terms. As can be seen, consumers who have the slightest knowledge about CSR and
12 CE live in Brazil, are older, and have a lower level of education.

14 Table 4

16 Figure 2 presents graphs of two-factor interactions showing the effect of Country, Age,
17 and Schooling on Knowledge about CSR, while Figure 3 presents the effect of the same factors
18 on Knowledge about CE. These graphs were drawn, keeping the other explanatory variables
19 (which do not appear in the graphs) at their average levels. Clearly, on average, older people
20 with a lower level of schooling have less knowledge. Such findings are not surprising, as there
21 is prior evidence that the level of education increases knowledge and that young people tend to
22 be more aware of sustainable issues. Patak et al. (2021) identified that consumers with a tertiary
23 level were more influenced by environmental concerns than other factors in their purchase
24 intention of green chemicals. In a study with young adults, Korsunova et al. (2021) found that
25 the respondents were relatively knowledgeable about CE meaning. Oe & Yamaoka (2022)
26 identified that young consumers were more interested in and focused on cosmetic companies'
27 ethical aspects and CSR strategy.

28 Regarding knowledge of CSR and CE concepts, the average value in Brazil is 0.37 and,
29 in Italy, 0.57. Considering the scale used (0 to 1), it can be concluded that in both countries,
30 there is still ample opportunity to disseminate socio-environmental concepts such as those
31 covered by CSR and CE. A possible explanation for the knowledge of Italian consumers to be
32 higher lies in the fact that Italy has regulations on mandatory nonfinancial disclosure (Balluchi
33 et al., 2020; Mion & Aduai, 2019). In this sense, companies disclosing sustainability reporting

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1 practices can increase consumers' knowledge about these issues. **In Italy, the government has a regulatory and active role, and the country's business system requires companies to receive some legitimacy from their stakeholders (Boesso et al., 2022).** Additionally, CE is a priority and part of the European Union's industrial strategy, in which Italy is part of the most advanced countries in pursuing operations according to CE principles (Mazur-Wierzbicka, 2021).

Figure 2

Figure 3

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Based on the above and the p-values presented in Table 4, our results partially support the hypothesis in H1. Many consumers do not know the concepts of CE and CSR, and the level of knowledge depends on the country, age, and schooling, but it is not influenced by gender. Possibly, knowledge is not influenced by gender because all consumers, regardless of gender, receive the same information about the concepts.

4.2 WTP for products produced in accordance with CSR and CE concepts

Table 5 presents the coefficients and p-values obtained in modeling the WTP for CSR and CE products. As can be seen, consumers who are less willing to pay some additional amount for these products are younger, male, with less schooling, and less knowledge of E&S.

Table 5

Figure 4 presents two-factor interaction graphs revealing the effect of Country, Gender, and Age on WTP for products produced by companies that follow CSR criteria, while Figure 5 presents the effect of the same factors on WTP for products produced by companies that follow CE criteria. These figures are similar and indicate that, on average, consumers are willing to pay around 14% more for cosmetic products that they identify as being produced according to CSR and CE concepts. We observe that consumers are willing to pay a significant amount, often exceeding the amount necessary for companies to meet CSR and CE requirements. In contrast to that identified by Diallo et al. (2021) and Boccia et al. (2019), our findings suggest that consumers are WTP premium price for cosmetics of companies that carry out CSR and CE actions.

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1 In both cases (Figures 4 and 5), it is observed that the WTP premium price is lower in
2 men compared to women (and this difference in WTP, depending on gender, is more intense in
3 Italy and weaker in Brazil). Atlason et al. (2017) have already identified that females were more
4 prone than males to pay a price premium for environmental advantage. Similarly, Shao et al.
5 (2022) found that women are the primary consumers of new energy vehicles than men, and they
6 are more aware of sustainable consumption. In the cosmetic sector, women show a stronger
7 desire to acquire cosmetics from responsible companies than men (Vázquez-Burguete et al.,
8 2017).

9 It is worth noting the inversion in the slope of the lines in the Country x Age graphs, as
10 follows: in Brazil, the oldest are those who are less willing to pay some additional amount,
11 while in Italy, the youngest are those who are less willing to pay additional amounts. The study
12 of Vázquez-Burguete et al. (2017) in the Spanish context also identified that the youngest
13 respondents were less worried about acquiring cosmetics from responsible companies, paying
14 more attention to tangible aspects and price. Khan and Salim (2020) identified that working
15 women were more conscious of buying green cosmetics, a segment that can afford costlier
16 cosmetic products. A possible explanation for our results is that in Italy, older people are more
17 financially able and, therefore, more WTP, which is not necessarily the case in Brazil. For
18 example, in the case of elderly retired people in Italy, more than 40% continue to accumulate
19 wealth, and more than 80% are making positive amounts of saving (Ventura & Yuji, 2021). On
20 the other hand, a survey in Brazil revealed that 49% of the elderly interviewed do not have
21 resources saved, and 42% of the elderly believe that the standard of living is worse today than
22 when they were younger (Economize R7, 2021).

23 It is also observed that the country's direct effect was insignificant. Thus, on average,
24 Brazilians and Italians are willing to pay approximately the same additional price for a cosmetic
25 product produced in accordance with CSR and CE concepts. Furthermore, despite previous
26 evidence that knowledge about environmental issues has a lesser impact on consumers'
27 sustainable purchase behavior (Joshi & Rahman, 2017), our findings suggest that the
28 knowledge impacts WTP. Our results corroborate Atlason et al. (2017) findings, where people
29 with medium to extended higher education were the most willing to pay a premium price for
30 environmental advantage. This may be due to the fact that education allows people to be more
31 aware of their habits and more cautious with their behavior (Shao et al., 2022). Well-educated
32 people also tend to be more aware of the positive and negative externalities generated by

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3 1 companies' activities and able to identify corporate behaviors coherent with their values
4 2 (Cambra-Fierro et al., 2020).
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13 7 Based on the above, our findings provide evidence to support H2. Many consumers are
14 8 willing to pay a premium for products from companies that follow the CSR and CE concepts,
15 9 and WTP depends on Gender, Age, Schooling, and Knowledge of E&S, with some of these
16 10 effects being moderated by Country.
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23 12 *4.3 Perception of E&S initiatives*

24 13 Respondents were presented with a list of 10 socio-environmental initiatives to mark
25 14 those they observe are practiced by cosmetic companies operating in their countries. The
26 15 number of initiatives identified by the respondent (0 to 10) was transformed to a 0 to 1 scale
27 16 and modeled by robust regression. Table 6 presents the coefficients and p-values obtained in
28 17 modeling the perception of socio-environmental initiatives. As can be seen, consumers who
29 18 have the slightest perception of these initiatives are those residing in Brazil, older, with a lower
30 19 level of schooling, less knowledge of E&S, and less WTP for CSR and CE products.
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Table 6

23 Figure 6 presents graphs of two-factor interactions revealing the effect of Country, Age,
24 24 and the Level of Schooling on the perception of E&S initiatives. It is observed that the
25 25 perception of E&S initiatives is lower among older consumers and those with a lower level of
26 26 schooling. Such findings are coherent and related to what has already been identified in the
27 27 previous sections regarding consumer knowledge of the concepts. The effect of Level of
28 28 schooling is more intense in Brazil. In Brazil, as would be expected, those with a lower level of
29 29 schooling revealed a lower perception of socio-environmental initiatives, which also happens
30 30 in Italy, but as a weaker effect. Additionally, our findings are contrary to what was identified
31 31 by Yeo & Carte (2020), that CSR knowledge does not contribute to consumer perception of
32 32 sustainable practices in the banking sector.

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1 It is observed that the average number of E&S initiatives perceived by the respondents
2 was 4.35 (out of a total of 10 initiatives presented), which allows us to infer that there is ample
3 space that can be explored by companies in the cosmetics sector in the countries studied to
4 increase consumers' perception regarding initiatives in the field of CSR and CE. In this regard,
5 although there is higher consumer demand and interest in sustainable actions and options
6 offered by companies (Bom et al., 2019; Sarja et al., 2021), consumers still perceive few of the
7 initiatives carried out. It is possible that inadequate or ineffective communication may be an
8 explanatory factor for these findings (Lee & Shin, 2010).

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Figure 6

13 Based on the above, H3 is partially supported by our results. Many consumers do not
14 perceive E&S initiatives, and the level of perception depends on Country, Age, Schooling,
15 Knowledge of E&S, and WTP for CSR and CE products, but it is not influenced by gender.

16 Figure 7 shows the initiatives more cited by consumers in each country.

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Figure 7

20 The use of natural, vegetal, or organic ingredients, no animal testing, and the use of
21 recyclable packaging materials are the most perceived initiatives in both countries. This is not
22 surprising since consumers are aware of animal protection and alternative ingredients (Amberg
23 & Fogarassy, 2019; Sahota, 2013). On the other hand, both countries have less mention of
24 encouraging responsible consumption, reducing water and energy consumption, reducing
25 pollutant emissions, and initiatives for 3R products and packaging. It is also observed that the
26 preservation of biodiversity is more intensely perceived in Brazil than in Italy, which is natural,
27 given that Brazil is well known globally for its abundant natural resources and biodiversity and
28 is charged for their preservation (Jabbour et al., 2018).

