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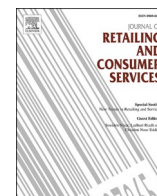
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## A cross-cultural investigation of the relationship between eco-innovation and customers boycott behaviour

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### ABSTRACT

Retailers are under pressure to utilise eco-innovation to improve their operations and reduce customers boycotts as a result of the growing concerns of customers about environmental issues. Thus, this paper examines the effect of eco-innovation (i.e., reactive eco-innovation, proactive eco-innovation) on customers boycotts behaviours across various cultural environments. It also explores the role of ethical ideology (i.e., idealism, relativism) on this relationship. Based on psychological contract violation theory was used to develop our study model. We collected data from 3392 consumers from four different countries to test the study model. The results indicated that company's reactive eco-innovation is positively related to customers boycotts behaviour and this relationship is stronger in the developed societies (i.e., UK, USA) than in the developing societies (i.e., Saudi Arabia, Egypt). Furthermore, proactive eco-innovation has a negative effect on boycotts. This link is stronger in the developing societies (i.e., Saudi Arabia, Egypt) than in the developed societies (i.e., UK, USA). Psychological contract violation and environmental concerns were found to mediate this relationship. Moreover, our study found that idealism has a negative influence on boycotts while relativism has a positive effect on boycotts. Our study offers meaningful theoretical and managerial implications for retailers in different cultural contexts.

### 1. Introduction

Environmental pollution as a result of rapid economic growth has come to the attention of both the government and firms in recent years (Rondoni and Grasso, 2021). Environmental protection is becoming more of a priority for businesses and government. Eco-innovation is becoming increasingly popular as a strategy for gaining competitive advantages because it provides value to customers while reducing environmental pollution (Abdelmoety et al., 2022; Kumar et al., 2021; Lavorata, 2014; Papagiannidis and Marikyan, 2022; VanMeter et al., 2013; Taufique, 2022). However, other research indicate that businesses' "eco-innovation" initiatives do not always lead to passionate client support. Certain consumers view these businesses as disingenuous and consequently boycott their products (Pruitt and Friedman, 1986; Foughi et al., 2022; Palacios-Florencio et al., 2021; Sadiq et al., 2021a,

b). After reviewing prior research, it is clear that the majority of research on the factors influencing customer boycott focuses on the influence of negative events (i.e., "reputation setback, corporate crisis, and negative product reputation") (Aboul-Dahab et al., 2021; Suárez-Perales et al., 2021), while ignoring customers' psychological behaviours. Customers may care more about the motivations behind actions. To address these gaps, our paper develops a new type of non-negative behaviours – "reactive eco-innovation" – and examines its impact on customers boycott behaviours.

Eco-innovations, which are conceptually comparable to sustainable, environmental, or green innovation (Hoffmann and Müller, 2009; Dhir et al., 2021; Frank, 2021; Wang et al., 2022; Yuksel et al., 2020), encompass a range of different innovation types that can be used to mitigate or avoid harm (Munerah et al., 2021). Eco-innovation is vital for advancing sustainability. For instance, it is cited in the Lisbon

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strategy's aims for economic growth and competitiveness as a critical aspect in achieving sustainable developments (Tian et al., 2021). Businesses in the developed world are being compelled to implement eco-innovation methods as a result of mounting stakeholder pressure to go green (Chen et al., 2022; Xu et al., 2021). "Reactive eco-innovation", as a major subgenre of eco-innovation, refers to innovation measures taken by businesses in response to pressures from institutional frameworks and demand of customer (Hoffmann, 2014; Lasarov et al., 2021; Mostaghel and Chirumalla, 2021). Environmental practices are not a priority for companies that utilise reactive techniques. Due to the fact that "reactive eco-innovation" is more consistent with egoistic principles, regardless of whether customers boycott it or not, prior research has produced unclear results. Thus, study on this subject will not only serve to clarify the basic process by which consumers can reply to company's reactive eco-innovation but will also educate enterprises on how to perform eco-innovation initiatives. On the other side, proactive eco-innovation are voluntary efforts that lessen an organization's environmental effect through the use of eco-innovative technologies.

Moreover, prior research emphasizes the significance of eco-innovation in developing societies (Farah and Newman, 2010; Gupta and Coskun, 2021; James, 2010). However, the link between eco-innovation and customer boycott behaviour remains under-researched (Agag et al., 2022; Gulzari et al., 2022; Klein et al., 2004; Liao and Liu, 2022; Sim and Kim, 2021). Drawing on "psychological contract violation theory", our paper fills this research gaps by using psychological contract violation and environmental concern as mediator constructs to understand the mechanisms that explain the indirect relationships among eco-innovation (i.e., proactive eco-innovation, reactive eco-innovation) and customers boycotts behaviours under different cultural contexts. Moreover, previous studies indicated that ethical considerations play a significant role in influencing consumers purchase behaviours (Agag and Colmekcioglu, 2020; Vitel, 2015). Other studies found out that moral judgments differ between consumers relying on cultural differences and individual experiences (Agag, 2019; Andersch et al., 2018). Based on this argument, our study seeks to offer new insights into how ethical ideology (i.e., idealism, relativism) impact customers boycotts behaviours.

This research offers three critical contributions to the literature. First, it extends the scope of research on the results of firms, eco innovation (i.e., proactive eco-innovation, reactive eco-innovation). Prior research explored the issue from perspectives such as business performance (Tang et al., 2018), firm reputation (Liao, 2018), and environmental records (Agag et al., 2020; Costantini et al., 2017). Our study goes beyond the traditional scope of the research and investigates whether firms will face customers boycotts when carrying out eco-innovation. Second, this paper also explores the mechanism that links eco-innovation with customers boycotts. In recent years, previous studies paid more attention to the link between eco-innovation and customers, but no examination has tried to explore the mechanism that makes these relationships possible. In view of this, our study uses environmental concerns and psychological contact violation as the mediating variables to construct the mechanism of eco-innovation on customers boycott behaviours. Third, to the best of the authors' knowledge, this is the first study to explore the influence of eco-innovation on customers boycotts under different cultural contexts, which adds to the national culture background.

