

# Pro-Environmental values' and consumer behavior in base of the pyramid market: Ghana

Values' and  
consumer  
behavior

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## Abstract

**Purpose** – This study aims to fill the gap on proenvironmental behavior studies among consumers in bottom of the pyramid (BOP) market by examining the relationship between values, beliefs and norms among Ghanaian consumers.

**Design/methodology/approach** – A sample of 324 Ghanaian consumers (responses rate of 64%) was used to estimate the model. The data was analyzed using maximum likelihood robust approach of Lavaan package for structural equation modeling in R.

**Findings** – The findings show that there is no significant relationship between values and the new ecological worldview, which also does not affect awareness of environmental consequences. However, awareness of consequences, likely based on personal experiences, significantly impacts perceived ability to reduce threats to the environment. Ghanaian consumers are mainly influenced by personal experiences with local environmental consequences that affect their perceived ability to reduce threats to their environment and their willingness to engage in proenvironmental behavior. The study supports the argument that proenvironmental behavior is the result of complex decision-making that might be influenced by a country's economic situation, infrastructure, culture and institutions.

**Research limitations/implications** – This study focuses on a single country in Africa. More studies are needed among other base of the pyramid countries, and in comparison to developed countries' consumers.

**Originality/value** – The study adds to the limited knowledge regarding sustainable consumption in the neglected context of the bottom of the pyramid market.

**Keywords** CSR, Sustainable consumption, Proenvironmental behavior, Bottom of the pyramid market

**Paper type** Research paper



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## Introduction

Consumers, governments and environmental activists are increasingly concerned about the negative impact of businesses and human activities on the environment. Accordingly, pressure is mounting on organizations to behave in a manner that is socially and environmentally responsible (Dartey-Baah and Amoako, 2021). This demand for corporate social responsibility (CSR) has been linked to the organization's reputation (Chartered Institute of Marketing, 2015). Among the key factors for developing a favorable reputation are perceptions of the company as credible, trustworthy, reliable and responsible (Fombrun, 1996). Stakeholders now use CSR as a method of measuring how responsible, reliable and trustworthy businesses are (Arslan *et al.*, 2021; Naatu *et al.*, 2022). Apart from its performance, the company's ability to demonstrate that it is socially and environmentally responsible affects its public image, reputation and consequently, its relationship with stakeholders.

Consumers' expectations about a company's CSR affect their attitudes about it and their willingness to buy its products (Rhou *et al.*, 2016; Hazel and Kang, 2018). This concept is known as sustainable consumption. Empirical studies have established a positive relationship between CSR and firms' financial performance (Jeon and Gleiberman, 2017; Rhou *et al.*, 2016; Youn *et al.*, 2015) due to increased patronage. Many related studies also show the positive effect of CSR on other categories of the firm's performance such as improvements in employee satisfaction and retention levels as well as the positive signals it sends to investors (Naatu, 2020; Su *et al.*, 2016). Consequently, companies are increasingly undertaking CSR activities to improve their reputation, gain legitimacy and achieve a competitive edge (Rhou *et al.*, 2016).

A firm's financial performance is directly linked to customers' purchasing behavior (Assidi, 2023; Jeon and Gleiberman, 2017). However, studies on CSR's effect on customer behavior are rare (Rathore *et al.*, 2022). Furthermore, the existing studies are mainly in developed economies (Castro-González *et al.*, 2019; Ho, 2017). Given that culture, institutions and the level of economic development shapes people's attitudes and behaviors, we must investigate whether the findings about the relationship between CSR and consumers' values and expectations hold in other countries that are less developed (Chu *et al.*, 2020; Ramasamy and Yeung, 2009). For example, research in the USA, Europe and other developed contexts including China indicate a positive relationship between positive CSR performance and consumers' purchase intentions (Papadopoulou *et al.*, 2022; Chu *et al.*, 2020; Golob *et al.*, 2019; Jeon *et al.*, 2020). However, would this relationship also hold in countries at the bottom of the pyramid market that are plagued by poverty, the lack of respect for the rule of law, cultural differences and other challenges?

The bottom of the pyramid market refers to developing economies that have more than 4 billion people living on less than \$2 per day (Prahalad, 2012). These regions are indispensable sources of untapped economic power, yet they are disorganized and underdeveloped (Roosevelt, 1932). A study by Arli and Lasmono (2010) indicated that CSR was yet to be accepted among such economies where consumers were not aware or supportive of such initiatives. Given the many years that have elapsed since 2010, combined with globalization and technological development, we maintain that it is time to re-examine the changes in consumer knowledge, attitudes and behavior with regard to CSR. That notwithstanding, a cursory examination of the operations of businesses at the bottom of the pyramid market would lead one to deduce that firms seem quite skeptical about CSR. However, these markets are noted to have firms that cannot hold high socially responsible standards, and they lack strong institutional checks and balances (Lattemann *et al.*, 2009). Furthermore, studies have established that for companies at the bottom of the pyramid

market, CSR is discretionary and limited to philanthropic activities (Abugre and Nyuur, 2015; Yin and Zhang, 2012). This finding might be the result of the lack of established evidence about the effect of CSR on consumer behavior in these markets (Arlı and Lasmono, 2010). A study in this context is therefore highly required to determine the values of the people and how that affect their response to CSR activities. This research adds to the limited studies on CSR in the bottom of the pyramid market (Abugre and Nyuur, 2015; Yin and Zhang, 2012; Arlı and Lasmono, 2010). For instance, Abugre and Nyuur (2015) study was about organizations commitment to communicating their CSR activities. Yin and Zhang (2012) tried determining how business leaders interpret and practice CSR, and Arlı and Lasmono (2010) studied consumer perception of CSR. Denni *et al.* (2008) also wrote about CSR and firm performance. Abdul-Muhmin (2007), and Rice (2006) are some of the few studies that examined consumers proenvironmental behavior. These studies concluded that limited attention has been paid to consumers proenvironmental values and how that influences their purchase decisions in the developing context.

The study would help to determine why firms can afford not to hold high social standards in their operations, and inform governments on what need to be done to make consumers more proactive in their consumption practices and response towards firms impacts on the environment. The study shall also highlight the gaps in relation to its findings to provide direction for future studies. Per this, we investigate two questions. First, are consumers at the bottom of the pyramid market aware of the new ecological world perspectives? Second, if they are, what are their expectations about the behavior of the companies with which they do business in this regard, and how do these expectations and the consumers values affect their choice of companies from which to buy?

### Literature review

CSR is a universally accepted concept that is understood differently in different regions or countries (Gjølberg, 2010). In some regions such as the USA and Africa, it is voluntary, whereas in Norway, CSR forms part of government directives. As such, there are varied definitions of the concept. The most common definition of CSR is “the responsibility of enterprises for their impacts on society” (European Union Commission, 2019 p. 6). The Ghana Chamber of Mines (2006) also defines it as, the general responsibilities which results from the relationship a company builds with its stakeholders and the communities from which it operates in an effort to jointly achieve an integrated environmental management system and satisfy social objectives. CSR is about how businesses contribute to shared value in a society through good governance, economic development, stakeholder responsiveness and environmental improvement by being financially, ethically, legally, socially and environmentally responsible (Masoud, 2017). In other words, CSR expectations include not only a business taking responsibility for its impact on society, but also for the effect it has on employees, customers and all other stakeholders in its quest to fulfil shareholders' expectations (Naatu, 2020).