29 30 *4.4 Perception of companies that follow the concepts of CSR and CE*

31 Table 7 presents the coefficients and p-values obtained in modeling the perception
32 (recognition by consumers) of companies that follow CSR and CE concepts. As can be seen,
33 consumers with the lowest perception are those residing in Brazil, male, with less schooling,

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3 1 less knowledge of E&S, and less WTP for CSR and CE products.
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9 5 Figure 8 presents two-factor interaction graphs showing the effect of Country, Age, and
10 6 Knowledge on the perception of companies that follow CSR criteria, while Figure 9 presents
11 7 the effect of the same factors on the perception of companies that follow CE criteria. In both
12 8 cases (Figures 8 and 9), it is observed that the perception of sustainable companies is lower in
13 9 consumers who have less knowledge of E&S. On the other hand, trends regarding age depend
14 10 on the country. In Brazil, younger respondents revealed a lower perception of companies that
15 11 follow CSR concepts, while in Italy, older respondents revealed a lower perception of these
16 12 companies. This result is related to the one identified by Vázquez-Burguete et al. (2017) that in
17 13 the Spanish context, older people seem not to be familiar with responsible cosmetic companies.
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15 15 Figure 8

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18 18 It is worth noting that, when asked if they are able to distinguish companies that follow
19 19 CSR and CE concepts, about 15% of the respondents said “no”, while another 29% answered
20 20 that “maybe, but the distinction between these companies is not very clear to me.” These two
21 21 classes add up to 44% of the respondents. Therefore, it is inferred that there is room for
22 22 companies in the cosmetics sector in the countries studied, chiefly Brazilian companies, to
23 23 undertake socio-environmental actions and increase the visibility of these actions in front of
24 24 consumers.
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26 25 Therefore, our results partially support H4. Many consumers do not perceive CSR and
27 26 CE Companies, and the level of perception depends on Country (moderated by Age), Gender,
28 27 Schooling, Knowledge of E&S, and WTP for CSR and CE products, but not influenced by
29 28 Schooling.

30 29 It is worth mentioning that, unlike previous studies that identified perception as an
31 30 antecedent of WTP or purchase intention (Afzali & Kim, 2021; C. C. Wang, 2018; S. Wang et
32 31 al., 2021), we identified the opposite. That is, WTP is an antecedent of perception. Thus, our
33 32 findings allow us to infer that so far as consumers are willing to pay premium prices for CE and
34 33 CSR products, they increase their perception of CSR and CE companies.
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3 1 Tables 8 and 9 present the most cited companies by the respondents. In Brazil, two
4 2 companies dominated the citations, and the respondents cited a greater number of companies
5 3 (35). In Italy, a smaller number of companies (10) were cited, but the distribution of these
6 4 citations was more even among the cited companies. Also, in Brazil, the highest number of
7 5 citations was more even among the cited companies. Also, in Brazil, the highest number of
8 6 citations is associated with companies that follow CSR concepts. In Italy, the number of
9 7 citations to companies that follow CSR and CE concepts is approximately the same.
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19 13 Figure 10 presents the dimensions of CSR that respondents most perceive as being
20 14 carried out by companies, while Figure 11 presents the elements of CE most perceived by
21 15 consumers.
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24 18 Figure 10
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31 25 Concerning CSR, similar results can be seen between Brazil and Italy. Not surprisingly,
32 26 the economic issue is most perceived by consumers in both countries. Some differences can be
33 27 noticed concerning the CE elements, especially regarding the effort to eliminate toxic
34 28 chemicals, which is more perceived by Italian consumers than Brazilian consumers. This
35 29 finding confirms the influence of existing legislation. Developing and developed countries have
36 30 different legislative control on cosmetic products and the usage of their ingredients (S. Khan &
37 31 Salim, 2020). Some countries in the European Union have already banned the use of potentially
38 32 harmful ingredients in cosmetics (Bom et al., 2019). Our results demonstrate that Italian
39 33 consumers seem to be aware of this. Finally, it can be seen that the respondents attributed less
40 34 value to the incentive for responsible consumption. This result agrees with Kolling et al. (2021)
41 35 that cosmetics companies have not evolved much concerning sustainable consumption, which
42 36 is a point of attention and opportunity for companies.
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55 56 **5 Conclusions**

57 57 Many companies, including those in the cosmetics sector, are changing their processes,
58 58 products, and services to meet socio-environmental requirements. In this sense, the concepts of
59 59 CSR at the organizational level and CE at the operational level can be used to assess corporate
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1 performance in the socio-environmental area. In this scenario, characterized by changes in the
2 positioning and products offered by companies, a critical business issue is to evaluate
3 consumers' perception regarding these changes. Thus, this article presented a study carried out
4 simultaneously in Brazil and Italy with consumers of cosmetic products, evaluating their
5 knowledge about the concepts of CSR and CE, their WTP for products from companies that
6 follow CSR and CE requirements, and their perception regarding the engagement of companies
7 operating in the respective countries in meeting these concepts.

8 Our findings reveal that most consumers have a low to a moderate understanding of
9 CSR and CE concepts and a low to moderate perception of socio-environmental initiatives and
10 CSR and CE companies. On the other hand, most consumers have shown a willingness to pay
11 premium prices for products from companies that follow CSR and CE. We identify the
12 demographic variables that influence the mentioned variables and the profile of consumers
13 regarding knowledge, WTP, and perception. Consumers with the slightest knowledge about
14 CSR and CE live in Brazil, are older, and have a lower level of education. Consumers who are
15 less WTP premium price are younger, male, with less schooling, and who have less knowledge.
16 Consumers who have the slightest perception of social and environmental initiatives are those
17 residing in Brazil, older, with a lower level of schooling, and less WTP. Consumers who have
18 the lowest perception of CSR and CE companies reside in Brazil, male, with less schooling,
19 less knowledge, and less WTP.

20 We also identified essential antecedents of perception and WTP. For example, in
21 addition to demographic variables, we found that WTP depends on Knowledge of E&S. In
22 addition, as a novelty concerning studies already carried out, we conclude that WTP for CSR
23 and CE products is an antecedent of consumer perception about CSR and CE companies and
24 E&S initiatives.

25 Additionally, we identified the socio-environmental initiatives perceived in both
26 countries. Encouraging responsible consumption and reducing water and energy consumption
27 and pollutant emissions are the initiatives less perceived by consumers. We also identified the
28 perception of elements of CSR and CE. While few differences were found concerning CSR
29 dimensions, we found that eliminating the use of toxic chemicals is much more perceived by
30 Italians than by Brazilians. Our main conclusion is that there is ample opportunity for cosmetic
31 companies to disseminate CSR and CE concepts and initiatives that have been carried out,
32 especially to increase the visibility of these actions in front of consumers.

5.1 Implications for the theory, practice, and policymaking

From a theoretical point of view, we expand the research on CSR and CE from a consumer perspective in response to calls from other studies. Through a cross-cultural analysis, we demonstrate important demographic characteristics that influence consumer perception and behavior. We improve our understanding of the perspective of consumers regarding sustainability issues in both in a developed country and an emerging country, adding knowledge also about trends in South America and Europe. **Additionally, unlike previous studies, we demonstrate the importance of considering WTP for sustainable products as an antecedent of consumer perception about sustainable companies and initiatives.**

Moreover, different from previous research that focused on specific circular products or business models and CSR companies, we extend the studies by analyzing both approaches. From this, we demonstrate how CSR and CE can be used to understand strategic and management decisions, in addition to technical and operational definitions. Our research also contributes to theory from consumers' perspectives in the cosmetics industry. The contributions add value to current research on CSR and CE in cosmetic companies and may guide future research on the topic. **Additionally, the study adds to the body of knowledge about customer behavior regarding purchasing decisions and sustainable issues, contributions that may be interesting for other industrial sectors.**

From a practical perspective, the research reveals the profile of consumers who have less knowledge, are less WTP, or have a lower perception of actions in the social and environmental spheres. This information can be used by companies in the cosmetics sector that intend to invest in sustainable actions to plan more effective product lines and marketing campaigns that reach these less informed consumers. In addition, we identified which CSR and CE elements and which initiatives carried out by cosmetic companies are more and less perceived by consumers. The data contribute to managers assertively developing their marketing strategies to increase consumer perception.

Furthermore, considering that our results indicated that, on average, consumers are willing to pay a premium price for cosmetics meeting social and environmental requirements. There are opportunities for companies that do not yet carry out actions related to CSR and CE to explore this avenue. In this case, it is believed that the investments necessary to carry out socio-environmental practices are rewarded. Additionally, increasing the level of information about the meaning of CSR and CE can help increase the perception and WTP. **Thus, companies must find alternative ways to increase the knowledge of consumers of different ages and levels**

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3 1 of education about socio-environmental concepts.

4 2 The survey also contributes to unveiling differences in consumer perspectives in
5 3 emerging and developed countries. Thus, managers can think of different strategies when
6 4 expanding their business to other countries. Similarly, since we performed the study in two
7 5 different contexts, we understand that other companies in similar businesses could use the
8 6 results to strengthen their socio-environmental initiatives and marketing strategies, expanding
9 7 their capacity to generate positive impacts for their regions. That is, we believe that our results
10 8 can be relevant to other contexts that have cultural values, institutional characteristics, and
11 9 legislation about sustainable issues similar to the countries investigated in this study.

12 10 Finally, as a practical implication of our study, we also emphasize contributions to
13 11 policymakers and regulators, especially in the sense of educating and informing consumers
14 12 about CSR and CE-related initiatives. It is necessary to create public educational policies aimed
15 13 at conscious consumption in order to form citizens who are aware of their rights and
16 14 responsibilities towards the environment and society. In particular, based on our findings,
17 15 alternative ways should be found to inform the population with lower levels of education about
18 16 sustainable concepts. People need to know CSR and EC since knowledge impacts sustainable
19 17 consumption attitudes, such as WTP and the perception of companies and socio-environmental
20 18 initiatives. There are also opportunities, especially in Brazil, to improve legislation regarding
21 19 potentially harmful ingredients in cosmetics, in addition to informing and raising awareness
22 20 among consumers about it.

23 22 5.2 Limitations and future research directions

24 23 Although we chose to study the cosmetic industry because it provided exemplary cases
25 24 for studying sustainability, the main limitation of this research is that the proposed theoretical
26 25 model has been tested only in this industry. The findings might not be generalized to other
27 26 industries. Therefore, future analyses can complement and expand this study to other sectors.
28 27 Even though we conducted the study in two different countries in terms of development, the
29 28 research did not consider cultural aspects. It would be interesting to extend the study to samples
30 29 of various nationalities to generalize the results.

31 30 Future studies could examine how CSR and CE communication can influence
32 31 consumers' perception and WTP. Likewise, future research could analyze the possible
33 32 influence of social media, which would also help define the most effective channels to raise
34 33 public awareness and behavior concerning CSR and CE. Finally, concerning possible future

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1 research, it would be interesting to analyze the possible moderator effect of other factors, such
2 as personal values or level of adherence to social norms.