Our paper is structured as follow: section two demonstrates the conceptual framework and hypotheses development. The third section concerns the "methods and data collection". Fourth section concerns the paper analysis and findings. The fifth section demonstrates the study "discussion and implications". Finally, the limitations of our study and directions for future research were discussed.

## 2. Conceptual framework and hypotheses development

### 2.1. Psychological contract violation theory

In the organisational behaviour domain, the psychological contract was first used. It's about how employee and their employers think about their responsibilities in the exchange among them and their employers (Zhang and Zhang, 2021). Psychological contracts have also been used in the field of marketing, which means that the link among purchaser and vendor can also be justified by psychological contracts. The customers who buy things anticipate getting high-quality goods and also expect businesses to do good things for their societies (Agag and Eid, 2019; Ding et al., 2020; Zacher and Rudolph, 2021). In this way, the customer and the company build up a psychological bond through these expectations. Due to the fact that the psychological contracts are subjective understanding, if the two individuals involved have different ideas about what the contract says because they are different thinkers, the contract will not be kept (Agag and El-Masry, 2016; Gong and Wang, 2022). Psychological contract violation is when one party thinks another party hasn't done what they should have done, so they have been hurt emotionally. This is called a "psychological contract violation" (Agag et al., 2019; Friedman, 1996; Gillani et al., 2021; Wagner et al., 2019). Individuals who buy things from businesses are very important to the businesses. The clearer they are about their rights, the more they pay attention to the firm's social responsibilities, and the clearer and more critical the psychological contracts are. When individuals think the psychological contracts have been broken, they feel betrayed and upset, which makes them less likely to share and buy again (Agag and El-Masry, 2017; De Clercq et al., 2021; John and Klein, 2003), as well as more likely to boycott (Braunsberger and Buckler, 2011; Gong and Wang, 2021; Liao and Liu, 2022). Our model was developed based on "psychological contract violation theory", where psychological contract violation and environmental concern act as a mediator in the link between proactive eco-innovation, reactive eco-innovation, and customers boycott behaviours under different cultural contexts. Our work additionally extends the scope of Liao and Liu (2022) boycott behaviour framework, which focused on the link between reactive eco-innovation and boycott behaviour in a single country but did explore the influence of both reactive eco-innovation and proactive eco-innovation on boycott behaviour under different cultural contexts (see Fig. 1).

### 2.2. "The link between firms' eco-innovation and customer boycott"

Eco-innovation initiatives don't always line up with how a company sees itself. Institutional arrangements, consumers, and social norms may make it hard for a company to avoid these innovations (Alyahya et al., 2022; He et al., 2021). Companies don't plan to do things like this, but they do it anyway. There are three ways that firms plan to do this: The public and existing institutional arrangements make businesses do what they're supposed to do, so they do eco-innovation as a result. This means that they assume the role they're supposed to play, and they do it because they have to. On the other hand, proactive eco-innovation is the type of innovation that businesses do on their own to help the environment (Alsuwaidi et al., 2022; Stoll, 2009; Tong et al., 2021). Eco-innovation isn't something that businesses do because they have to because of government or public pressure. They do it because they feel a sense of social responsibility. It's not enough for businesses to keep pollutants from being released during the production process or to make green products that people want and need. They also need to be more aware of the environmental issues and try to keep the negative influence on the environment as low as possible during the whole production process (Anaza et al., 2021; Hahn and Albert, 2017; Thomas and Jadeja, 2021).

A boycott is when people decide not to buy certain products or brands in the store (Ali, 2021; Hoffmann, 2013; Lasarov et al., 2021). Consumer boycotts are a type of consumer behaviour in which people

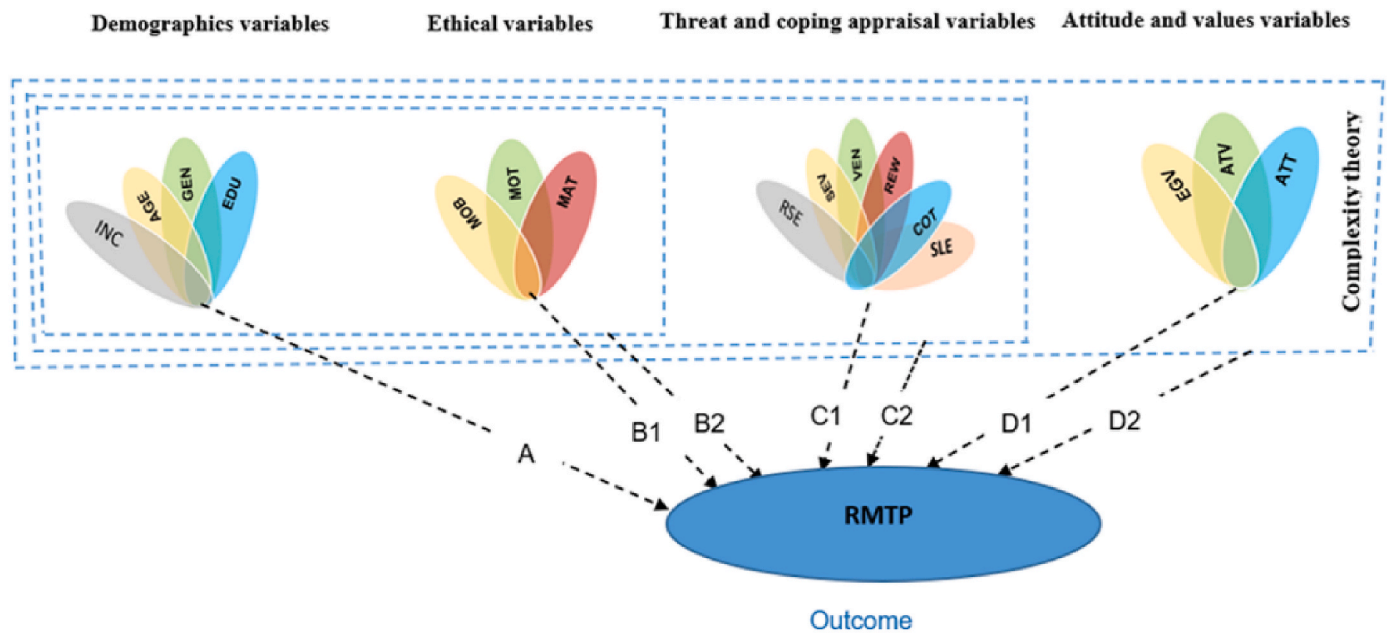


Fig. 1. Research model.