Despite not being new, CSR is still hotly debated. It is a topic of discussion in academia and governments when talking about the negative impact that some companies have on the global environment and its social effects (Iqbal *et al.*, 2023; Golob *et al.*, 2019; Matten and Moon, 2020). Examples include the removal of forest cover, global warming, pollution, environmental degradation and child labor (Naatu *et al.*, 2022). This awareness is making consumers, society and governments put pressure on businesses to revise their choices that have negative effects (Islam *et al.*, 2021).

In some countries' governments are requiring companies to comply with regulatory requirements. Consumers are also demanding ecologically friendly goods (Abdelmoety *et al.*,

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2022) and boycotting firms with questionable social and environmental or sustainability practices (Rode *et al.*, 2015). They often balk at businesses that simply give money to charities, which they interpret as greenwashing (Naatu *et al.*, 2022). At the bottom of the pyramid market such as Africa where rules, regulations and laws do not work and much of the population is illiterate, CSR remains less well-known (Andrews, 2016). Therefore, compliance is voluntary and at the discretion of businesses, which often choose to do little or nothing despite their dire effects on their communities and people (Andrews, 2016; Abdelmoety *et al.*, 2022). These differences underscore that the where, when and who matter as determinants of CSR performance (Pope and Kim 2022).

#### *Corporate social responsibility at the bottom of the pyramid market*

The history of CSR dates as far back as 1930s with publications on corporations' social performance and the components of their social responsibility (Agudelo *et al.*, 2019; Carroll, 2008). However, there are very few studies about CSR in bottom of the pyramid market countries (Dartey-Baah and Amoako, 2021). Such countries like Ghana include populations of more than 4 billion people living on less than two dollars per day (Pralhad, 2012). Such populations are disorganized, but are an indispensable source of untapped economic power according to Franklin D. Roosevelt, who first coined the term (Roosevelt, 1932). In spite of the significant developments in technology and the many years since Franklin Roosevelt's statement, Africa, like other areas in Asia, Eastern Europe, Latin America and the Caribbean still has disorganized states whose people live in abject poverty (Guesalaga and Marshall 2015) despite their countries' being endowment with rich natural resources (Mohammed *et al.*, 2022).

Due to the dearth of studies in the region, the extant findings and implications of CSR research in the West are often generalized or taken as the norm despite the disparities in context, culture and ethical reasoning between developed and developing nations (Dartey-Baah and Amoako, 2021). Solutions formulated in developed nations are inadequate when applied in developing contexts (Andrews, 2016). Consequently, we need more studies in these countries for a holistic understanding of CSR in various contexts.

### **Theoretical framework and development of hypotheses**

#### *The value belief norm theory*

Cultural differences are defined by the dominant values, norms and beliefs of a society. Therefore, we used Stern's (2000) value belief norm (VBN) theory to examine the effect of CSR on consumer behavior at the bottom of the pyramid market. The theory has the potential to provide a comprehensive view about why individuals in a particular society would or would not react to the CSR initiatives of businesses. We call this reaction proenvironmental behavior because CSR includes sustainability practices. The theory combines the views of the altruistic behavior theory of moral norm activation by Schwartz (1977), and Dunlap and Van Liere (1978) new environmental paradigm perspectives as the main variables leading to proenvironmental behavior. According to the VBN theory, environmental behavior is based on a set of personal value concepts, beliefs and personal norms. The causal relationships transition from a set of personal values (which are biospheric, altruistic and egoistic values) to the new ecological or environmental paradigm, then awareness of consequences, ascription of responsibility and finally proenvironmental behavior.

*The set of personal values.* Personal values are the subjective thoughts people have that reflect what they say about themselves and how they behave (Sagiv *et al.*, 2017). In the VBN theory, values are key determinants of human behavior, and they are classified into three

main categories: egoistic values, biospheric values and altruistic values. Each of these values have different impact on behavior, and they can shape human actions in different ways (Stern *et al.*, 1999).

*Egoistic values.* Egoistic values are self-centered or selfish values that prioritize personal benefit and individual achievement. Those who hold egoistic values are motivated by self-interest, and they tend to hold higher their own needs and desires over those of others or the environment (Han, 2021). Egoistic values can lead to behaviors that are harmful to others or the environment, such as overconsumption, waste and pollution. Such people may not care about how responsible a firm is or not (Stern *et al.*, 1999).

*Biospheric values.* Biospheric values on the other hand are values that prioritize the well-being of the natural environment and other living beings (Bouman *et al.*, 2020). People who hold biospheric values are motivated by a sense of care to nature and they often desire to protect the environment and its inhabitants (Bouman *et al.*, 2020; Tolppanen *et al.*, 2022). Biospheric values can lead to behaviors that are more sustainable and environmentally friendly, such as recycling, conserving energy and reducing waste (Osunmuyiwa *et al.*, 2020; Stern *et al.*, 1999).

*Altruistic values.* Altruistic values are values that prioritize the well-being of people and society as a whole (Han, 2021). People who hold altruistic values are motivated by a desire to help others and make a positive impact on the world (Stern *et al.*, 1999). Altruistic values can lead to behaviors that benefit others or the environment, such as volunteering, charitable giving and activism.

*New ecological worldview.* The concept of new ecological worldview emerged as a result of the growing environmental concerns about climate change, deforestation, pollution and extinction of species (Tolppanen *et al.*, 2022). This perspective recognizes the interdependence of all living beings and the natural environment. It argues that human beings are not separate from the environment, rather, they are an integral part of it (Arcury *et al.*, 1986), hence, there is the need to ensure sustainability and for humans to live in harmony with nature (Stern, 2000; Han, 2021). The old traditional anthropocentric worldview, which places human interests at the center of the universe and sees nature as a resource to be exploited, has been severely challenged by this new ecological worldview. This perspective recognizes the inherent value of nature beyond its immediate instrumental value to humans (Stern, 2000).

Given that people with biospheric values prioritize the well-being of the biosphere, including all living organisms and the natural systems that support them, they would practically imbibe the values of the new ecological world view and see it as an important concept that should guide human actions or inactions (Stern, 2000). They would believe that human actions have a significant impact on the health of the planet, and that it is human responsibility to minimize this impact and work towards sustainable practices that support the long-term health of the environment (Han, 2021). This would convert them to develop a heightened sense of awareness about environmental issues (Stern *et al.*, 1999; Stern, 2000) and lead them to make conscious choices that promote environmental conservation and sustainability.

Similarly, since individuals with altruistic values care about the wellbeing of others (both human and nonhuman), they would readily accept the ecological world view and prioritize the conservation of all forms of lives (Steg *et al.*, 2014; Bouman *et al.*, 2020). Accepting the new ecological world view would deepen their sense of empathy and respect for life and lead them to believe they have a responsibility to help minimize the impact on the welfare of other species. Accordingly, they shall work towards practices that support the long-term health of the ecology for future generations. Thus, we hypothesize that:

*H1.* Biospheric values have a significant effect on individuals' new ecological worldview.