4 **References**

- 5 ABIHPEC. (2021). *Panorama do Setor Atualizado Abril*.
6 <https://abihpec.org.br/publicacao/panorama-do-setor/>
- 7 Afzali, H., & Kim, S. S. (2021). Consumers' responses to corporate social responsibility: The
8 mediating role of csr authenticity. *Sustainability (Switzerland)*, 13(4), 1–13.
9 <https://doi.org/10.3390/su13042224>
- 10 Ali, W., Frynas, J. G., & Mahmood, Z. (2017). Determinants of Corporate Social
11 Responsibility (CSR) Disclosure in Developed and Developing Countries: A Literature
12 Review. *Corporate Social Responsibility and Environmental Management*, 24(4), 273–
13 294. <https://doi.org/10.1002/csr.1410>
- 14 Alizadeh, A. (2022). *The Drivers and Barriers of Corporate Social Responsibility : A
15 Comparison of the MENA Region and Western Countries*.
- 16 Allied Market Research. (2021). *Cosmetics Market*.
17 <https://www.alliedmarketresearch.com/cosmetics-market>
- 18 Alvarado-Herrera, A., Bigne, E., Aldas-Manzano, J., & Curras-Perez, R. (2017). A Scale for
19 Measuring Consumer Perceptions of Corporate Social Responsibility Following the
20 Sustainable Development Paradigm. *Journal of Business Ethics*, 140(2), 243–262.
21 <https://doi.org/10.1007/s10551-015-2654-9>
- 22 Amberg, N., & Fogarassy, C. (2019). Green consumer behavior in the cosmetics market.
23 *Resources*, 8(3), 137. <https://doi.org/10.3390/resources8030137>
- 24 Atlason, R. S., Giacalone, D., & Parajuly, K. (2017). Product design in the circular economy:
25 Users' perception of end-of-life scenarios for electrical and electronic appliances.
26 *Journal of Cleaner Production*, 168, 1059–1069.
27 <https://doi.org/10.1016/j.jclepro.2017.09.082>
- 28 Balluchi, F., Furlotti, K., & Torelli, R. (2020). Italy Towards Mandatory Sustainability
29 Reporting. Has the Virtuous Behavior of Companies Inspired the Legislator? A
30 Quantitative Analysis of the Last 10 Years. *OSF Preprints*, 254. <http://>
- 31 Bianchi, E., Bruno, J. M., & Sarabia-Sanchez, F. J. (2019). The impact of perceived CSR on
32 corporate reputation and purchase intention. *European Journal of Management and
33 Business Economics*, 28(3), 206–221. <https://doi.org/10.1108/EJMBE-12-2017-0068>
- 34 Boccia, F., Malgeri Manzo, R., & Covino, D. (2019). Consumer behavior and corporate social
35 responsibility: An evaluation by a choice experiment. *Corporate Social Responsibility
36 and Environmental Management*, 26(1), 97–105. <https://doi.org/10.1002/csr.1661>
- 37 Boccia, F., & Sarnacchiaro, P. (2018). The Impact of Corporate Social Responsibility on
38 Consumer Preference: A Structural Equation Analysis. *Corporate Social Responsibility
39 and Environmental Management*, 25(2), 151–163. <https://doi.org/10.1002/csr.1446>
- 40 Boesso, G., Fryzel, B., & Ghitti, M. (2022). Corporate social responsibility and comparative
41 capitalism frameworks: Evidence from the United States, Poland, and Italy. *Corporate
42 Social Responsibility and Environmental Management*, December 2021, 1–17.
43 <https://doi.org/10.1002/csr.2372>

- 1
2
3 1 Bom, S., Jorge, J., Ribeiro, H. M., & Marto, J. (2019). A step forward on sustainability in the
4 2 cosmetics industry: A review. *Journal of Cleaner Production*, 225, 270–290.
5 3 <https://doi.org/10.1016/j.jclepro.2019.03.255>
- 6 4 Bom, S., Ribeiro, H. M., & Marto, J. (2020). Sustainability calculator: A tool to assess
7 5 sustainability in cosmetic products. *Sustainability (Switzerland)*, 12(4), 1–15.
8 6 <https://doi.org/10.3390/su12041437>
- 9 7 Bowen, H. . (1953). *Social responsibilities of the businessman*. NY: Harper.
- 10 8 Boyer, R. H. W., Hunka, A. D., Linder, M., Whalen, K. A., & Habibi, S. (2021). Product
11 9 Labels for the Circular Economy: Are Customers Willing to Pay for Circular?
12 10 *Sustainable Production and Consumption*, 27, 61–71.
13 11 <https://doi.org/10.1016/j.spc.2020.10.010>
- 14 12 Brown, T. A. (2015). *Confirmatory Factor Analysis for Applied Research* (2nd ed.). Guilford
15 13 Press.
- 16 14 Calabrese, A., Costa, R., & Rosati, F. (2016). Gender differences in customer expectations
17 15 and perceptions of corporate social responsibility. *Journal of Cleaner Production*, 116,
18 16 135–149. <https://doi.org/10.1016/j.jclepro.2015.12.100>
- 19 17 Camacho-otero, J., Boks, C., & Pettersen, I. N. (2018). *Consumption in the Circular
20 18 Economy : A Literature Review sustainability Consumption in the Circular Economy : A
21 19 Literature Review*. August. <https://doi.org/10.3390/su10082758>
- 22 20 **Cambra-Fierro, J. J., Flores-Hernández, J. A., Pérez, L., & Valera-Blanes, G. (2020). CSR
23 21 and branding in emerging economies: The effect of incomes and education. *Corporate
24 22 Social Responsibility and Environmental Management*, 27(6), 2765–2776.
25 23 <https://doi.org/10.1002/csr.2000>**
- 26 24 Carroll, A. B., & Shabana, K. M. (2010). The business case for corporate social
27 25 responsibility: A review of concepts, research and practice. *International Journal of
28 26 Management Reviews*, 12(1), 85–105. <https://doi.org/10.1111/j.1468-2370.2009.00275.x>
- 29 27 Chatterjee, S., & Mächler, M. (1997). Robust regression: A weighted least squares approach.
30 28 *Communications in Statistics - Theory and Methods*, 26(6), 1381–1394.
31 29 <https://doi.org/10.1080/03610929708831988>
- 32 30 Chu, S. C., & Lin, J. S. (2013). Consumers' Perception of Corporate Social Responsibility in
33 31 the United States and China: A Study of Female Cosmetics Consumers. *International
34 32 Journal of Strategic Communication*, 7(1), 43–64.
35 33 <https://doi.org/10.1080/1553118X.2012.711401>
- 36 34 Chun, R. (2016). What Holds Ethical Consumers to a Cosmetics Brand: The Body Shop Case.
37 35 *Business and Society*, 55(4), 528–549. <https://doi.org/10.1177/0007650313520201>
- 38 36 Dahlsrud, A. (2008). How corporate social responsibility is defined: An analysis of 37
39 37 definitions. *Corporate Social Responsibility and Environmental Management*, 15(1), 1–
40 38 13. <https://doi.org/10.1002/csr.132>
- 41 39 De Carvalho, F. de A. T., Lima Neto, E. de A., & Ferreira, M. R. P. (2017). A robust
42 40 regression method based on exponential-type kernel functions. *Neurocomputing*, 234,
43 41 58–74. <https://doi.org/10.1016/j.neucom.2016.12.035>
- 44 42 Deng, X., & Xu, Y. (2017). Consumers' Responses to Corporate Social Responsibility
45 43 Initiatives: The Mediating Role of Consumer–Company Identification. *Journal of
46 44 Business Ethics*, 142(3), 515–526. <https://doi.org/10.1007/s10551-015-2742-x>

- 1
2
3 1 Diallo, A., Norchène, D., Dahmane, B., Gadekar, M., & Schill, M. (2021). CSR Actions ,
4 2 Brand Value , and Willingness to Pay a Premium Price for Luxury Brands : Does Long -
5 3 Term Orientation Matter ? *Journal of Business Ethics*, 169(2), 241–260.
6 4 <https://doi.org/10.1007/s10551-020-04486-5>
- 7 5 DiStefano, C., & Morgan, G. B. (2014). A Comparison of Diagonal Weighted Least Squares
8 6 Robust Estimation Techniques for Ordinal Data. *Structural Equation Modeling*, 21(3),
9 7 425–438. <https://doi.org/10.1080/10705511.2014.915373>
- 11 8 Economize R7. (2021). *Metade dos idosos enfrenta problemas para pagar as contas*.
12 9 [https://noticias.r7.com/economia/economize/metade-dos-idosos-enfrenta-problemas-
14 10 para-pagar-as-contas-06072021](https://noticias.r7.com/economia/economize/metade-dos-idosos-enfrenta-problemas-para-pagar-as-contas-06072021)
- 15 11 Ellen MacArthur Foundation. (2013). *Towards a circular economy vol 1: An economic and
16 12 business rationale for an accelerated transition*.
17 13 <https://emf.thirdlight.com/link/x8ay372a3r11-k6775n/@/preview/1?o>
- 19 14 Esken, B., Franco-García, M. L., & Fisscher, O. A. M. (2018). CSR perception as a signpost
20 15 for circular economy. *Management Research Review*, 41(5), 586–604.
21 16 <https://doi.org/10.1108/MRR-02-2018-0054>
- 23 17 Fortunati, S., Martiniello, L., & Morea, D. (2020). The strategic role of the corporate social
24 18 responsibility and circular economy in the cosmetic industry. *Sustainability
25 19 (Switzerland)*, 12(12). <https://doi.org/10.3390/su12125120>
- 27 20 Garcia, D. G., Kipnis, E., Vasileiou, E., & Solomon, A. (2021). Consumption in the circular
28 21 economy: Learning from our mistakes. *Sustainability (Switzerland)*, 13(2), 1–23.
29 22 <https://doi.org/10.3390/su13020601>
- 31 23 Goyal, P., & Kumar, D. (2017). Modelling the CSR barriers in manufacturing industries.
32 24 *Benchmarking: An International Journal*.
- 34 25 Gülserliler, E. G., Blackburn, J. D., & Wassenhove, L. N. Van. (2021). *Consumer acceptance
35 26 of circular business models and potential effects on economic performance : The case of
36 27 washing machines*. 1–13. <https://doi.org/10.1111/jieec.13202>
- 38 28 Hair, J., Black, W., Babin, B., & Anderson, R. (2007). *Multivariate Data Analysis* (7th ed.).
- 39 29 Harrison, D. E., Ferrell, O. C., Ferrell, L., & Hair, J. F. (2020). Corporate social responsibility
40 30 and business ethics: conceptualization, scale development and validation. *Journal of
41 31 Product and Brand Management*, 29(4), 431–439. [https://doi.org/10.1108/JPBM-11-
42 32 2018-2113](https://doi.org/10.1108/JPBM-11-2018-2113)
- 44 33 Hoque, N., Rahman, A. R. A., Molla, R. I., Noman, A. H. M., & Bhuiyan, M. Z. H. (2018). Is
45 34 corporate social responsibility pursuing pristine business goals for sustainable
46 35 development? *Corporate Social Responsibility and Environmental Management*, 25(6),
47 36 1130–1142. <https://doi.org/10.1002/csr.1527>
- 49 37 Hsu, Y., & Bui, T. H. G. (2022). Consumers' Perspectives and Behaviors towards Corporate
50 38 Social Responsibility—A Cross-Cultural Study. *Sustainability (Switzerland)*, 14(2).
51 39 <https://doi.org/10.3390/su14020615>
- 53 40 Huang, Y. F., Do, M. H., & Kumar, V. (2019). Consumers' perception on corporate social
54 41 responsibility: Evidence from Vietnam. *Corporate Social Responsibility and
55 42 Environmental Management*, 26(6), 1272–1284. <https://doi.org/10.1002/csr.1746>
- 57 43 Hur, W. M., & Kim, Y. (2017). How Does Culture Improve Consumer Engagement in CSR
58 44 Initiatives? the Mediating Role of Motivational Attributions. *Corporate Social*