don't buy a certain product or service because they care about the environment or because they have certain values (He et al., 2021; Tesfom et al., 2016). Previous studies have looked into the reasons why people choose to boycott a company, but Some of the things they looked at were just the appearance of certain behaviours and events by a company. They didn't look at the reasons for these behaviours or events. This is why it's important to look at the reasons behind a boycott. consumers use boycotts to change the policies of businesses they don't like. They also want to show their disappointment or anger at the businesses. They also want to feel better about themselves because they bought the businesses' products (Su et al., 2022). As people become more aware of their rights, they should give attention to the real reason for actions or events. Based on attribution theory, people will have different emotions when they see or do different things, which will make them act in different ways (Prasad and Verma, 2020). "Reactive eco-innovation" is a decision made by businesses for their own interests. It's not a real act of social responsibility, and it's not done for the benefit of customers or as a method to provide back to nation (Forbus, 2021; Tomhave and Vopat, 2018). So, customers will think that companies are acting in a self-interested way when they come up with eco-friendly ideas (Alyahya et al., 2023; Fombelle et al., 2020; Kim, 2003; Shaalan et al., 2022; Tandon et al., 2020). This type of self-interested, "reactive eco-innovation" doesn't always match up with people's morals. A lot of customers will think the firm is dishonest and not sincere, so they will not buy their goods. On the other side, proactive strategies are voluntary efforts that lessen a firm's environmental effects through the use of eco-innovative technologies (Kuo et al., 2021; Youssef et al., 2022). These innovations are classified as pollution-prevention techniques or voluntary strategies that necessitate the acquisition of new technologies, increased learning, and the development of competitive abilities (Liao and Tsai, 2019). Thus, customers believe that this firm is honest and sincere, and they might purchase their products. Thus, we suggest that.

**H1.** "Firm's reactive eco-innovation positively affects customer boycott".

**H2.** "Firm's proactive eco-innovation negatively affects customer boycott".

### 2.3. The mediating role of psychological contract violations and environmental concerns

Contracts are very important in purchaser-vendor associations, and they have two important parts: "legal and psychological". Liao and Liu (2022) indicated that "the psychological contract as 'an individual's belief in mutual obligations between that person and another party'". Psychological contracts are agreed-upon set of mutual obligations among two individuals who are in exchange relationships (Davidson, 1995; Neureiter and Bhattacharya, 2021). Psychological contract, on the other hand is related on perceived promises of reciprocal exchange and happen when one party thinks that another party is obligated to do certain things (Ginder and Kwon, 2020). Consequently, psychological contract is much broader than economic and legal contract, because they include many variables that can't be formally included in legal contract, such as how individuals think about things.

The psychological contract theory literature says that breaking the contract leads to bad things. The psychological contract violation process has been studied a lot in the literature on organisational behaviour. Many studies have shown that it has a negative effect on employee attitudes like trust and job satisfaction (Kerr et al., 2012; Scheidler and Edinger-Schons, 2020; Sreen et al., 2021). We think that if we apply psychological contract violation theory to retailing, we think that psychological contract violations are likely to make customers more likely to stay away from stores. It's important to know how psychological contract violations might make customers boycott a company (Kim and Koo, 2020; Wang et al., 2021). This is because psychological states have an effect on behaviour. The term "reactive eco-innovation" refers to decisions by businesses that have a "wait and see" attitude and only deal with problems or crises when they happen. Companies have to fight for market share when their competitors make eco-innovation products that work well and sell well. Consumers are becoming more aware of the rule of law and their own rights as living standards rise. They are also taking into account companies' eco-innovation more and more. Consumers are becoming more and more concerned about the environment and want businesses to do more to help. Reactive eco-innovation is when businesses do things because of things outside of their control, like having to meet certain rules or competing in the market. This type of innovation doesn't follow ethical standards about the environment or a customer-oriented way to run a business (Gidlöf et al., 2021).



If customers anticipate the company to use “eco-innovation”, but the company doesn’t live up to their expectation, they will think that the psychological contracts have been broken, and they will feel betrayed and angry. They will also think that the company is only looking out for itself, which will result in boycotts. As a result, the more serious the perceived breach of the psychological contracts, the more willing to be a boycott. Customers who have strong opinions about specific things are more likely to accept evidence that is in line with their values and norms (Gong and Wang, 2021; Sadiq et al., 2021a,b). Nguyen et al. (2018) pointed out that customers who are more worried about the environment might be less sceptical of green information. This is based on what they found. Even if they think they’ve broken psychological contracts with a company, customers who are more worried about the environment place more value on environmental objectives. Even if they think they’ve broken the contracts, customers who are more worried about the environment place more value on environmental objectives. Environmental concerns are about how individuals think about the environment and how willing they are to help enhance the environment (Henle et al., 2005; Liao and Liu, 2022; Zhang et al., 2021).

Customers who care more about the environment are more willing to make decisions that are in line with environmental ethics. Customers who are more worried about the environmental issues are more willing to be care about the environmental goals; even if they think the psychological contracts have been broken, they will control themselves and not do things that aren’t good for businesses that are trying to be more environmentally friendly. Prior research revealed that customers with greater levels of environmental concerns are less likely to doubt any environmental and sustainable information (Wei et al., 2017). Thus, we suggest that customers who are more concerned about the environment may be more likely to be interested in eco-innovation information without questioning the sincerity of the behaviours. Therefore, customers environmental concerns weaken the effect of “reactive eco-innovation” on customer boycotts and strengthen the link between proactive eco-innovation and customer boycotts behaviours. Thus, we suggest the following hypotheses.