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H2. Altruistic values have positive and significant effect on the new ecological worldview of Ghanaians.

*Awareness of consequences.* The new ecological worldview has led to an increased understanding of the consequences of individuals actions for both short and long-term (Stern, 2000). This has drawn attention to the fact that current consumption patterns are depleting and degrading natural systems and compromising the ability to conserve the environment and resources for future generations (Dunlap *et al.*, 2000). This heightened awareness could lead to a change in behavior and decision-making as it promotes a sense of responsibility toward the natural environment and the desire to conserve life (Osunmuyiwa *et al.*, 2020).

It may especially be true for Ghana, given the 2022 World Bank Group's new Country Climate and Development Report for the country. It estimated that, at least about 1 million Ghanaians may fall into poverty owing to climate shocks if no urgent sustainable actions are taken (Fosu, 2023). The importance attributed to the estimates of the World Bank Group and the tenets of the new ecological worldview can lead to changes in Ghanaian lifestyle and values that prioritize sustainability and environmental responsibility (Osunmuyiwa *et al.*, 2020). Thus, we hypothesize that:

H3. The new ecological worldview is significantly related to awareness of adverse consequences on the environment.

*Perceived ability to reduce threat.* Perceived ability can be influenced by a number of factors such as awareness of consequences, knowledge, skills, available resources and possibly social support (Steg *et al.*, 2014; Bouman *et al.*, 2020). For instance, an individual who is aware of the negative consequences of his carbon footprint may feel motivated to buy an electric car. But if the person does not have the money to buy an electric car, or if the person is in a country such as Ghana where he cannot charge an electric vehicle, he might perceive his ability to reduce the threat as limited. Similarly, if he feels like he is the only one and that others in his community would not contribute towards this or support him, he is less likely to take an action (Bouman *et al.*, 2020). However, if the person feels that he has the ability to take an action, for example, by boycotting the purchase of products from a firm that is not responsible, and others are supporting him, the person is highly likely to do so. The person is also likely to seek information about companies that are environmentally conscious to inform his purchase of their products (Steg *et al.*, 2014; Osunmuyiwa *et al.*, 2020). This sense of control can lead to increased motivation and engagement in efforts to reduce the threat. We, therefore, hypothesize that:

H4. Awareness of the adverse consequences is significantly related to perceived ability to reduce the associated threats.

Perceptions that one's individual actions or inactions can reduce environmental threats are necessary for people to adopt personal norms (Kollmuss and Agyeman 2002). Personal norms are people's own standards and rules that guides their behavior. The VBN theory defines them as feelings of moral obligation that are influenced by awareness of the consequences of poor choices (Onwezen *et al.*, 2013). In other words, people's perceptions about their ability to bring about change to reduce perceived threats affect their personal norms. As a result, they may develop a sense of environmental responsibility that makes

them behave in a certain manner or ascribe responsibility to others to fix the situation (Stern, 2000; Stern *et al.*, 1999):

*H5.* Ghanaians' perceived ability to reduce threats to the environment significantly impacts their proenvironmental personal norms.

Environmental behaviors are the actions in which people consciously engage to minimize the negative impact of human activities on the environment. Environmental behaviors entail environmental activism, which includes being involved in environmental demonstrations or with environmental organizations (Chen, 2015). It also includes nonactivist behaviors in the public sphere such as environmental citizenship, demonstrations, petitions on environmental issues and explicit approval of environmental regulations. Private sphere environmentalism involves behaviors such as the purchase, use and disposal of personal and household products that have environmental implications. Finally, the behavior of organizations that can influence the actions or inactions of organizational members are all part of environmental behaviors (Stern, 2000). According to the literature, when people believe that their efforts to safeguard the environment will have a significant effect, they are highly likely to engage in proenvironment behaviors (Naatu *et al.*, 2022; Rice, 2006). Thus, we hypothesize that:

*H6.* Ghanaians' personal norms have a significant effect on their purchase behaviors.

*H7.* Ghanaians' personal norms have a significant effect on their environmental citizenship behaviors.

Intention is about the willingness or the motivation to engage in certain behaviors (Younus, 2015). People who have such intentions are more likely to do so than those who do not have such intentions. Environmental studies often investigate purchase intentions because some maintain that intentions mediate the relationship between personal norms and behaviors (Elhoushy and Lanzini, 2021). For instance, a number of studies have demonstrated the significant effect of personal norms and intentions to engage in a proenvironmental behavior (Graham-Rowe *et al.*, 2015; Rezaei and Ghofranfarid, 2018). We, therefore, hypothesize that:

*H8.* Ghanaians' personal norms have a significant effect on their willingness to behave in environmentally friendly ways.

*H9.* The willingness to engage in a proenvironmental behavior is significantly and positively related to purchase behavior.

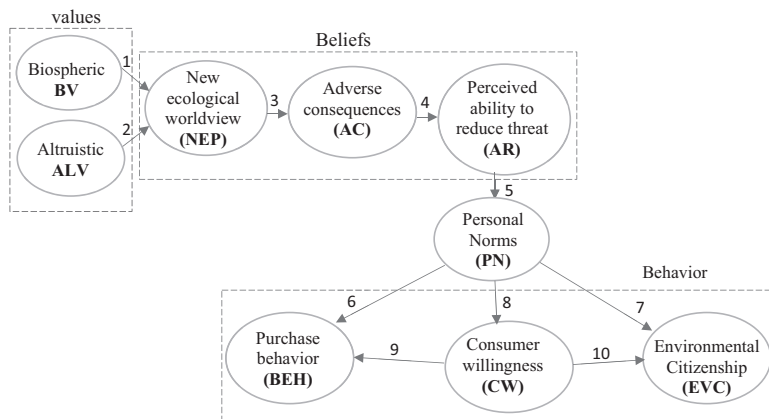
*H10.* The willingness to engage in a proenvironmental behavior is significantly associated with environmental citizenship behavior among Ghanaians.

Figure 1 illustrates the chain reaction effects of these factors. It is based on a linear progression from values to beliefs, to personal norms and finally, behavior.

## Methodology

### *Composition and size of the sample*

To test our hypotheses, we recruited agents from the regional capitals in Ghana to administer an online survey between September 13 and November 13, 2022 on various WhatsApp platforms to groups of people above 17 years of age. In total, about 500 people received the survey forms. To encourage participation, respondents were promised and



**Figure 1.**  
Depicts the model

**Source:** Authors' own construct

| Variable           | Categories        | Frequency | Percentage |
|--------------------|-------------------|-----------|------------|
| Age                | 18–24             | 32        | 9.9        |
|                    | 25–34             | 161       | 49.7       |
|                    | 35–44             | 99        | 30.6       |
|                    | 45–54             | 28        | 8.6        |
|                    | 55 and above      | 4         | 1.2        |
| Total              |                   | 324       | 100        |
| Gender             | Male              | 238       | 73.5       |
|                    | Female            | 86        | 26.5       |
| Total              |                   | 324       | 100        |
| Level of education | Secondary/diploma | 29        | 9.0        |
|                    | Degree            | 174       | 53.7       |
|                    | Masters           | 98        | 30.2       |
|                    | PhD               | 23        | 7.1        |
| Total              |                   | 324       | 100        |

**Table 1.**  
Summary of the  
survey participants

**Source:** Authors' own construct

given a gift of 182.08 gigabit data. They were also assured of confidentiality and anonymity if they should participate. We received 324 responses, a response rate of 64.8%. According to [Kline \(2023\)](#), a minimum of 100 observations is enough to estimate a structural equation model (SEM), particularly a covariance-based SEM. Hence, the 324 valid responses were deemed adequate for the analysis. [Table 1](#) provides a statistical summary of the survey's participants.