- 1
2
3
4
5
6
7
8
9
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17
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43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
- 1 *Responsibility and Environmental Management*, 24(6), 620–633.
2 <https://doi.org/10.1002/csr.1432>
- 3 Hwang, J., & Kim, J. J. (2020). The Importance of Philanthropic Corporate Social
4 Responsibility and Its Impact on Attitude and Behavioral Intentions : The Moderating
5 Role of the Barista Disability Status. *Sustainability (Switzerland)*, 12, 6235.
- 6 Jabbour, C. J. C., Jugend, D., Jabbour, A. B. L. de S., Govindan, K., Kannan, D., & Leal
7 Filho, W. (2018). “There is no carnival without samba”: Revealing barriers hampering
8 biodiversity-based R&D and eco-design in Brazil. *Journal of Environmental*
9 *Management*, 206, 236–245. <https://doi.org/10.1016/j.jenvman.2017.10.019>
- 10 Jaca, C., Prieto-Sandoval, V., Psomas, E. L., & Ormazabal, M. (2018). What should consumer
11 organizations do to drive environmental sustainability? *Journal of Cleaner Production*,
12 181, 201–208. <https://doi.org/10.1016/j.jclepro.2018.01.182>
- 13 Kevin van Langen, S., Vassillo, C., Ghisellini, P., Restaino, D., Passaro, R., & Ulgiati, S.
14 (2021). Promoting circular economy transition: A study about perceptions and awareness
15 by different stakeholders groups. *Journal of Cleaner Production*, 316(December 2020).
16 <https://doi.org/10.1016/j.jclepro.2021.128166>
- 17 Khan, H., & Sukhotu, V. (2020). Influence of media exposure and Corporate Social
18 Responsibility compliance on customer perception: The moderating role of Firm’s
19 reputation risk. *Corporate Social Responsibility and Environmental Management*, 27(5),
20 2107–2121. <https://doi.org/10.1002/csr.1951>
- 21 Khan, S., & Salim, A. (2020). Saudi females’ buying behavior of green cosmetics: A pertinent
22 motivational aspect. *Journal of Marketing Communications*.
23 <https://doi.org/10.1080/13527266.2020.1720268>
- 24 Kiers, H. A. L. (1997). Weighted least squares fitting using ordinary least squares algorithms.
25 *Psychometrika*, 62(2), 251–266. <https://doi.org/10.1007/BF02295279>
- 26 Kirchherr, J., Reike, D., & Hekkert, M. (2017). Conceptualizing the circular economy: An
27 analysis of 114 definitions. *Resources, Conservation and Recycling*, 127(September),
28 221–232. <https://doi.org/10.1016/j.resconrec.2017.09.005>
- 29 Koh, K., Li, H., & Tong, Y. H. (2022). Corporate social responsibility (CSR) performance
30 and stakeholder engagement: Evidence from the quantity and quality of CSR disclosures.
31 *Corporate Social Responsibility and Environmental Management*, August, 1–14.
32 <https://doi.org/10.1002/csr.2370>
- 33 Kolling, C., Ribeiro, J. L. D., & de Medeiros, J. F. (2021). Performance of the cosmetics
34 industry from the perspective of Corporate Social Responsibility and Design for
35 Sustainability. *Sustainable Production and Consumption*.
36 <https://doi.org/10.1016/J.SPC.2021.12.002>
- 37 Korhonen, J., Honkasalo, A., & Seppälä, J. (2018). Circular Economy: The Concept and its
38 Limitations. *Ecological Economics*, 143, 37–46.
39 <https://doi.org/10.1016/j.ecolecon.2017.06.041>
- 40 Korsunova, A., Horn, S., & Vainio, A. (2021). Understanding circular economy in everyday
41 life: Perceptions of young adults in the finnish context. *Sustainable Production and*
42 *Consumption*, 26, 759–769. <https://doi.org/10.1016/j.spc.2020.12.038>
- 43 Kotler, P., & Keller, K. L. (2006). *Marketing Management* (12th ed.). Pearson.
- 44 Kuzniar, W., Surmacz, T., & Wierzbiński, B. (2021). The impact of ecological knowledge on

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
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42
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44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
- 1 young consumers' attitudes and behaviours towards the food market. *Sustainability (Switzerland)*, 13(4), 1–21. <https://doi.org/10.3390/su13041984>
- 2
3 Lakatos, E. S., Cioca, L. I., Dan, V., Ciomos, A. O., Crisan, O. A., & Barsan, G. (2018).
4 Studies and investigation about the attitude towards sustainable production, consumption
5 and waste generation in line with circular economy in Romania. *Sustainability*
6 *(Switzerland)*, 10(3), 1–25. <https://doi.org/10.3390/su10030865>
- 7 Lee, K. H., & Shin, D. (2010). Consumers' responses to CSR activities: The linkage between
8 increased awareness and purchase intention. *Public Relations Review*, 36(2), 193–195.
9 <https://doi.org/10.1016/j.pubrev.2009.10.014>
- 10 Li, C. H. (2016). Confirmatory factor analysis with ordinal data: Comparing robust maximum
11 likelihood and diagonally weighted least squares. *Behavior Research Methods*, 48(3),
12 936–949. <https://doi.org/10.3758/s13428-015-0619-7>
- 13 Loon, P. Van, Delagarde, C., & Wassenhove, L. N. Van. (2018). The role of second-hand
14 markets in circular business : a simple model for leasing versus selling consumer
15 products. *International Journal of Production Research*, 7543, 1–14.
16 <https://doi.org/10.1080/00207543.2017.1398429>
- 17 Magnier, L., Mugge, R., & Schoormans, J. (2019). Turning ocean garbage into products e
18 Consumers' evaluations of products made of recycled ocean plastic. *Journal of Cleaner*
19 *Production*, 215, 84–98. <https://doi.org/10.1016/j.jclepro.2018.12.246>
- 20 Mahmood, A., Naveed, R. T., Ahmad, N., Scholz, M., & Khalique, M. (2021). *Unleashing the*
21 *Barriers to CSR Implementation in the SME Sector of a Developing Economy : A*
22 *Thematic Analysis Approach*.
- 23 Maignan, I. (2001). Consumers' Perceptions of Corporate Social Responsibilities: A Cross-
24 Cultural Comparison. *Journal of Business Ethics*, 30(2), 57–72.
25 <https://link.springer.com/content/pdf/10.1023%2FA%3A1006433928640.pdf>
- 26 Mazur-Wierzbicka, E. (2021). Circular economy: advancement of European Union countries.
27 *Environmental Sciences Europe*, 33(1). <https://doi.org/10.1186/s12302-021-00549-0>
- 28 **Mazzucchelli, A., Chierici, R., Del Giudice, M., & Bua, I. (2022). Do circular economy**
29 **practices affect corporate performance? Evidence from Italian large-sized manufacturing**
30 **firms. *Corporate Social Responsibility and Environmental Management*, 1–14.**
31 **<https://doi.org/10.1002/csr.2298>**
- 32 Merli, R., Preziosi, M., & Acampora, A. (2018). *How do scholars approach the circular*
33 *economy ? A systematic literature review*. 178.
- 34 Meseguer-Sánchez, V., Gálvez-Sánchez, F. J., López-Martínez, G., & Molina-Moreno, V.
35 (2021). Corporate social responsibility and sustainability. A bibliometric analysis of their
36 interrelations. *Sustainability (Switzerland)*, 13(4), 1–18.
37 <https://doi.org/10.3390/su13041636>
- 38 Miller, S., Tait, P., Saunders, C., Dalziel, P., Rutherford, P., & Abell, W. (2017). Estimation
39 of consumer willingness-to-pay for social responsibility in fruit and vegetable products:
40 A cross-country comparison using a choice experiment. *Journal of Consumer Behaviour*,
41 16(6), e13–e25. <https://doi.org/10.1002/cb.1650>
- 42 Mion, G., & Adai, C. R. L. (2019). Mandatory nonfinancial disclosure and its consequences
43 on the sustainability reporting quality of Italian and German companies. *Sustainability*
44 *(Switzerland)*, 11(17), 1–28. <https://doi.org/10.3390/su11174612>