**H3.** “Psychological contract violation mediates the positive link between reactive eco-innovation and customer boycott behaviour”.

**H4.** “Psychological contract violation mediates the negative link between proactive eco-innovation and customer boycott behaviour”.

**H5.** “Environmental concern mediates the positive link between reactive eco-innovation and customer boycott behaviour”.

**H6.** “Environmental concern mediates the negative link between proactive eco-innovation and customer boycott behaviour”.

#### 2.4. The moderating effect of ethical ideology

Ethical ideologies instruct consumers on what to do when confronted with ethical dilemmas and concentrate on the causes of unethical behaviour (Andersch et al., 2018; Arli and Pekerti, 2017). The function of ethical ideologies in influencing and shaping individuals’ ethical behaviours is addressed (Barnett et al., 1994). Forsyth (1980) asserts that ethical philosophy must distinguish between “idealism and relativism”.

Idealism is the consequence of decisions made by individuals (Brunk, 2010; Forsyth, 1980). A person with a high level of idealism staunchly maintains that any behaviours that affects others is unethical, whereas those with a low level of idealism understand that harm is sometimes required and believe that in order to accomplish desirable results, harm might be unavoidable (Agag and Colmekcioglu, 2020). Varied levels of “idealism and relativism” lead to variant judgments, attitudes, and behaviours regarding ethical concerns (Forsyth, 1980). Persons who are idealistic feel that positive results are always possible, regardless of the kind of the confronted ethical challenge. Based on Forsyth, those with lesser levels of idealism “admit that undesirable consequences will often

be mixed in with desired ones” (1980: 176). Less idealistic persons enable harm to be blended with good, whereas highly idealistic one’s stress that ethical activities must not injure others (Forsyth et al., 1988).

Relativism concentrates on the extension of universal norms upon which persons rely to navigate an ethical conundrum (Andersch et al., 2018; Chiles, 2013). When confronted with ethical problems, persons with a high level of relativism are more willing to reject the universal standards (1980). The explanation for the rejection is believed to be the moral conduct of highly relativistic persons. The moral actions are the behaviours that persons exhibit in response to the situations type. People with high levels of relativism are confident in their assessment of the current situations and base their judgments on the action morality. When engaging in specific behaviours, customers with a high level of relativism tend to weigh the prospective and cost benefits (Halder et al., 2020). Thus, their performance is contingent on their assessment of potential and cost benefits. In addition, Ko et al. (2019) explored the moderating influence of ethical beliefs on the link between ethical leaderships and the unethical behaviour of purchasing. Their research reveals that when buying agents are situationists (“high idealism; high relativism”), “ethical leadership” will have the most impact on their unethical purchases’ behaviours.

Regarding the deontological factor (“or idealism”), people are worried with upholding universal moral norms (“Revilla and Gallego, 2007”). In another way, when analysing a conduct, a person prefers to examine the impact of his activities on the well-being of others (“Revilla and Gallego, 2007”). Regarding the boycott behaviours, the idealism component displays the customer’s concerns about the potential negative impacts that such behaviour may have on others, hence influencing the overall significance of this behaviour. According to studies examining the relationship between idealism and customers morality, customers with high levels of idealism tend to avoid harmful actions (i.e., boycott behaviour) (Culiberg, 2015).

Forsyth (1992) argues that different people have different standards to use when making decisions on moral matters, and that this distinction between idealism and relativism is the root of this phenomenon. In contrast to idealists, who hold that everyone should look out for everyone else always, relativists hold that moral rules and guidelines change depending on the circumstances (Forsyth, 1992). Moral judgements, in a relativist’s view, should take into account both individual and societal norms and circumstances. When faced with a crisis, idealists will not resort to damaging actions under any circumstances (Forsyth, 1992). Ethical ideas (such as idealism and relativism) are thought to play a significant role in a consumer’s ethical decision-making process, according to the literature (Zou and Chan, 2019). Consumers with high levels of idealism are more committed to ethical behaviour, including the purchasing of environmentally friendly products, than those with lower levels of idealism (Lu et al., 2020). Therefore, our study suggests that idealistic customers are more likely to avoid boycott behaviours.

On the other hand, the relativist (teleological) perspective rejects the existence of any overarching code of conduct that must be followed when passing moral judgements (Forsyth, 1992). Here, the customer takes a more flexible attitude, one that factors in the specifics of the situation at hand and, as a result, creates special cases. This variable can influence, from the standpoint of the boycott behaviours, both the subjective potential of undesirable impacts and the value given to such impact. Culiberg (2015) demonstrated that customers with greater levels on the relativism are more willing to engage in unethical behaviour. Thus, our study suggests that customer with high levels of relativism is more willing to involve in boycott behaviours. Thus, we suggest the following hypotheses.

**H7.** “Ethical idealism has a negative effect on customers boycott behaviour”.

**H8.** “Ethical relativism has a positive effect on customers boycott behaviour”.

**H9.** “Ethical idealism moderates the relationship between reactive eco-innovation, proactive eco-innovation, and customer boycott behaviour”.

**H10.** “Ethical relativism moderates the relationship between reactive eco-innovation, proactive eco-innovation, and customer boycott behaviour”.

2.5. *The role of national culture*

Many people think that buying something is like voting because people decide whether or not a company is successful (Laroche et al., 2001). Based on this, “political consumerism” is the act of buying things to show one’s political beliefs (Surachartkumtonkun et al., 2015). Customers boycotts are thought to be the most powerful form of political consumption. Klein et al. (2004, p. 97) indicates that “a consumer boycott is an attempt by one or more parties to achieve certain goals by urging individual consumers to refrain from making certain purchases in the market”. Since there are more and more people boycotting, this subject has been getting more and more attention from academics recently.