#### *Construct measurement*

To ensure content validity, we adopted constructs and indicators from existing literature. We followed this procedure with four rigorous steps including item generation, a pre-pilot study, a pilot study and a large-scale data collection and analysis adopted from [Li et al. \(2006\)](#). All of the items were measured on a seven-point Likert scale ranging from extremely



unimportant to extremely important or strongly disagree to strongly agree. The only exceptions were consumer behavior and environmental citizenship. The items for consumer behavior were based on a four-point Likert scale, while the items for environmental citizenship demanded yes and no answers.

In total, we used 4 items for biospheric values, 3 for altruistic values, 4 for new ecological worldview, 6 for adverse consequences, 5 for perceived ability to reduce threats, 11 for personal norms, 4 for consumer purchase behavior, 3 for consumer willingness and 4 for environmental citizenship. To determine the validity of our measures, two professors reviewed the questionnaire and we pilot tested the questionnaire with 20 people before the large-scale data collection.

#### *Nonresponse bias check*

We checked for nonresponse bias by dividing the 324 responses into two equal halves of 162 participants each based on the response timestamp. The chi-squared statistics and *p*-values of selected demographic variables such as gender, and age displayed in [Table 2](#) indicate there was no significant difference between the two groups. Thus, we concluded that the data was free of any serious biases.

#### *Common method bias*

In addition, we also checked for common method bias, meaning, errors that arise in measurement due to methodological issues. To do so, we used Harman's single factor technique and common latent factors as well as common marker variables ([Podsakoff et al., 2003](#)). First, we conducted a factor analysis without rotation by loading all of the measurement items in the conceptual model onto one latent factor. The proportion of variance explained was 0.14 indicating that the factor could explain only 14% of the variance, far below the threshold of 50%. Next, we created a common latent factor that did not correlate with any of the latent variables. The equal factor loading was 0.003. The square of the value indicated that the common factor could not explain even 1% of the variance. Lastly, the common marker variable we introduced produced an equal factor loading of  $-0.003$ , which when squared, could not explain even 1% of the common variance. Based on these results, we conclude that our data was free from common method biases.

#### *Reliability of the construct scale*

The scores for the Cronbach's alphas ( $\alpha$ ) and the factor loadings (in [Appendix](#)) confirmed the reliability of the constructs. They were above the lowest requirement of the threshold (0.70), ranging from 0.88 to 0.96 (see [Table 3](#)). According to [Hair et al. \(2010\)](#), Cronbach's alpha is calculated as follows:

| Variable | Mean first respondents | Mean last respondents | $T - stat/x^2$ | DF     | <i>p</i> -value |
|----------|------------------------|-----------------------|----------------|--------|-----------------|
| Age      | 2.48                   | 2.35                  | 1.407          | 321.63 | 0.1604          |
| Gender   | 1.73                   | 1.74                  | 6.892          | 1      | 1.000           |

**Note:** Null hypothesis: at  $p < 0.05$  there was no significant difference between the first and second group of subsamples

**Source:** Authors' own construct

**Table 2.**  
Nonresponse bias  
check

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$$(\alpha) = \frac{\left(\sum_{i=1}^n FL_i\right)^2}{\left(\sum_{i=1}^n FL_i\right)^2 + \left(\sum_{i=1}^n ME_i\right)}$$

$FL_i$  = the standardized factor loadings of measurement item  $i$ ;  
 $n$  = the number of items in a factor; and  
 $ME_i$  = the measurement error of the item  $i$ .

The calculation for  $ME_i$  is  $\left(\sum 1 - FL_i^2\right)$ . Similarly, the average variance extracted (AVE) for each construct ranged from 0.70 to 0.89, showing that there was no problem of convergent validity. As Table 4 indicates, all of the values exceeded the lowest threshold of 0.50 and the variance they each shared with other constructs. Using Hair *et al.* (2010), the AVE formula is:

$$AVE = \frac{\sum_{i=1}^n FL_i^2}{n}$$

**Table 3.**  
Correlation matrix of latent variables and reliability (Cronbach's alpha)

| Variable | ( $\alpha$ ) | Mean | SD   | BV    | ALV   | NEP   | AC    | AR    | PN   | BEH   | CW   | EVC  |
|----------|--------------|------|------|-------|-------|-------|-------|-------|------|-------|------|------|
| 1 BV     | 0.95         | 6.50 | 0.96 | 1.00  |       |       |       |       |      |       |      |      |
| 2 ALV    | 0.96         | 6.53 | 0.92 | 0.20  | 1.00  |       |       |       |      |       |      |      |
| 3 NEP    | 0.94         | 5.84 | 1.03 | 0.11  | 0.16  | 1.00  |       |       |      |       |      |      |
| 4 AC     | 0.93         | 6.32 | 0.89 | 0.31  | 0.11  | 0.05  | 1.00  |       |      |       |      |      |
| 5 AR     | 0.88         | 5.70 | 1.55 | 0.06  | 0.13  | 0.06  | 0.19  | 1.00  |      |       |      |      |
| 6 PN     | 0.91         | 6.13 | 0.88 | 0.01  | -0.04 | -0.07 | -0.02 | -0.03 | 1.00 |       |      |      |
| 7 BEH    | 0.95         | 2.86 | 0.99 | 0.10  | 0.00  | 0.14  | 0.14  | -0.07 | 0.06 | 1.00  |      |      |
| 8 CW     | 0.96         | 5.58 | 1.29 | 0.05  | 0.10  | 0.03  | 0.10  | 0.19  | 0.14 | -0.05 | 1.00 |      |
| 9 EVC    | 0.96         | 1.06 | 0.23 | -0.01 | -0.02 | -0.14 | 0.05  | -0.09 | 0.00 | -0.08 | 0.08 | 1.00 |

**Note:** Obtained from the confirmatory factor analysis  
**Source:** Authors' own construct

**Table 4.**  
Discriminant validity

| S/no. | ITEM | AVE  | BV   | ALV  | NEP  | AC   | AR   | PN   | BEH  | CW   | EVC  |
|-------|------|------|------|------|------|------|------|------|------|------|------|
| 1     | BV   | 0.83 | 1.00 |      |      |      |      |      |      |      |      |
| 2     | ALV  | 0.88 | 0.04 | 1.00 |      |      |      |      |      |      |      |
| 3     | NEP  | 0.79 | 0.01 | 0.02 | 1.00 |      |      |      |      |      |      |
| 4     | AC   | 0.70 | 0.09 | 0.01 | 0.00 | 1.00 |      |      |      |      |      |
| 5     | AR   | 0.75 | 0.00 | 0.02 | 0.00 | 0.04 | 1.00 |      |      |      |      |
| 6     | PN   | 0.66 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 1.00 |      |      |      |
| 7     | BEH  | 0.83 | 0.01 | 0.00 | 0.02 | 0.02 | 0.01 | 0.00 | 1.00 |      |      |
| 8     | CW   | 0.89 | 0.00 | 0.01 | 0.00 | 0.01 | 0.03 | 0.02 | 0.00 | 1.00 |      |
| 9     | EVC  | 0.89 | 0.00 | 0.00 | 0.02 | 0.00 | 0.01 | 0.00 | 0.01 | 0.01 | 1.00 |

**Note:** Divergent validity was confirmed because the squared correlations of each latent variable were less than the average variance extracted (AVE)  
**Source:** Authors' own construct

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$FL_i$  = the standardized factor loadings of measurement item  $i$ ; and  
 $n$  = the number of items in a factor.