- 1
2
3 1 Morea, D., Fortunati, S., & Martiniello, L. (2021). Circular economy and corporate social
4 2 responsibility: Towards an integrated strategic approach in the multinational cosmetics
5 3 industry. *Journal of Cleaner Production*, 315(June).
6 4 <https://doi.org/10.1016/j.jclepro.2021.128232>
- 7 5 Morioka, M., Pilz, T. L., & Maceno, M. M. C. (2021). Comparative Analysis of the
8 6 Sustainable Practices Based on Social Responsibility Guidelines of Personal Hygiene,
9 7 Perfumery and Cosmetics Companies in Brazil. In *World Sustainability Series* (pp. 85–
10 8 108). https://doi.org/10.1007/978-3-030-59975-1_6
- 11 9 Nobre, G. C., & Tavares, E. (2021). The quest for a circular economy final definition : A
12 10 scientific perspective. *Journal of Cleaner Production*, 314(May).
- 13 11 Öberseder, M., Schlegelmilch, B. B., Murphy, P. E., & Gruber, V. (2014). Consumers’
14 12 Perceptions of Corporate Social Responsibility: Scale Development and Validation.
15 13 *Journal of Business Ethics*, 124(1), 101–115. <https://doi.org/10.1007/s10551-013-1787-y>
- 16 14 Oe, H. (2022). *The Impact of Communicating Sustainability and Ethical Behaviour of the*
17 15 *Cosmetic Producers : Evidence from Thailand*. 1–20.
- 18 16 Oe, H., & Yamaoka, Y. (2022). The Impact of Communicating Sustainability and Ethical
19 17 Behaviour of the Cosmetic Producers: Evidence from Thailand. *Sustainability*
20 18 *(Switzerland)*, 14(2), 1–20. <https://doi.org/10.3390/su14020882>
- 21 19 Patak, M., Branska, L., & Pecinova, Z. (2021). *Consumer Intention to Purchase Green*
22 20 *Consumer Chemicals*.
- 23 21 Podsakoff, P. M., Mackenzie, S. B., & Podsakoff, N. P. (2012). *Sources of Method Bias in*
24 22 *Social Science Research and Recommendations on How to Control It*.
25 23 <https://doi.org/10.1146/annurev-psych-120710-100452>
- 26 24 Pretner, G., Darnall, N., Testa, F., & Iraldo, F. (2021). *Resources , Conservation & Recycling*
27 25 *Are consumers willing to pay for circular products ? The role of recycled and second-*
28 26 *hand attributes , messaging , and third-party certification*. 175(March).
- 29 27 Prieto-Sandoval, V., Jaca, C., & Ormazabal, M. (2018). Towards a consensus on the circular
30 28 economy. *Journal of Cleaner Production*, 179, 605–615.
31 29 <https://doi.org/10.1016/j.jclepro.2017.12.224>
- 32 30 **Puntillo, P. (2022). Circular economy business models : Towards achieving sustainable**
33 31 **development goals in the waste management sector — Empirical evidence and**
34 32 **theoretical implications. *Corporate Social Responsibility and Environmental***
35 33 ***Management, October*, 1–14. <https://doi.org/10.1002/csr.2398>**
- 36 34 Ramasamy, S., Dara Singh, K. S., Amran, A., & Nejati, M. (2020). Linking human values to
37 35 consumer CSR perception: The moderating role of consumer skepticism. *Corporate*
38 36 *Social Responsibility and Environmental Management*, 27(4), 1958–1971.
39 37 <https://doi.org/10.1002/csr.1939>
- 40 38 Ramesh, K., Saha, R., Goswami, S., Sekar, & Dahiya, R. (2019). Consumer’s response to
41 39 CSR activities: Mediating role of brand image and brand attitude. *Corporate Social*
42 40 *Responsibility and Environmental Management*, 26(2), 377–387.
43 41 <https://doi.org/10.1002/csr.1689>
- 44 42 Rashed, A. H., & Shah, A. (2021). The role of private sector in the implementation of
45 43 sustainable development goals. *Environment, Development and Sustainability*, 23(3),
46 44 2931–2948. <https://doi.org/10.1007/s10668-020-00718-w>

- 1
2
3 1 Saari, U. A., Damberg, S., Frömbing, L., & Ringle, C. M. (2021). Sustainable consumption
4 2 behavior of Europeans: The influence of environmental knowledge and risk perception
5 3 on environmental concern and behavioral intention. *Ecological Economics*, 189(April).
6 4 <https://doi.org/10.1016/j.ecolecon.2021.107155>
- 7
8 5 Sahota, A. (2013). Sustainability: How the cosmetics industry is greening up. In
9 6 *Sustainability: How the Cosmetics Industry is Greening Up*.
10 7 <https://doi.org/10.1002/9781118676516>
- 11
12 8 Sarja, M., Onkila, T., & Mäkelä, M. (2021). A systematic literature review of the transition to
13 9 the circular economy in business organizations: Obstacles, catalysts and ambivalences.
14 10 *Journal of Cleaner Production*, 286. <https://doi.org/10.1016/j.jclepro.2020.125492>
- 15
16 11 Schroeder, P. (2018). *The Relevance of Circular Economy Practices to the Sustainable*
17 12 *Development Goals*. 23(1), 77–95. <https://doi.org/10.1111/jiec.12732>
- 18
19 13 Shao, J., Li, W., Aneye, C., & Fang, W. (2022). Facilitating mechanism of green products
20 14 purchasing with a premium price—Moderating by sustainability-related information.
21 15 *Corporate Social Responsibility and Environmental Management*, 29(3), 686–700.
22 16 <https://doi.org/10.1002/csr.2229>
- 23
24 17 Shi, V. G., Baines, T., Baldwin, J., Ridgway, K., Petridis, P., Bigdeli, A. Z., Uren, V., &
25 18 Andrews, D. (2017). Using gamification to transform the adoption of servitization.
26 19 *Industrial Marketing Management*, 63, 82–91.
27 20 <https://doi.org/10.1016/j.indmarman.2016.12.005>
- 28
29 21 Sijtsema, S. J., Snoek, H. M., Winter, M. A. V. H., & Dagevos, H. (2020). *Let ' s Talk about*
30 22 *Circular Economy : A Qualitative Exploration of Consumer Perceptions*.
- 31
32 23 Singhal, A., & Malik, G. (2018). The attitude and purchasing of female consumers towards
33 24 green marketing related to cosmetic industry. *Journal of Science and Technology Policy*
34 25 *Management*, 2053–4620. <https://doi.org/10.1108/JSTPM-11-2017-0063>
- 35
36 26 Statista. (2020). *Cosmetics market in Italy- Statistics & Facts*.
37 27 <https://www.statista.com/topics/4122/cosmetics-market-in-italy/>
- 38
39 28 Statista. (2021). *Cosmetics industry in Brazil – statistics & facts*.
40 29 <https://www.statista.com/topics/5424/cosmetics-industry-in-brazil/>
- 41
42 30 Sudha, S. (2017). CORPORATE SOCIAL RESPONSIBILITY CAMPAIGNS ON. *Man in*
43 31 *India*, 97(22), 61–79.
- 44
45 32 Terakeet. (2021). *Beauty Industry: Cosmetic Market Share, Trends, and Statistics*.
46 33 <https://terakeet.com/blog/beauty-industry/>
- 47
48 34 Testa, F., Iovino, R., & Iraldo, F. (2020). The circular economy and consumer behaviour: The
49 35 mediating role of information seeking in buying circular packaging. *Business Strategy*
50 36 *and the Environment*, 29(8), 3435–3448. <https://doi.org/10.1002/bse.2587>
- 51
52 37 Tiscini, R., Martiniello, L., & Lombardi, R. (2021). *Circular economy and environmental*
53 38 *disclosure in sustainability reports : Empirical evidence in cosmetic companies*. October,
54 39 1–16. <https://doi.org/10.1002/bse.2924>
- 55
56 40 Vázquez-Burguete, J. L., Sahelices-Pinto, C., & Lanero-Carrizo, A. (2017). Corporate social
57 41 responsibility and consumer behavior in the cosmetics sector: a study in the Spanish
58 42 context. *International Review on Public and Nonprofit Marketing*, 14(3), 375–390.
59 43 <https://doi.org/10.1007/s12208-017-0178-y>
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3 1 Ventura, L., & Yuji, C. (2021). The wealth decumulation behavior of the retired elderly in
4 2 Italy : the importance of bequest motives and precautionary saving. *Review of Economics*
5 3 *of the Household*, 2020, 575–597. <https://doi.org/10.1007/s11150-020-09486-y>
- 6
7 4 Waheed, A., Zhang, Q., Rashid, Y., & Zaman Khan, S. (2020). The impact of corporate social
8 5 responsibility on buying tendencies from the perspective of stakeholder theory and
9 6 practices. *Corporate Social Responsibility and Environmental Management*, 27(3),
10 7 1307–1315. <https://doi.org/10.1002/csr.1885>
- 11
12 8 Wang, C. C. (2018). Corporate social responsibility on customer behaviour: the mediating
13 9 role of corporate image and customer satisfaction. *Total Quality Management and*
14 10 *Business Excellence*, 31(7–8), 742–760. <https://doi.org/10.1080/14783363.2018.1444985>
- 15
16 11 Wang, H., Tong, L., Takeuchi, R., & George, G. (2016). Corporate social responsibility: An
17 12 overview and new research directions. *Academy of Management Journal*, 59(2), 534–
18 13 544. <https://doi.org/10.5465/amj.2016.5001>
- 19
20 14 Wang, S., Liao, Y., Wu, W., Bao, K., & Le, H. (2021). *The Role of Corporate Social*
21 15 *Responsibility Perceptions in Brand Equity , Brand Credibility , Brand Reputation , and*
22 16 *Purchase Intentions*.
- 23
24 17 Wertebroch, K., & Skiera, B. (2002). Measuring Consumers ' Willingness to Pay at the
25 18 Point of Purchase. *Journal of Marketing Research*, May, 228–241.
- 26
27 19 Wolf, C., Joye, D., Smith, T. W., & Fu, Y. (2016). *The SAGE handbook of survey*
28 20 *methodology* (SAGE (ed.)).
- 29
30 21 Wooldridge, J. M. (2020). *Introductory Econometrics: A Modern Approach* (7th ed.).
31 22 CENGAGE Learning.
- 32
33 23 Yeo, A. C., & Carter, S. (2020). *Consumer perception towards corporate social responsibility*
34 24 *practices : a study of the Malaysian banking sector*. 14(3), 307–321.
- 35
36 25 Zhang, Q., & Ahmad, S. (2021). Analysis of corporate social responsibility execution effects
37 26 on purchase intention with the moderating role of customer awareness. *Sustainability*
38 27 *(Switzerland)*, 13(8). <https://doi.org/10.3390/su13084548>
- 39
40 28 Zou, Z., Liu, Y., Ahmad, N., Sial, M. S., Badulescu, A., Zia-Ud-din, M., & Badulescu, D.
41 29 (2021). What prompts small and medium enterprises to implement CSR? A qualitative
42 30 insight from an emerging economy. *Sustainability (Switzerland)*, 13(2), 1–16.
43 31 <https://doi.org/10.3390/su13020952>
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Table 1 - Sample characteristics

| Country | Respondents | Female % | Average Age | Average Schooling* |
|---------|-------------|----------|-------------|--------------------|
| Brazil | 152 | 56% | 31,6 | 3,3 |
| Italy | 150 | 55% | 39,8 | 2,6 |