Lasarov et al. (2021) concentrated on the drivers of customers boycott involvement. The primary reasons found are perceived egregiousness and wrath, a desire for self-improvement, an attitude toward boycotting, and perceptions of boycott efficacy. Because boycotting entails restraining one’s consumption patterns, individuals are less likely to join if they have previously purchased the target firm’s items, if they enjoy these products, and if appropriate substitutes are unavailable. No investigation to date has examined the circumstances that contribute to boycott behaviour. This dearth of study is unexpected, given the collaborative nature of boycotting (Joo and Marakhimov, 2018).

Despite the fact that Gong and Wang (2021) explored the factors that contribute to customer boycotts, different civilizations may have varying cultures and moralities as a result of their emphasis on various foundations (Arslan et al., 2018). For example, previous research has established that geography is a key driver of moral foundations issues. Easterners (Asians) exhibited higher level of binding morality like loyalty and purity as compared to their Western counterparts, corroborating earlier study establishing cultural distinctions between collectivistic and individualistic civilizations (Scheidler and Edinger-Schons, 2020). For example, previous research on ethical decision making has revealed critical variances between cultures because of the differing cultural characteristics of “individualism and collectivism” (Kim and Krishna, 2022). Empirical evidence was presented to support the relationship among “utilitarianism and collectivism” as ethically correct actions aimed at maximising the total welfare of society, as opposed to ethical egoism, where people rights are more concerned with societal well-being (Shim et al., 2021; Yousaf et al., 2021). As this knowledge about cultural variances that demonstrate consistency with moral principles would fill the research gap of explaining individuals’ boycott behaviour across diverse cultures, our study seeks to investigate the role of cultural differences in comprehending the link among “reactive-eco-innovation and boycott behaviour”. Thus, we suggest that.

**H11.** “The influence of eco-innovation (i.e., reactive eco-innovation, proactive eco-innovation) on boycott behaviour vary across the four countries”.

3. Methodology

3.1. *Context and sample*

This paper concentrates on four different countries (i.e., UK, USA, Saudi Arabia; Egypt) because of the crucial cross-cultural differences that aid a better “comparison and robust” assessment of the important role of eco-innovation, environmental concern, and psychological

contract violation in customer boycott. Hofstede et al. (2010) revealed variances between the four examined countries citizens perceptions towards the cultural dimensions. For example, power distance was found to score different values (United Kingdom = 35, USA = 41, Saudi Arabia = 95, Egypt = 80), “uncertainty avoidance” (United Kingdom = 35, USA = 46, Saudi Arabia = 80, Egypt = 55), while “individualism” (United Kingdom = 89, USA = 91, Saudi Arabia = 25, Egypt = 37).

We employed quantitative approach to evaluate the link between our study constructs. The respondent of this study includes all regular retail stores customers from the four countries who were chosen by a well-known marketing data collection company. We sent the URL to a sample of 1000 consumers each society from the marketing company database. We included the research objectives and the estimated time for the survey completion, and the URL in the email invitation. Customer who agreed to take part in our examination were permitted to continue. We used a screening question (i.e., customer nationality and familiarity and frequent retail customers) to select the proper respondents. The questionnaires were available online between February 25, 2022 and March 10, 2022. We obtained 810, 785, 895, and 902 valid questionnaires from the four countries respectively. Table 1 demonstrates the demographic information of the sample.

3.2. *Variable’s operationalisation*

Previous research has resulted in the development of valid assessment scales for the constructs included in this research. These measurement scales have been utilised repeatedly and have demonstrated a high level of reliability and validity. Previous studies valid measurements were adopted in our study (e.g., Chen et al., 2012; Enzler et al., 2019; Forsyth and Berger, 1982; Liao and Liu, 2022; Prakash et al., 2019; Rose and Johnson, 2020). Customer boycott was evaluated utilising four items (i.e., “I would feel guilty if I bought the company’s product”). Reactive eco-innovation was evaluated utilising four items (i.e., “The company adopts passive environment-related innovation to comply with environmental regulations”). Proactive eco-innovation was measured using four items (i.e., “the company often undertakes active environment-related innovation in order to take initiatives new practices or products ahead of competitors”). Psychological contract violation was evaluated using four items (i.e., “I feel that the company has violated the contract between us”). Environmental concern was

**Table 1**  
Participant demographics.

Demographics	All sample (n = 3392)	UK sample (n = 810)	USA sample (n = 785)	Saudi Arabia sample (n = 895)	Egypt sample (n = 902)
<b>Age groups</b>					
18–24	685	201	141	164	179
25–34	695	173	208	151	163
35–44	805	168	170	259	208
45–54	589	146	139	157	147
55+	582	122	127	128	205
<b>Gender</b>					
Male	1781	411	401	489	480
Female	1611	399	384	406	422
<b>Education</b>					
High school diploma	561	156	127	138	140
Some college	724	139	213	171	201
Bachelor’s Degree	1222	223	289	332	378
Master’s Degree	576	210	101	156	109
PhD degree	309	82	55	98	74
<b>Income</b>					
<£25,000	930	211	148	295	276
£25,001–50,000	945	206	281	217	241
£50,001–100,000	626	163	156	158	149
£100,001–150,000	514	142	101	121	150
>£150,000	377	88	99	104	86

measured using four items (i.e., “If we continue down the same path, we are heading toward an environmental catastrophe”). Idealism was measured using eight items (i.e., “A person should make certain their actions never harm another even to a small degree”). Finally, relativism was measured using eight items (i.e., “There are no ethical principles that are so important that they should be a part of any code of ethics”). All items were evaluated utilising a five-point Likert scale (1 = “strongly disagree” to 5 = “strongly agree”).

Due to the fact that this study was performed in four countries, two different versions of the questionnaire were administered. The questionnaire was originally developed in English and then translated into Arabic by a bilingual person who was fluent in both English and Arabic. Another bilingual person with an Arabic native tongue retranslated these translated questions into English. We next examined the two English versions and discovered that none of the items contained a specific cultural background in terms of language. A pilot assessment was performed with a group of customers (150) to determine the research instrument’s content reliability and validity. We updated a couple statements based on pilot feedback to improve their clarity of expression.