### Normality test

We conducted multivariate and univariate normality tests using the Mardia test and Shapiro–Wilk test, respectively. The results of both tests showed that the data were not normally distributed at a significant  $p$ -value of ( $p < 0.001$ ). Thus, the data do not support the null hypothesis of multivariate normality. In view of this nonnormality of the data distribution, we adopted [Satorra and Bentler \(1994\)](#) rescaling method known as the robust maximum likelihood (MLR) estimation for the SEM estimation.

### Results

We begin with the results of the SEM. We used the robust MLR approach rather than the MLR due to the nature of the data. We conducted the estimation using the Lavaan package (0.6–12) for SEM in R (version 4.2.2). It is a statistical package for analyzing varieties of multivariate statistical models including path analysis, confirmatory factor analysis and SEMs ([Rosseele, 2012](#)).

To obtain the best model fit, we estimated three models: A, B and C (see [Table 5](#) and [Figures 2, 3](#) and [4](#)). A and B were without controls, while in Model C, we controlled for age, gender and the respondents' level of education. Based on [Hu and Bentler \(1999\)](#) recommendations, the goodness of fit for all three models was acceptable. For instance, the ratio of the chi-squared and degrees of freedom ( $\chi^2/df$ ) for the three models were 1.788, 1.759 and 1.687, respectively. Each was within the recommended threshold of less than 3. The same was true of the comparative fit index (CFI), and the Tucke–Lewis Index (TLI), where the scores of all three models were greater than 0.90 (e.g. CFI: A = 0.962, B = 0.963, C = 0.961), (TLI: A = 0.958, B = 0.960, C = 0.958). The Root Mean Square Error of Approximation RMSEA (A = 0.049, B = 0.048, C = 0.045) and the Standardized Root Mean Square Residual SRMR (A = 0.077, B = 0.070, C = 0.069) were also within the recommended threshold of less than 0.08. Since Model B had the highest CFI and TLI scores, we took it to be the best fit for the data.

The model had 10 hypothesized relationships, of which two were supported in the Ghanaian context. The insignificant effect of the first three hypotheses indicates that both biospheric and altruistic values do not have effect on the new ecological perspectives of the respondents. Also, new ecological perspective had no effect on the awareness of consequences on the environment. One could interpret this to mean that, the diffusion of the new ecological worldview is either not widespread in Ghana, or the people have some needs or values which supersedes caring for nature or the environment. To borrow the words of [Steg et al. \(2014\)](#), proenvironmental behavior is the most appropriate thing to do, yet in many cases, it is considered to be costlier, less pleasurable, more time consuming or more stressful than environmentally-harmful actions. Thus, the people could value nonenvironmental goals such as hedonic (i.e. pleasure) or monetary gain such as low cost ([Gifford and Nilsson, 2014](#); [Osumuyiwa et al., 2020](#)).

While personal values have no significant effect on the new ecological worldview, and this worldview also has no significant effect on Ghanaians' awareness of adverse consequences for the environment, this awareness does make a significant contribution to perceptions about their ability to reduce threats, supporting  $H4$  ( $H4: \beta = 0.193$ ;  $p < 0.01$ ). One explanation for this result might be their personal experiences with environmental issues such as fires and floods that killed many and

**Table 5.**  
Best model fit

| Regression paths      | Hypothesis  | Model A                  |                  | Model B                  |                  | Model C                  |                  | Confirmation           |
|-----------------------|-------------|--------------------------|------------------|--------------------------|------------------|--------------------------|------------------|------------------------|
|                       |             | coefficients ( $\beta$ ) | <i>p</i> -Values | coefficients ( $\beta$ ) | <i>p</i> -Values | coefficients ( $\beta$ ) | <i>p</i> -Values |                        |
| BV $\rightarrow$ NEP  | <i>H1</i>   | 0.085                    | 0.305            | 0.085                    | 0.304            | 0.081                    | 0.329            | Not supported          |
| ALV $\rightarrow$ NEP | <i>H2</i>   | 0.140                    | 0.190            | 0.140                    | 0.190            | 0.139                    | 0.181            | Not supported          |
| NEP $\rightarrow$ AC  | <i>H3</i>   | 0.051                    | 0.370            | 0.052                    | 0.363            | 0.052                    | 0.360            | Not supported          |
| AC $\rightarrow$ AR   | <i>H4**</i> | 0.193**                  | 0.002            | 0.193**                  | 0.002            | 0.193**                  | 0.002            | <i>Supported</i>       |
| AR $\rightarrow$ PN   | <i>H5</i>   | -0.031                   | 0.447            | -0.032                   | 0.425            | -0.032                   | 0.426            | Not supported          |
| PN $\rightarrow$ BEH  | <i>H6</i>   | 0.073                    | 0.205            | 0.073                    | 0.204            | 0.073                    | 0.204            | Not supported          |
| PN $\rightarrow$ EVC  | <i>H7</i>   | -0.009                   | 0.883            | -0.014                   | 0.820            | -0.018                   | 0.773            | Not supported          |
| PN $\rightarrow$ CW   | <i>H8*</i>  | 0.144*                   | 0.034            | 0.151*                   | 0.021            | 0.151*                   | 0.021            | <i>Supported</i>       |
| CW $\rightarrow$ BEH  | <i>H9</i>   | -0.063                   | 0.235            | -0.063                   | 0.235            | -0.063                   | 0.235            | No effect              |
| CW $\rightarrow$ EVC  | <i>H10*</i> | 0.086                    | 0.049            | 0.101*                   | 0.013            | 0.109*                   | 0.013            | Positive effect        |
| AC $\rightarrow$ BEH  |             |                          |                  | 0.170*                   | 0.011            | 0.170*                   | 0.011            | <i>Positive effect</i> |
| AR $\rightarrow$ BEH  |             |                          |                  | -0.091                   | 0.157            | -0.091                   | 0.157            | No effect              |
| AC $\rightarrow$ CW   |             |                          |                  | 0.069                    | 0.254            | 0.069                    | 0.253            | No effect              |
| AR $\rightarrow$ CW   |             |                          |                  | 0.177*                   | 0.010            | 0.177*                   | 0.010            | <i>Positive effect</i> |
| AC $\rightarrow$ EVC  |             |                          |                  | 0.066                    | 0.119            | 0.071                    | 0.087            | No effect              |
| AR $\rightarrow$ EVC  |             |                          |                  | -0.118                   | 0.145            | -0.123                   | 0.123            | No effect              |