* Schooling is defined on a 1 to 4 scale (see section 3.5)

Source: Authors (2022).

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Table 2 - Questionnaire blocks

| Block | Authors |
|---------------------------------------|---|
| 1. Corporate Social Responsibility | Dahlsrud (2008); Wang et al. (2016); Alvarado-Herrera et al. (2017); Hur; Kim (2017); Bianchi et al. (2019); Harrison et al.(2020); Zhang; Ahmad (2021) |
| 2. Circular Economy | Ellen MacArthur Foundation (2013); Kirchherr et al. (2017); Kerin Van Langen (2021); Nobre; Tavares (2021) |
| 3. Initiatives developed by companies | Bom et al (2019); Fortunati et al. (2020); Morea et al. (2021); Kolling et al. (2021) |

Source: Authors (2022).

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Table 3- Coding of variables used in this study

| Explanatory variables | | |
|-------------------------------|-------------------------|--|
| Variable | Survey | Codification |
| Country | Brazil or Italy | [-1, +1] |
| Gender | Female or Male | [-1, +1] |
| Age | Years | < 27 (-1); 27 to 44 (0), > 44 (+1) |
| Schooling | Four levels | High school (-1) Bachelor (0) Postgraduate (1) |
| Knowledge | 5 levels from 0 to 1 | < 0,33 (-1); 0,33 to 0,66 (0); > 0,66 (+1) |
| WTP for S&E | 5 levels from 0% to 50% | < 5,1% (-1); 5,1% to 10% (0); > 10% (+1) |
| Response variables | | |
| Variable | Survey | Codification |
| Knowledge of CSR concepts | 7 levels | [0, +1] |
| Knowledge of CE concepts | 7 levels | [0, +1] |
| WTP Premium price for CSR | 0% to 50% | [0, 0,5] |
| WTP Premium price for CE | 0% to 50% | [0, 0,5] |
| Perception of CSR companies | Yes or No | [0, +1] |
| Perception of CE companies | Yes or No | [0, +1] |
| Perception of CSR concepts | 5 questions, 7 levels | [0, +1] |
| Perception of CE concepts | 5 questions, 7 levels | [0, +1] |
| Perception of S&E initiatives | 10 initiatives | [0, 10] |

Source: Authors (2022).

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3 **Table 4-** Robust Regression Model for Knowledge on CSR and EC

| | Knowledge on CSR | | Knowledge on CE | |
|-------------------|------------------|---------|-----------------|---------|
| | Coef. | p-value | Coef. | p-value |
| CONSTANT | 0,405 | 0,0000 | 0,501 | 0,0000 |
| Country | 0,153 | 0,0000 | 0,126 | 0,0000 |
| Age | -0,072 | 0,0000 | -0,079 | 0,0000 |
| Schooling | 0,181 | 0,0000 | 0,143 | 0,0000 |
| Country*Age | -0,047 | 0,0007 | - | - |
| Country*Schooling | 0,083 | 0,0000 | 0,055 | 0,0002 |
| R2 = | 70,51% | | 58,65% | |
| MAE = | 0,120 | | 0,112 | |

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16 **Source: Authors (2022).**17
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21 **Table 5-** Robust Regression Model for WTP for products produced according to CSR and CE concepts

| | WTP for CSR | | WTP for CE | |
|-------------------|-------------|---------|------------|---------|
| | Coef. | p-value | Coef. | p-value |
| CONSTANT | 0,133 | 0,0000 | 0,130 | 0,0000 |
| Gender | -0,017 | 0,0000 | -0,019 | 0,0000 |
| Age | 0,016 | 0,0033 | 0,016 | 0,0025 |
| Schooling | 0,033 | 0,0000 | 0,027 | 0,0000 |
| Knowledge | 0,037 | 0,0000 | 0,036 | 0,0000 |
| Country*Gender | -0,012 | 0,0035 | -0,010 | 0,0095 |
| Country*Age | 0,027 | 0,0000 | 0,030 | 0,0000 |
| Country*Knowledge | - | - | 0,016 | 0,0148 |
| R2 | 35,39% | | 36,32% | |
| MAE | 0,048 | | 0,047 | |

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36 **Source: Authors (2022).**37
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41 **Table 6-** Robust Regression Model for the perception of socio-environmental initiatives

| | Perception of E&S Initiatives | |
|-------------------|-------------------------------|---------|
| | Coef. | P-value |
| CONSTANT | 0,394 | 0,0000 |
| Country | 0,042 | 0,0000 |
| Age | -0,063 | 0,0000 |
| Schooling | 0,089 | 0,0000 |
| Knowledge | 0,060 | 0,0000 |
| WTP | 0,058 | 0,0000 |
| Country*Schooling | -0,037 | 0,0001 |
| R2 | 59% | |
| MAE | 0,072 | |

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60 **Source: Authors (2022).**

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1 **Table 7-** Robust Regression Model for the perception of companies that follow CSR and CE concepts

| | Perception CSR Companies | | Perception CE Companies | |
|-------------|--------------------------|---------|-------------------------|---------|
| | Coef. | p-value | Coef. | p-value |
| CONSTANT | 0,720 | 0,0000 | 0,735 | 0,0000 |
| Country | 0,044 | 0,0042 | 0,128 | 0,0000 |
| Gender | -0,066 | 0,0000 | -0,061 | 0,0000 |
| Schooling | 0,083 | 0,0000 | | |
| Knowledge | 0,150 | 0,0000 | 0,121 | 0,0000 |
| WTP | 0,089 | 0,0000 | 0,060 | 0,0002 |
| Country*Age | -0,071 | 0,0000 | -0,053 | 0,0016 |
| R2 | | 60,56% | | 60,76% |
| MAE | | 0,142 | | 0,129 |

2 *Source: Authors (2022).*3 **Table 8-** Companies most cited as adherent to CSR fundamentals

| BRAZIL | | 35 companies cited | ITALY | | 10 companies cited |
|----------------|-----------|--------------------|-----------------|-----------|--------------------|
| Company | Citations | | Company | Citations | |
| Natura | 66 | | Collistar | 18 | |
| Boticário | 30 | | Bionike | 15 | |
| Avon | 8 | | Pupa Milano | 15 | |
| Avatim | 4 | | I Provenzali | 13 | |
| Simple Organic | 4 | | L'Erbolario | 12 | |
| BOB | 3 | | Bottega Verde | 11 | |
| Sallve | 3 | | Wycon Cosmetics | 10 | |

6 *Source: Authors (2022).*10 **Table 9-** Companies most cited as taking CE actions

| BRAZIL | | 17 companies cited | ITALY | | 10 companies cited |
|----------------|-----------|--------------------|-------------------|-----------|--------------------|
| Company | Citations | | Company | Citations | |
| Natura | 41 | | I Provenzali | 17 | |
| Boticário | 18 | | Neve Cosmetics | 16 | |
| Avatim | 4 | | PuroBIO Cosmetics | 15 | |
| Sallve | 3 | | L'Erbolario | 14 | |
| Avon | 2 | | Bottega Verde | 13 | |
| Simple Organic | 2 | | Omia | 13 | |
| BOB | 2 | | Bionike | 12 | |
| | | | Collistar | 12 | |