### 3.3. Common method bias

Common method bias was evaluated by conducting Harman’s one-factor analysis (Podsakoff and Organ, 1986). The test results revealed that the highest variable accounts for 21.73% of the variance, which demonstrates that the common method bias is not a significant issue in our examination. Moreover, the correlation matrix (Table 3) indicates that the largest correlation between constructs is 0.618, whereas the common bias is typically indicated by exceptionally high correlations ( $r > 0.90$ ) (Bagozzi et al., 1991). Consequently, we can conclude that the common bias in this study was not a significant concern. Following Lindell and Whitney (2001), we utilised a “marker variable” (MV). The MV in our study is a question about confidence in economy: “How confident are you in your country’s economy today?” This variable is not technically connected to the constructs examined in this examination but has been used as a MV in the previous studies (Agag et al., 2022). From  $-0.20$  to  $0.07$ , with an average of  $0.04$ , the analysis showed that the MV correlated with critical factors. There was no significant difference between them ( $p > 0.05$ ). Therefore, the most common type of bias in scientific studies is not a major issue here. Armstrong and Overton’s method was used to evaluate non-response bias (1977). We looked into the differences between early and late responders. No statistically significant differences were found using the chi-square test to compare the two groups. This means that we do not have a major problem with non-response bias in our investigation.

## 4. Analysis and results

Following the suggested two steps method by Anderson and Gerbing (1988), we tested our proposed model. SmartPLS 3 technique was utilised to assess the reliability of the study measures and to test the proposed model. “Partial least squares structural equation modelling (PLS/SEM) is a composite-based approach to structural equation modelling (SEM) that forms composites as linear combinations of their respective indicators, which in turn serve as proxies for the conceptual variables” (Hair et al., 2021, P. 624). Moreover, PLS can avoid a number of the constraints inherent in covariance-based SEM approaches such as data normal distribution issue. Additionally, it enables the simultaneous testing of formative and reflective components (Hair et al., 2021).

### 4.1. Measurement model

To evaluate the precision with which the study constructs were measured, we looked into the validity and reliability of the study variables. Cronbach’s Alpha and composite reliability were used to

determine the internal consistency of the variables. Both the Composite reliability and the Cronbach’s Alpha value in our study were above the threshold of 0.70 (Hair et al., 2021). This suggests that the study variables were credible (Table 2). Using item loadings and the average variance extracted (AVE), we assessed the convergent validity of the variables (Hair et al., 2021). Our study indicated that items loading is greater than 0.70 and the AVE is above 0.50, showing the convergent validity of our constructs. We also evaluated the constructs discriminant validity using the square roots of AVE (Table 3). Our study results indicate that the variance inflation factor (VIF) for all our study is less than 5, indicated that collinearity is not a significant concern. Finally, an examination of the heterotrait-monotrait (HTMT) criterion confirms additional discriminant validity as all the values are less than 0.90 (Henseler et al., 2015).

A multicollinearity test was conducted due to the relatively high correlations among some of the study variables. All variables had variance inflation factors (VIF) values less than 2.4, which is within the cut off level of 3.0. Normality tests were conducted using skewness, kurtosis, and Mahalanobis distance statistics (Bagozzi et al., 1991), for all the variables. The analysis indicated no departure from normality (see Table 2). Furthermore, the Cohen (1988) effect size  $f^2$ , defined as “the degree to which the phenomenon is present in the population,” was utilised to further explore the substantive effect of the study model. Cohen (1988) suggested 0.02, 0.15, and 0.35 as operational definitions of small, medium, and large effect sizes, respectively. Thus, our model proposed that both psychological contact violation ( $f^2 = 0.59$ ) and consumer boycott ( $f^2 = 0.63$ ) have large effect sizes whereas environmental concern ( $f^2 = 0.29$ ) has a medium effect size.

### 4.2. Structural model

We used the total sample ( $n = 3392$ ) to assess the structural model. Our study model assigns 72% to customer boycott, which demonstrates high prediction power. Table 4 indicates the outcomes of the hypotheses testing. Our analysis indicated that reactive eco-innovation is positively related to customer boycott ( $\beta = 0.418$ ,  $p < 0.001$ ), while proactive eco-innovation is negatively related to customers boycotts behaviours ( $\beta = -0.371$ ,  $p < 0.001$ ), demonstrating H1 and H2 are supported. We estimated the “direct, indirect, and total effect” of both reactive co-creation and proactive eco-innovation on customer boycott. Furthermore, the T statistics for this effect was calculated using a Sobel technique (“MacKinnon et al., 2002”). “95% bias-corrected confidence intervals are estimated” (“Zhao et al., 2010”). Our analysis revealed that psychological contract violation and environmental concern have a partial mediation among reactive eco-creation and proactive eco-innovations and customer boycott. Thus, H3, H4, H5 and H6 were supported. Moreover, our results indicated that none of the controls constructs are related to customer boycott. Our analysis also indicated that idealism has a negative effect on boycotts ( $\beta = -0.297$ ,  $p < 0.001$ ), while relativism has a positive influence on boycotts ( $\beta = 0.406$ ,  $p < 0.001$ ). Therefore, H7 and H8 were supported.

We utilised a two-group model to assess the moderating role of ethical ideologies (i.e., Idealism, relativism) in the link among proactive eco-innovation, reactive eco-innovation, and customers boycott behaviours. We used the formula suggested by Chin et al. (2003) to assess the differences in paths coefficients among subgroups. We also calculated T-statistics as suggested by Chang and Chen (2013). The analysis revealed that both ethical idealism and ethical relativism moderate the link between “proactive eco-innovation, reactive eco-innovation”, and customers boycott behaviours. Table 5 indicated that reactive eco-innovation has a higher effect on boycott behaviours for customers with high level of relativism while proactive eco-innovation has a greater influence on boycotts for customers with low levels of relativism. The analysis also indicated that reactive eco-innovation exerted stronger effect on boycotts for customer with low levels of relativism while proactive eco-innovation has stronger effect on boycotts for customers