**Notes:** BV = biospheric values; ALV = altruistic values; NEP = new ecological worldview; AC = adverse consequences for valued objects; AR = perceived ability to reduce threat; PN = proenvironmental personal norms; BEH = purchase behavior; CW = consumer willingness; EVC = environmental citizenship. (A) Model fit:  $\chi^2/\text{df}$  (979.696/548) = 1.788 < 3, CFI = 0.962 > 0.900, TLI = 0.958 > 0.900, RMSEA = 0.049 < 0.08, SRMR = 0.077 < 0.08. (B) Model fit:  $\chi^2/\text{df}$  (953.494/542) = 1.759 < 3, CFI = 0.963 > 0.900, TLI = 0.960 > 0.900, RMSEA = 0.048 < 0.08, SRMR = 0.070 < 0.08. (C) Model fit:  $\chi^2/\text{df}$  (1,086.655/644) = 1.687 < 3, CFI = 0.961 > 0.900, TLI = 0.958 > 0.900, RMSEA = 0.045 < 0.08, SRMR = 0.069 < 0.08

**Source:** Authors' own construct

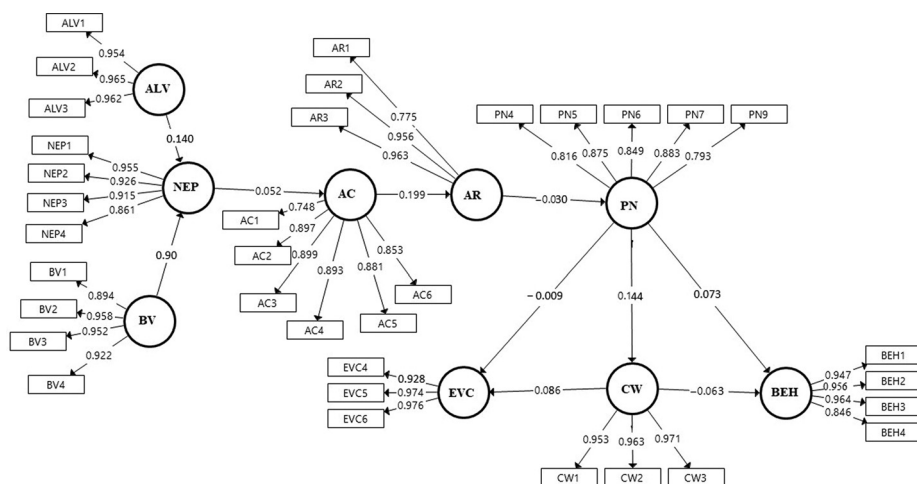


Figure 2.  
Model A

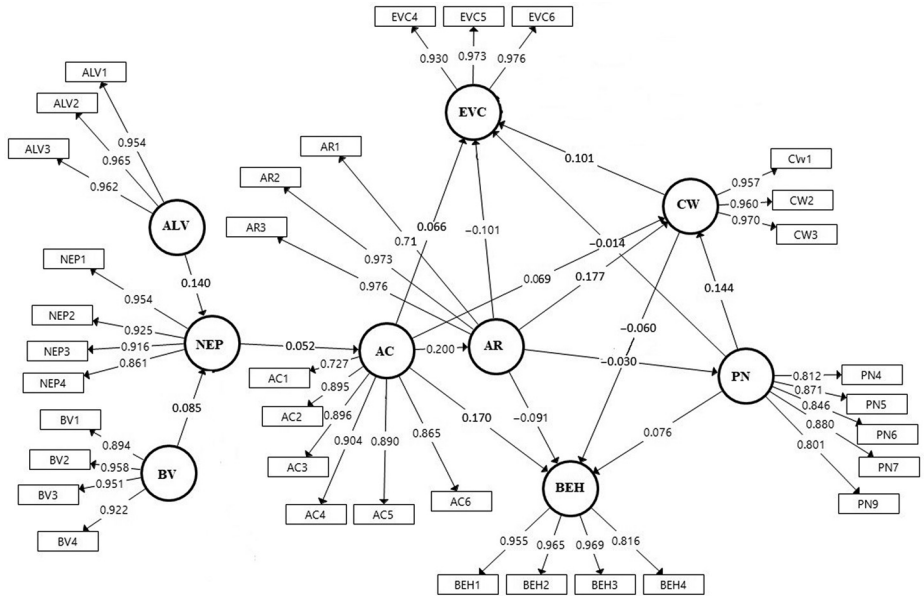
Source: Authors' own construct

made many others homeless. It supports [Abdul-Muhmin \(2007\)](#) argument that, "Problems in the local environment are more tangible; hence, a perceived threat in the local environment is more likely to have a greater effect on consumers' attitudes and beliefs" (p. 15).

Our findings did not support *H5*, *H6*, *H7* and *H9*. Thus, we rejected the contentions that Ghanaians' perceived ability to reduce environmental threats is significantly related to their proenvironmental personal norms (*H5*), and that their personal norms have a significant effect on their purchase behavior (*H6*), and their environmental citizenship behaviors (*H7*). Our findings also refuted our hypothesis that the willingness to engage in proenvironmental behavior is significantly and positively related to purchase behaviors.

However, our findings did support *H8* that, Ghanaians' personal norms have a positive effect on their willingness as consumers to engage in proenvironment behaviors. These results were significant ( $\beta = 0.151$ ;  $p < 0.05$ ). In addition, there was also a significant association between the willingness of Ghanaians to engage in proenvironmental behavior and their environmental citizenship behavior, supporting *H10* ( $\beta = 0.109$ ;  $p < 0.05$ ). Although purchase behavior and environmental citizenship are both forms of behaviors, the effect of the willingness to sacrifice with regard to purchase behavior was insignificant, whereas its effect on environmental citizenship was significant. Hence, we provided partial support for the argument in the literature that personal norms do not affect behavior directly. Rather, they influence behavior through the mediation of behavioral intentions ([Elhoushy and Lanzini, 2021](#); [Klöckner, 2013](#)). Purchase behavior requires purchasing power. Hence, one explanation for the lack of significant effect of the willingness to sacrifice on purchase behavior could be that, when buying products, impoverished customers favor low prices rather than environmental issues. Consequently, the only significant effect is on environmental citizenship, which includes activism and usually does not make any monetary demands.

The new paths introduced to improve the model's fit were the direct effects of the awareness of consequences and the perceived ability to reduce threats on purchase behavior, consumers' willingness to sacrifice and their environmental citizenship behavior. The



**Figure 3.**  
Model B

**Source:** Authors' own construct

awareness of consequences did not have any significant effect on the willingness to sacrifice or environmental citizenship except for purchase behavior ( $\beta = 0.165$ ;  $p < 0.05$ ). The perceived ability to reduce threats also did not have any effect on purchase behavior or environmental citizenship. However, it did have a significant effect on consumers' willingness to sacrifice with regard to engaging in proenvironmental behavior ( $\beta = 0.177$ ;  $p < 0.05$ ). The effect of the awareness of consequences on purchase behavior validates findings in the literature about a positive relationship between the awareness of consequences and proenvironmental behavior (Dagher *et al.*, 2014; Rice, 2006). For instance, Dagher and Itani found that the perceived seriousness of environmental problems affects people's green purchase behavior. Similarly, Rice's (2006) study in Egypt also showed a positive relationship between beliefs about the negative effects of pollution on children and proenvironmental behaviors.