11 *Source: Authors (2022).*

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- 1 **Figure 1** – Theoretical framework tested
2 *Source: Authors (2022).*
3 **Figure 2-** Knowledge about CSR according to Country, Age, and Schooling
4 *Source: Authors (2022).*
5 **Figure 3-** Knowledge about CE as a function of Country, Age, and Schooling
6 *Source: Authors (2022).*
7 **Figure 4-** WTP for CSR products according to Country, Gender, and Age
8 *Source: Authors (2022).*
9 **Figure 5-** WTP for CE products according to Country, Gender, and Age
10 *Source: Authors (2022).*
11 **Figure 6-** Perception of E&S initiatives according to Country, Age, and Schooling Level
12 *Source: Authors (2022).*
13 **Figure 7-** Perceived environmental initiatives citations by country
14 *Source: Authors (2022).*
15 **Figure 8-** Perception of companies following CSR concepts according to Country, Age, and Knowledge
16 *Source: Authors (2022).*
17 **Figure 9-** Perception of companies undertaking CE actions in terms of Country, Age, and Knowledge
18 *Source: Authors (2022).*
19 **Figure 10-** Perception of CSR Dimensions
20 *Source: Authors (2022).*
21 **Figure 11-** Perception of CE Elements
22 *Source: Authors (2022).*
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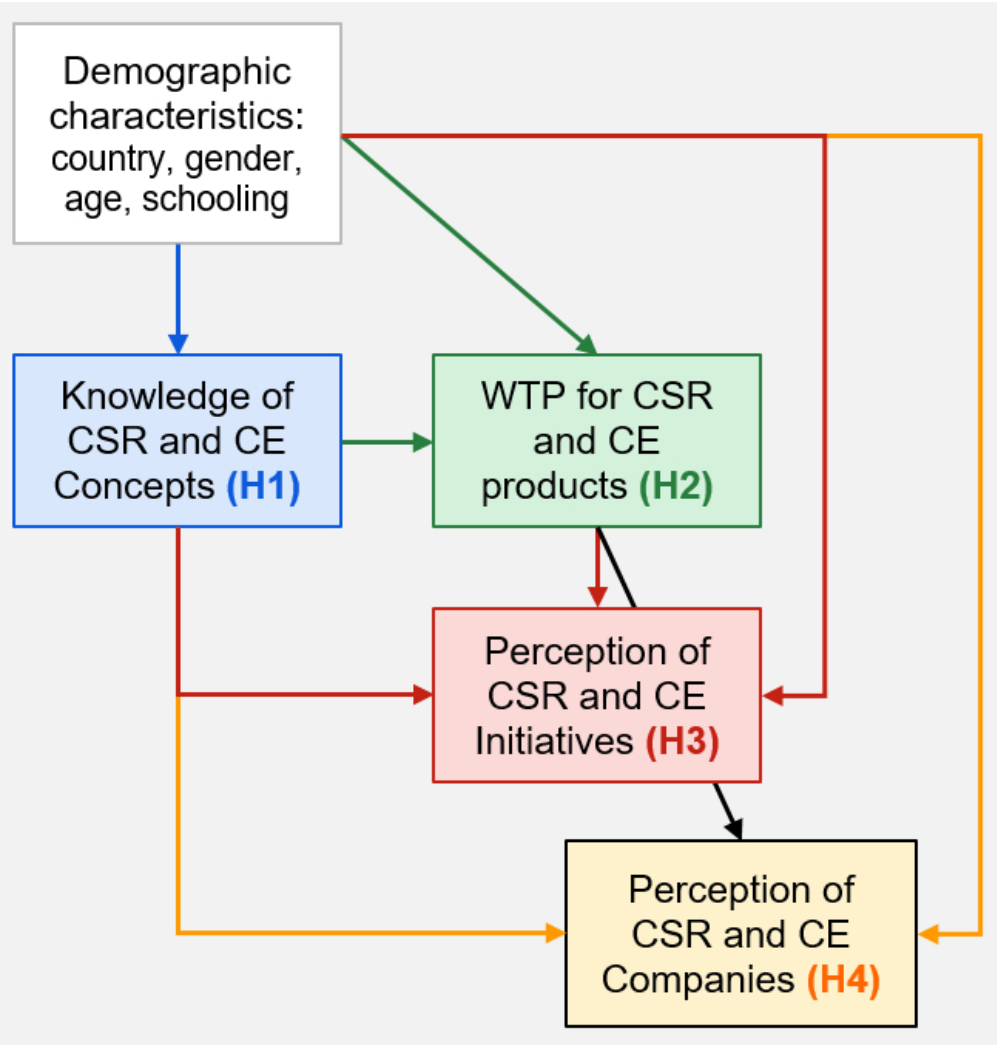


Figure 1 - Theoretical framework tested

432x450mm (38 x 38 DPI)

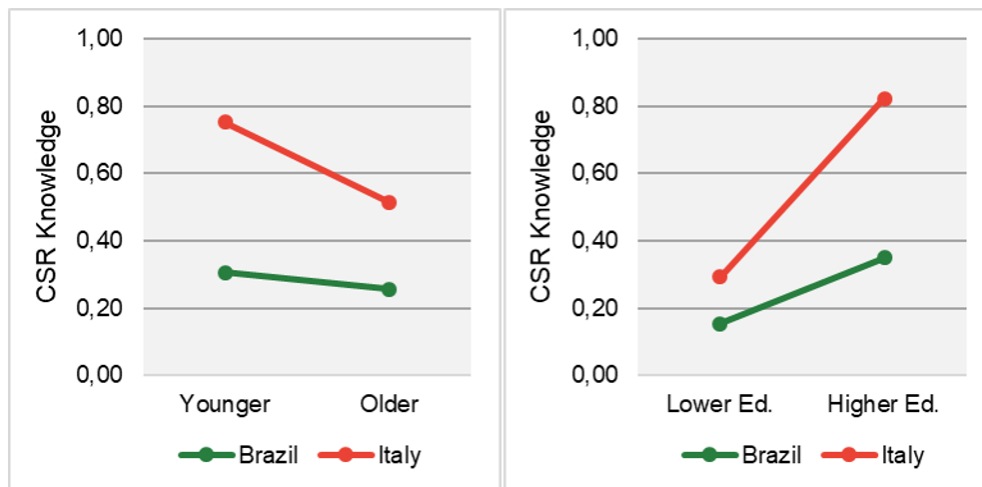


Figure 2- Knowledge about CSR according to Country, Age, and Schooling

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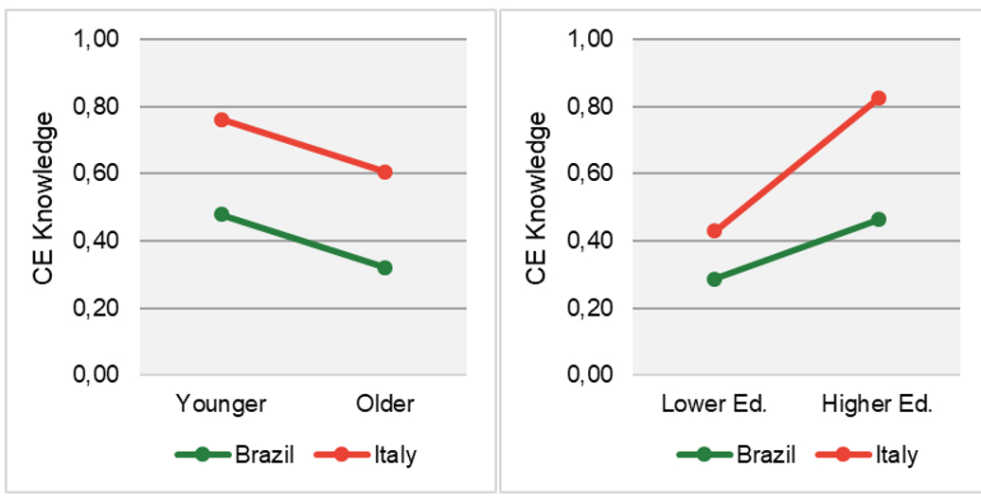


Figure 3- Knowledge about CE as a function of Country, Age, and Schooling
705x353mm (38 x 38 DPI)

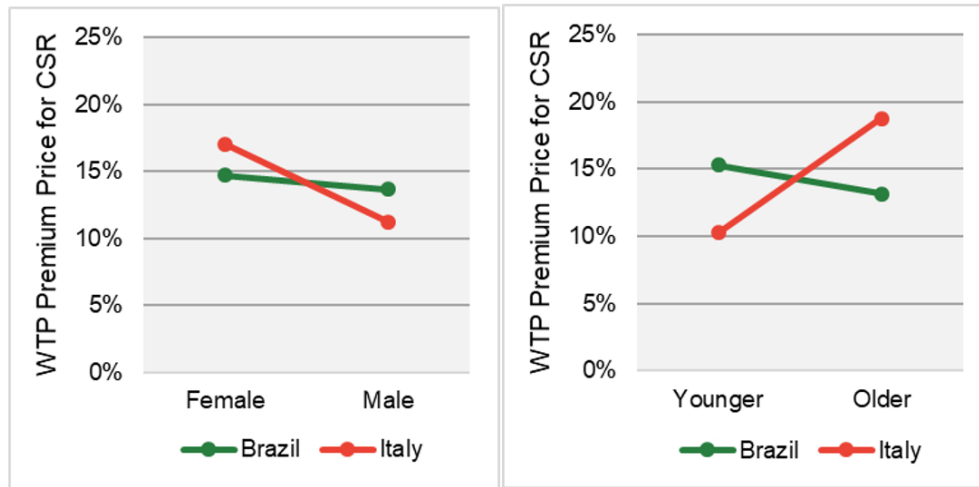


Figure 4- WTP for CSR products according to Country, Gender, and Age

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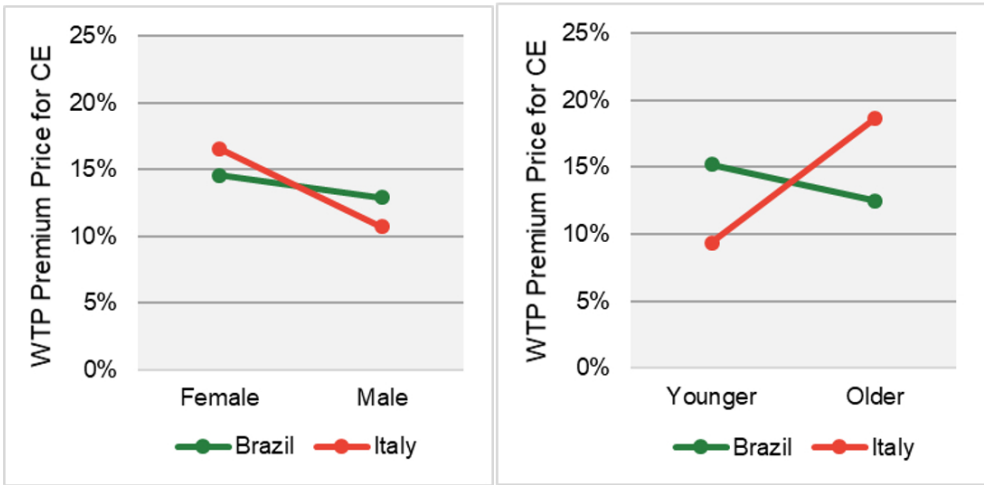


Figure 5- WTP for CE products according to Country, Gender, and Age
739x367mm (38 x 38 DPI)