**Table 2**  
Measurement statistics of construct scales.

Construct/Indicators	Standard Loading	CR	VIF	Cronbach's $\alpha$	AVE	Mean	SD	t-statistic	Skewness	Kurtosis
<b>Customer Boycott (BYT)</b>		0.94	1.378	0.92	0.508					
BYT1	0.96					2.93	0.873	18.29	-2.230	1.029
BYT2	0.93					3.35	0.802	22.34	-1.294	1.938
BYT3	0.92					2.88	0.812	20.78	-2.458	2.043
BYT4	0.97					3.70	0.820	19.32	-1.237	2.129
<b>Reactive eco- innovation (RIN)</b>		0.93	1.827	0.90	0.593					
RIN1	0.96					2.84	0.73	24.20	-2.12	2.03
RIN2	0.93					3.20	0.89	19.29	-1.34	2.48
RIN3	0.92					3.12	0.84	21.23	-1.90	1.74
RIN4	0.93					2.39	0.82	17.66	-2.18	1.89
<b>Proactive eco-innovation (PIN)</b>		0.96	1.439	0.93	0.517					
PIN1	0.94					3.02	0.83	25.30	-1.29	2.01
PIN2	0.96					3.10	0.81	23.29	-2.39	1.28
PIN3	0.94					2.47	0.79	19.24	-1.27	1.31
PIN4	0.97					3.19	0.84	27.37	-1.28	2.05
<b>Psychological contract violation (PSV)</b>		0.96	1.029	0.94	0.701					
PSV1	0.94					3.41	0.85	21.20	-1.20	1.43
PSV2	0.93					3.10	0.89	24.39	-1.56	1.05
PSV3	0.96					3.45	0.87	10.59	-2.90	2.01
PSV4	0.90					2.89	0.79	25.34	-2.09	1.25
<b>Environmental concern (ENV)</b>		0.92	2.09	0.89	0.616					
ENV1	0.90					3.03	0.92	17.03	-1.20	2.03
ENV2	0.94					2.47	0.87	22.19	-2.38	1.28
ENV3	0.92					2.38	0.88	13.27	-2.90	2.03
ENV4						3.20	0.84	10.45	-2.17	1.67
<b>Idealism</b>		0.93	2.12	0.91	0.573					
IDL1	0.94					2.91	0.91	19.20	-2.10	1.05
IDL2	0.93					3.23	0.86	16.59	-1.26	2.10
IDL3	0.92					3.19	0.80	21.25	-3.20	2.03
IDL4	0.95					3.43	0.89	23.29	-1.29	1.89
IDL5	0.92					2.84	0.90	22.15	-1.54	1.20
IDL6	0.94					2.75	0.84	24.03	-1.59	2.05
IDL7	0.91					3.12	0.87	18.30	-2.30	1.29
IDL8	0.96					4.05	0.84	17.89	-2.06	2.10
<b>Relativism</b>		0.90	2.39	0.89	0.604					
RLT1	0.95					1.25	0.88	23.21	-1.24	1.90
RLT2	0.92					2.30	0.85	21.95	-2.10	2.35
RLT3	0.90					2.19	0.83	18.67	-1.78	2.01
RLT4	0.94					1.85	0.90	13.25	-1.34	2.18
RLT5	0.92					2.03	0.89	22.38	-1.09	2.53
RLT6	0.97					1.58	0.84	15.40	-2.63	1.29
RLT7	0.91					1.92	0.87	25.20	-1.84	1.47
RLT8	0.89					1.43	0.90	29.58	-2.03	2.10

**Table 3**  
Discriminant validity of the correlations between constructs.

Construct	Correlations and square roots of AVE						
	BYT	RIN	PIN	PSV	ENV	IDL	RLT
BYT	<b>0.713<sup>a</sup></b>						
RIN	0.329 <sup>b</sup>	<b>0.770</b>					
PIN	-0.319	0.384	<b>0.719</b>				
PSV	0.489	0.431	-0.517	<b>0.837</b>			
ENV	0.618	0.594	0.314	0.602	<b>0.785</b>		
IDL	0.384	0.320	-0.239	0.419	0.488	<b>0.758</b>	
RET	0.510	0.580	-0.332	0.501	0.396	0.329	<b>0.778</b>

<sup>a</sup> Composite reliability are along the diagonal.

<sup>b</sup> Correlations.

with high levels of idealism. Therefore, H9 and H10 were supported.

#### 4.3. "Multigroup analysis to test differences across countries"

Because of the differences between the four examined cultures, we examined whether the links among the research constructs might differ through the four societies. "A multigroup analysis" (MGA) was conducted to explore the variances through the four cultures. Following "Henseler et al. (2015)", PLS-MGA was employed. Because "measurement invariance" might be a concern, we make sure that the research

constructs are invariant through the cultures. According to Henseler et al. (2015) recommendations, we can conduct a PLS-MGA when "compositional and configural invariance" are emphasised. The analysis revealed that "data treatment, the measurement and structural model" were emphasised to be equal through the four cultures. Moreover, we ran a "permutation procedure" "with a minimum of 1000 permutations and a 5%" significance level for each country combination. It was then checked to see if the original score correlations (c) were higher than the 5-percent range of score correlations that were found through the "permutation process" (c<sub>u</sub>). It can be confirmed if this is the case



**Table 4**  
Hypotheses testing results.

Path directions	All sample	UK sample	USA sample	Saudi Arabia sample	Egypt sample
RIN→ BYT	0.42***	0.39**	0.31***	0.25***	0.23***
PIN→ BYT	-0.37***	-0.32***	-0.28***	-0.11*	-0.22***
RIN→ PSV	0.63***	0.42***	0.38***	0.57***	0.61***
PIN→ PSV	-0.41***	-0.19**	-0.24***	-0.43***	-0.37***
PSV→ BYT	0.59***	0.53***	0.51***	0.31***	0.33***
RIN→ ENV	0.36***	0.24***	0.21***	0.19***	0.13**
PIN→ ENV	-0.42***	-0.35***	-0.41***	-0.28***	-0.32***
ENV→ BYT	0.37***	0.43***	0.33***	0.24***	0.13*
IDL→ BYT	-0.28***	-0.19**	-0.21***	-0.02*	-0.4*
RLT→ BYT	0.41***	0.29***	0.23***	0.45***	0.38***