### Discussion

It is widely believed that the global market is socially and environmentally conscious about the human impact on the environment (Abugre and Nyuur, 2015). Hence, the common claim is that, no matter the origin and location of consumers, they will demand social and environmental accountability from firms. However, based on contextual differences, consumers' responses and expectations may differ from region to region (Alon *et al.*, 2010; Rathore *et al.*, 2022).

We examined the expectations and reactions of people at the bottom of the pyramid market with regard to sustainability and CSR in relation to the new environmental worldview using the VBN theory and Ghana as a case study. Our findings indicate that, contrary to conventional expectations, personal values among Ghanaians do not affect the new environmental worldview. In addition, there is no significant relationship between this

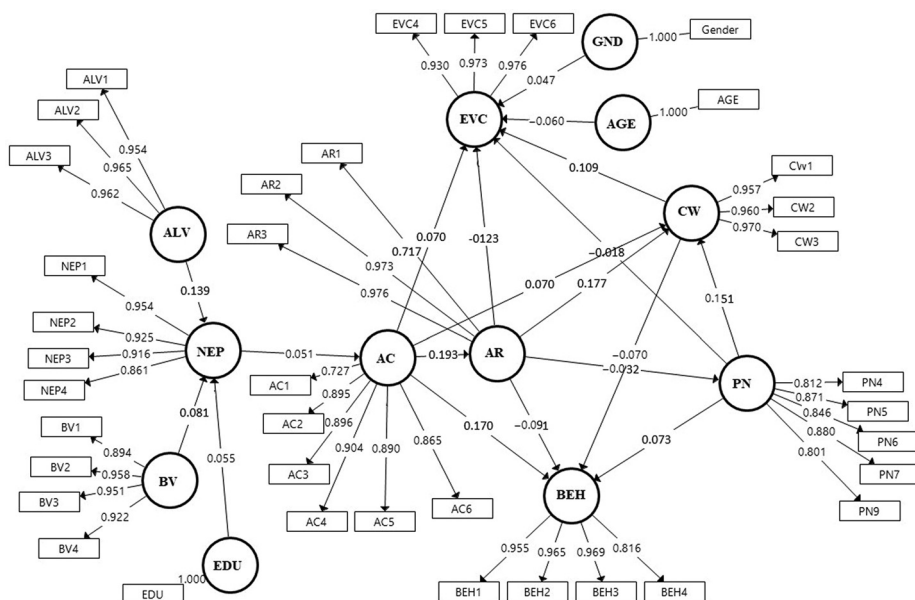


Figure 4. Model C

Source: Authors' own construct

worldview and Ghanaians' awareness of the adverse consequences of human actions for the environment. Nevertheless, this awareness does have a significant impact on their perceived ability to reduce threats. We concluded that, in the wake of the environmental calamities Ghanaians have experienced over the years, they have come to realize the environmental consequences of business activities or the effects of their consumption patterns. Given this awareness, they also feel that they can help reduce these threats. For example, some locals from the Western region of Ghana noted that since oil production started in the region, they have seen more dead whales and a decline in the fish harvest. In response, they threatened to resort to forming a militia against oil producing companies in the locality, just as the people of Niger and Nigeria have (Mohammed *et al.*, 2022).

Furthermore, our findings show that personal norms are not directly related to purchase behavior and environmental citizenship behavior. However, they do affect the willingness of Ghanaians to engage in proenvironmental behavior. This willingness is not significantly related to purchase behavior; instead, it affects environmental citizenship behaviors. The relationship between awareness of consequences and purchase behavior is also significant. These findings are consistent with existing studies such as Elhoushy and Lanzini (2021) and Klöckner (2013), which established that personal norms are not directly related to proenvironmental behaviors. Furthermore, consumers' indication of their willingness to engage in proenvironmental behavior may not result in actual behavior (Nyborg *et al.*, 2006). It is only when people realize the seriousness of environmental consequences that their behavior is affected (Dagher *et al.*, 2014).

Overall, we agree with Brekke *et al.* (2003) assertion that environmental behaviors are motivated by complex reasoning and a range of issues and factors such as personal benefits, price concerns and the individual's disposition. As Brekke *et al.* (2003) explained, people

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may ask questions about whether it is their responsibility or someone else's duty to engage in a proenvironmental behavior, and whether if doing so will benefit them. Their ability to engage in proenvironmental behaviors by purchasing goods and supporting organizations believed to be socially and environmentally responsible is relevant. It explains why consumers' willingness is significantly related to environmental citizenship behavior but not purchase behavior. While people might be concerned about the environment, when it comes to actual behavior those concerns may take a back seat to questions about prices, personal benefit and whether it is their responsibility. Hence, in situations where they are aware of serious consequences and can engage in behavior that demands no payment, they are quick to do so. For instance, the youth of Samreboi in the Western Region did not hesitate to unleash their wrath on workers of Akonta Mining Limited over illegal mining activities in their forest reserve, Nimri ([Ghanaian Times, 2022](#)). They alleged that the mining companies have destroyed their cocoa farms and water sources, robbing them of their livelihoods.

### **Conclusion and implications**

Consumers' choice of products and behavior are critically related to effects on the environment. However, there are numerous factors that influence this behavior, making policy development that encourages behavioral changes extremely challenging ([Jackson, 2005](#)). Consequently, while the VBN theory may hold in developed countries, we agree with [Abdul-Muhmin \(2007\)](#) that, notwithstanding claims about global connectivity and the widespread availability of the Internet, the bottom of the pyramid market has yet to fully connect with global sustainability issues. Some reasons include network and infrastructure challenges as well as self-efficacy or behavioral control ([Zaki et al., 2014](#)). The environmental actions of those at the bottom of the pyramid market are not dependent on values that accord with global movements, but rather their awareness of environmental threats due to their own experiences with and beliefs about their ability to minimize these threats. This fact is consistent with [Abdul-Muhmin \(2007\)](#) findings. In terms of proenvironmental behavior, perceptions about the ability to reduce threats are more related to environmental activism than purchase behavior. Thus, people at the bottom of the pyramid market are more likely to be environmental activists than to purchase products that are more expensive from organizations believed to be socially responsible. This difference explains why young people in these regions may engage in demonstrations and protests against organizations believed to be destroying land and water resources in local communities ([Mohammed et al., 2022](#)). When it comes to buying products, they admit being influenced by the price instead of beliefs about the company's commitment to corporate responsibility. This difference also explains why people in these regions may say they want to make proenvironmental purchases, but would not actually do so.