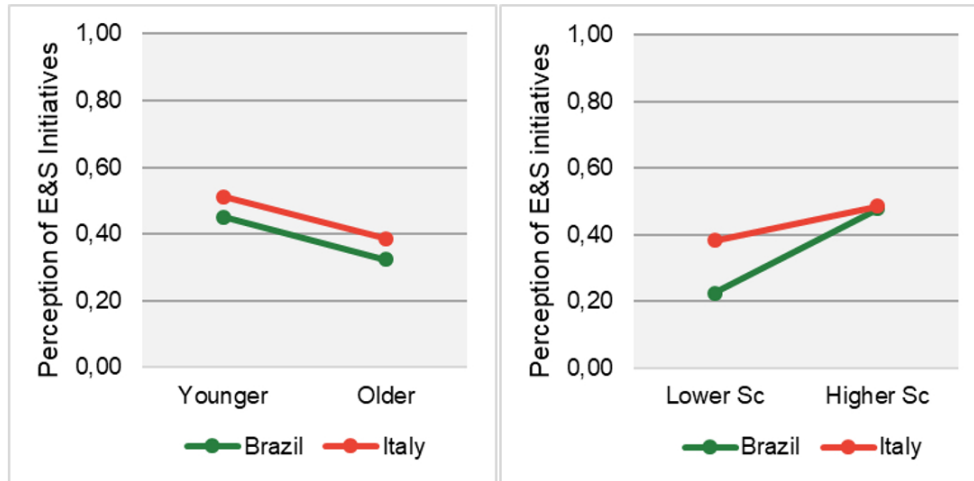


Figure 6- Perception of E&S initiatives according to Country, Age, and Schooling Level

741x368mm (38 x 38 DPI)

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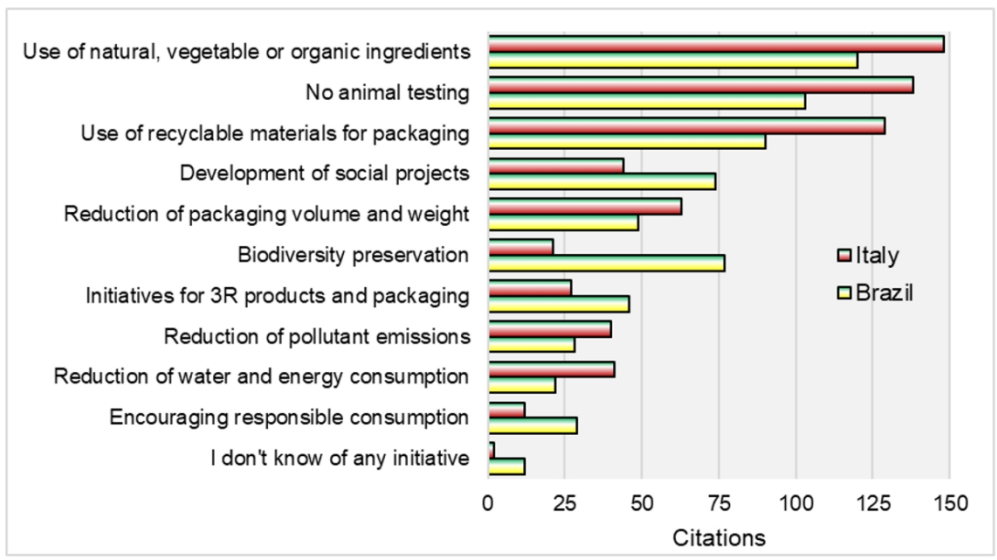


Figure 7- Perceived environmental initiatives citations by country

827x462mm (38 x 38 DPI)

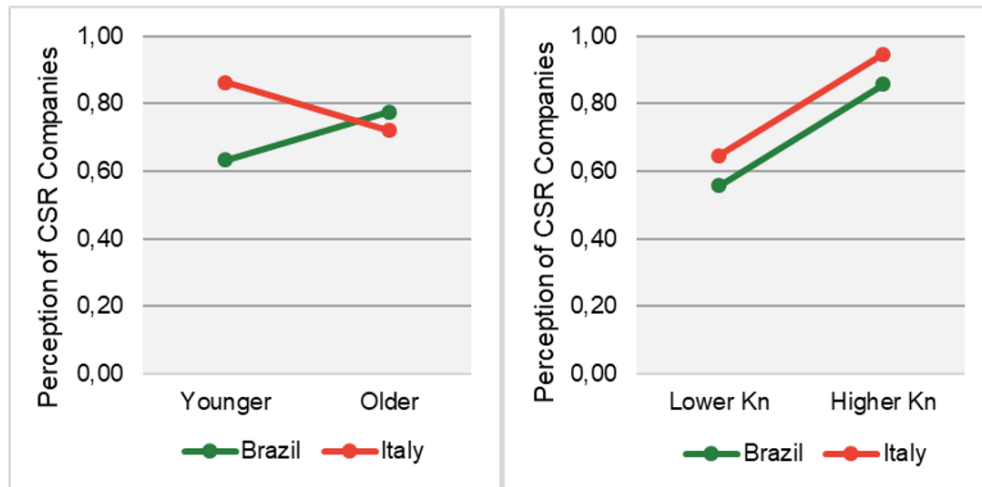


Figure 8- Perception of companies following CSR concepts according to Country, Age, and Knowledge

733x365mm (38 x 38 DPI)

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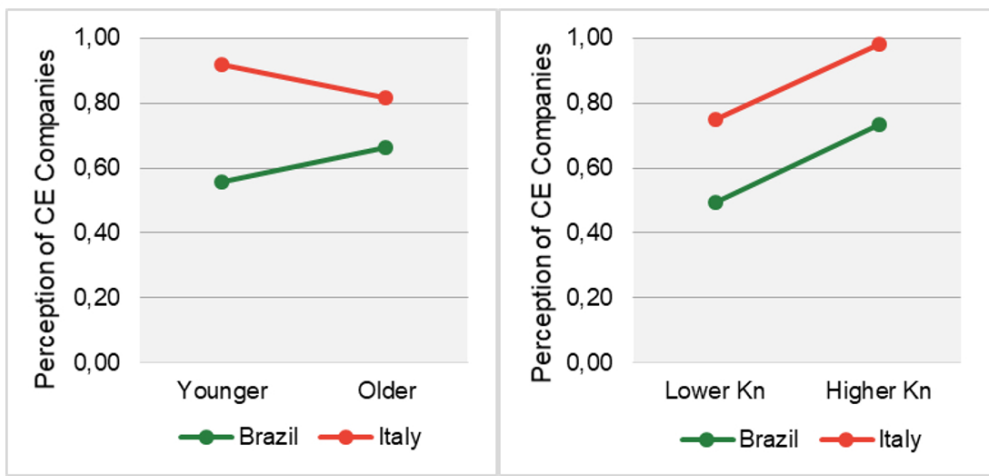


Figure 9- Perception of companies undertaking CE actions in terms of Country, Age, and Knowledge
735x354mm (38 x 38 DPI)

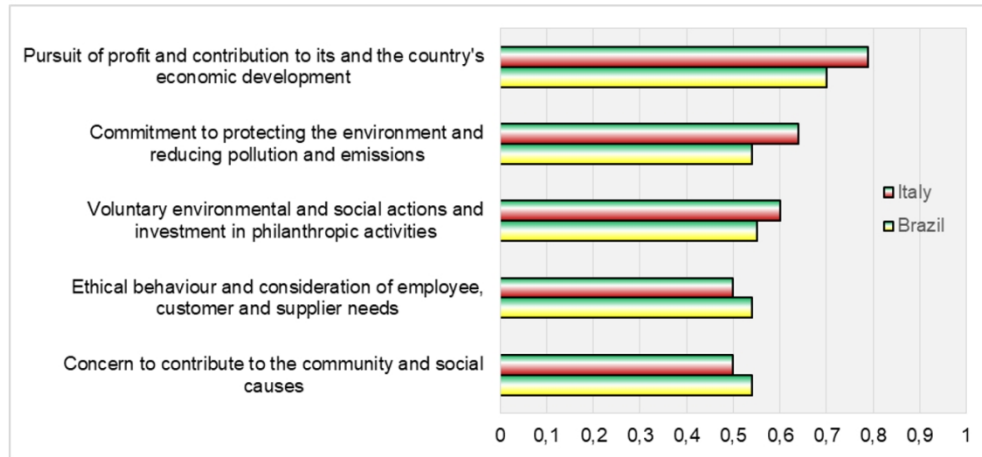


Figure 10- Perception of CSR Dimensions

899x419mm (38 x 38 DPI)

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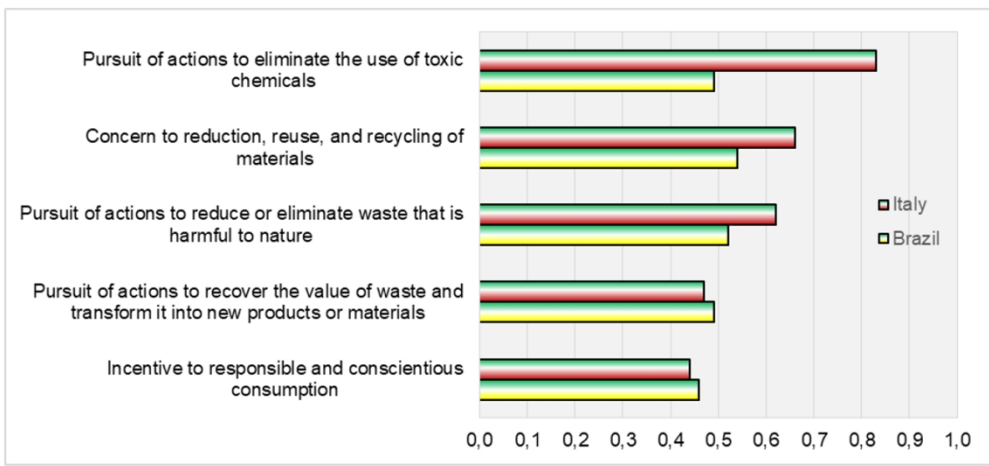


Figure 11- Perception of CE Elements

897x420mm (38 x 38 DPI)