### **Practical implications**

Our findings have practical implications for global policymakers and governments at the bottom of the pyramid markets. For instance, global policies and efforts have been focused on providing people with information about the human impact on the environment, with the aim of changing their attitudes and behaviors in proenvironmental or prosocial ways ([Jackson, 2005](#)). Nations have also introduced tax incentives to behave in an environmentally friendly manner. An example is the European Union's Circular Economy Package, which established legally binding collection and recycling targets for common materials among member nations ([TOMRA Sorting GmbH, 2023](#)). The infrastructure and institutions in these countries are sufficiently well established to ensure the success of these policies and schemes in them ([TOMRA Sorting GmbH, 2023](#)). However, the bottom of the pyramid markets have limitation of these mechanisms in place ([Amoako et al., 2022](#)). Thus, the results are minuscule,



with recycling efforts yielding only 4% as of 2022 in Africa (Loubser, 2022). Our findings indicate that improvements in infrastructure and institutions are needed to change the values and behavior of people in the bottom of the pyramid markets with regard to the environment. It requires a strike of balance between the pursuit of economic development and environmental sustainability. While economic performance is essential, it should not be to the neglect of ecological practices (Arya et al., 2023). Policies should emphasize on creating both sustainable and economic models that foster ecological and social well-being. For example, the new ecological world perspective requires a shift in consumer behavior and choices. By introducing policies such as “deposit return systems” that will help align consumers’ concerns with the proenvironmental purchase behaviors. Also, this requires education and awareness campaigns to inform and empower the BOP population about sustainable practices. This can involve initiatives like community engagement, training programs and workshops. Governments and donors can also channel their investments into providing the infrastructure and making the institutions work. Governments in the bottom of the pyramid markets need to demonstrate their commitment to environmental issues.

### Research implications

Despite its contributions, our study has its limitations. For example, we conducted our research in just one country, Ghana. However, for a more objective view and the ability to confidently generalize our findings, we need data from many countries at the bottom of the pyramid market. In addition, a study comparing developed and developing nations would be more informative. Finally, more research on the perceptions of the people of the bottom of the pyramid about CSR including other theoretical examinations is needed to identify the critical factors necessary for influencing sustainable consumption among people at the bottom of the pyramid market.

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**Further reading**

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## Appendix

## Values' and consumer behavior

| Constructs                              | Measurement indicators   | Loadings | Source  |
|---|--|----------|---|
| BV – biospheric values                  | The importance of preventing pollution and conserving natural resources  | 0.820    | Han (2021), Stern (2000); Stern <i>et al.</i> (1999)                |
|   | The importance of unity with nature and fitting into nature  | 0.956    |   |
|   | The importance of respecting the earth and harmony with other species  | 0.962    |   |
|   | The importance of protecting the environment and preserving nature   | 0.892    |   |
| ALV – altruistic values                 | I value social justice, correction of injustice and caring for the weak  | 0.924    | Stern (2000); Stern <i>et al.</i> (1999)                            |
|   | I value equality and equal opportunity for all   | 0.948    |   |
|   | I value a world of peace that is free of war and conflict  | 0.946    |   |
| NEP – new ecological paradigm           | The balance of nature is very delicate and easily upset  | 0.953    | Dunlap <i>et al.</i> (2000), Han (2021); Stern <i>et al.</i> (1999) |
|   | Humans are severely abusing the environment and resources  | 0.908    |   |
|   | Earth is like a spaceship with limited room and resources  | 0.868    |   |
|   | We are not doing enough at the moment to protect the environment and each other  | 0.813    |   |
| AC – awareness of consequences          | In general, I think businesses cause pollution, climate change and exhaustion of natural resources which can be a serious problem for the world including me and my family | 0.598    | Han (2021); Stern <i>et al.</i> (1999)                              |
|   | Business/human activities can cause huge environmental destruction   | 0.839    |   |
|   | Business/human activities can cause environmental deteriorations   | 0.826    |   |
|   | The continuous release of toxic substances in the air, water and the soil will be a serious problem for me and my family   | 0.918    |   |
|   | The continuous release of toxic substances, water and the soil will be a serious problem for the country as a whole  | 0.911    |   |
|   | The continuous release of toxic substances, water and the soil will be a serious problem for other species of plants and animals   | 0.887    |   |
| AR – perceived ability to reduce threat | It behooves us as individuals to try to minimize our effects on each other and the environment   | 0.631    | Han (2021); Stern <i>et al.</i> (1999)                              |
|   | If consumers stop patronizing firms that abuse human rights or those that are not environmentally friendly, they will eventually change                                    | 0.948    |   |
|   | Individuals have a role to play to help stop human rights abuse and environmental destruction  | 0.982    |   |

(continued)

**Table A1.**  
Construct  
measurement  
loadings

CR

| Constructs                      | Measurement indicators  | Loadings | Source                                 |
|---------------------------------|---|----------|--|
| PN – personal normative beliefs | Businesses should take stronger action to clean up toxic substances in the environment  | Dropped  | Han (2021); Stern <i>et al.</i> (1999) |
|                                 | I feel a personal obligation to do whatever I can to prevent climate change   | Dropped  |  |
|                                 | I feel a personal obligation to do whatever I can to prevent human rights abuse   | Dropped  |  |
|                                 | I feel a sense of personal obligation to take action to stop the disposal of toxic substances in the air, water and soil        | 0.762    |  |
|                                 | Business and industry should reduce their emissions to help prevent climate change  | 0.907    |  |
|                                 | Governments should exert pressure internationally to preserve the tropical forests  | 0.839    |  |
|                                 | Governments should take strong action to reduce emissions and prevent global climate change                                     | 0.902    |  |
|                                 | Businesses should ensure social justice, equality and peace among their workers   | 0.628    |  |
|                                 | Companies have a responsibility to prevent destruction of the forests, conserve energy and use water mindfully                  | Dropped  |  |
|                                 | People like me should do whatever we can to prevent the loss of tropical forests  |          |  |
| BEH – purchase behavior         | I _____ avoid buying products from a company that I know may be harming the environment   | 0.925    | Stern <i>et al.</i> (2019)             |
|                                 | I _____ make a special effort to buy fruits and vegetables grown without pesticides or chemicals                                | 0.942    |  |
|                                 | I _____ make a special effort to buy products from firms that produce eco-friendly products                                     | 0.973    |  |
|                                 | I _____ make a special effort to avoid companies that have a reputation for poor labor conditions or those that use child labor | 0.756    |  |
| CW – willingness to sacrifice   | I would be willing to pay much higher prices to firms that engage in positive social responsibilities                           | 0.928    | Stern <i>et al.</i> (2019)             |
|                                 | I would be willing to accept cuts in my standard of living to protect the welfare of the poor                                   | 0.942    |  |
|                                 | I would be willing to pay much higher prices to protect the environment   | 0.959    |  |
| EVC – environmental citizenship | Have you boycotted or avoided buying the products of a company because you felt that company was harming the environment?       | Dropped  | Stern <i>et al.</i> (2019)             |
|                                 | Have spoken well about a company because the company is strongly in favor of strong environmental protection                    | Dropped  |  |
|                                 | Some people feel the environmental movement does a great deal of good and strongly  | Dropped  |  |

Table A1.

(continued)



| Constructs | Measurement indicators   | Loadings | Source |
|------------|--|----------|--------|
|            | support it, others feel the environmental movement does more harm than good and strongly oppose it. Where do you stand?                |          |        |
|            | Have you signed a petition in support of protecting the environment?   | 0.877    |        |
|            | Have you given money to an environmental group?  | 0.972    |        |
|            | Have you written a letter or called your member of Congress or another government official to support strong environmental protection? | 0.970    |        |

Values' and consumer behavior

Source: Authors' own construct

Table A1.

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