**Table 5**  
Statistical comparison of paths.

Paths	Low-relativism (R2 = 0.47)		High- relativism (R2 = 0.69)		Statistical comparison of paths
	Standardized path coefficient	T value	Standardized path coefficient	T value	
RIN→ BYT	0.192	3.705***	0.308	6.290***	<b>8.407***</b>
PIN→ BYT	-0.185	2.081**	-0.284	5.341***	<b>3.519***</b>
Paths	Low-Idealism (R2 = 0.53)		High-Idealism (R2 = 0.41)		Statistical comparison of paths
	Standardized path coefficient	T value	Standardized path coefficient	T value	
RIN→ BYT	0.401	7.039***	0.215	5.792***	<b>7.190***</b>
PIN→ BYT	-0.275	4.210***	-0.193	3.017***	<b>3.061***</b>

(Schlägel and Sarstedt, 2016). Table 6 mostly backs up these claims. With both invariances in place, we can say that there is a “partial measurement invariance” that allows us to perform the PLS-MGA.

Regarding the influence of reactive eco-innovation on customer boycott, this relationship was found to be higher in the developed economies (i.e., UK, USA) sample than in the developing economies (i.e., Saudi Arabia, Egypt) (Table 7). However, the variance was significant between the four countries except for UK vs. USA sample. The link between proactive eco-innovation and customers boycott was found to be greater in the developing economies (i.e., Saudi Arabia, Egypt) than in the developed economies (i.e., UK, USA) sample. The analysis revealed that the variance was significant between the four countries except for UK vs. USA and UK vs. Egypt samples. Concerning the association among “reactive eco-innovation and psychological contract violation”, this link is greater in Saudi Arabia and Egypt sample than in the UK and USA sample. Nonetheless, this difference was not significant between the four samples. Concerning the association between proactive eco-innovation and psychological contract violation, this link is greater in Saudi Arabia and Egypt sample than in the UK and USA sample. Nonetheless, this difference was not significant between the four samples.

**Table 6**  
Compositional invariance between countries.

Paths	UK vs. USA		UK vs. Saudi Arabia		UK vs. Egypt		USA vs. Saudi Arabia		USA vs. Egypt		Saudi Arabia vs. Egypt	
	c	5%quantile of c <sub>u</sub>	c	5%quantile of c <sub>u</sub>	c	5%quantile of c <sub>u</sub>	c	5%quantile of c <sub>u</sub>	c	5%quantile of c <sub>u</sub>	c	5%quantile of c <sub>u</sub>
BYT	0.999	0.999	0.999	0.997	0.998	0.996	0.996	0.994	0.999	0.997	0.999	0.999
RIN	0.998	0.999	0.996	0.995	0.999	0.999	0.999	0.998	0.999	0.999	0.999	0.998
PIN	0.996	0.992	0.998	0.994	0.999	0.998	0.999	0.996	0.999	0.999	0.997	0.995
PSV	0.999	0.999	0.999	0.999	0.998	0.997	0.999	0.999	0.998	0.998	0.999	0.999
ENV	0.998	0.995	0.999	0.999	0.995	0.994	0.999	0.998	0.996	0.995	0.996	0.994

Regarding the association between reactive eco-innovation and environmental concern, this relationship is greater in the UK and USA sample than in Saudi Arabia and Egypt sample. Nonetheless, this difference was not significant between the four samples. Regarding the link among psychological contract violation and customer boycott, this link is also greater in the UK and USA sample than in Saudi Arabia and Egypt sample. However, this difference was significant between the four samples. Regarding the link between environmental concern and customer boycott, this link is greater in the UK and USA sample than in Saudi Arabia and Egypt. Nonetheless, this difference was not significant between the four samples. Finally, the link between proactive eco-innovation and environmental concern was found to be greater in Saudi Arabia and Egypt sample than the UK and USA sample. These results revealed that the influence of both reactive eco-innovation and proactive eco-innovation on customers boycotts through psychological contract violation and environmental concern differ between the developed societies (i.e., UK, USA) and the developing societies (i.e., Saudi Arabia, Egypt). This result support H11.

## 5. Discussion and conclusion

### 5.1. Key findings

According to the “psychological contract violation theory”, we developed a conceptual framework to understand the significant role of reactive eco-innovation and proactive eco-innovation in influencing customer boycotts behaviour through the psychological contract violation and environmental concerns in the retail industry across variance cultural contexts. It also explores the role of ethical ideologies (i.e., idealism, relativism) in influencing customers boycotts behaviours. We concluded some key findings from our study analysis as follow:

Our study revealed that “reactive eco-innovation” is positively related to customers boycott behaviours. The result is consistent with previous examination results who indicated that reactive co-innovation is a key driver of customers boycotts (Ali, 2021; Liao and Liu, 2022; Wang et al., 2022). The more the company carry out eco-innovation strategy, the more likely the customers were to boycotts. It also indicated that proactive eco-innovation has a negative influence on customers boycotts. Our study findings are in line with previous research which revealed that the ability of companies to implement green and sustainable practices reduce customers boycotts (Chang and Chen, 2013; Machová et al., 2022). Retailers who implement proactive eco-innovation strategies will help them to decrease customers boycotts.

Our study indicated that psychological contract violation and environmental concerns mediate the links between reactive eco-innovation, proactive eco-innovation and customer boycotts. This supports the notion of prior research who concluded that psychological contract violation mediates the link among reactive eco-innovation and proactive eco-innovation and customer boycotts (e.g., Eva et al., 2019; Liao and Liu, 2022; Song et al., 2020). The negative influence of idealism on customers boycotts behaviours is consistent with other examinations on customers moral behaviours (Culiberg, 2015). This implies that customers with high levels of idealism are more likely to avoid any behaviour that might harm others, thus they will be more willing to

**Table 7**  
PLS-MGA across the four countries.

Paths	UK vs. USA		UK vs. Saudi Arabia		UK vs. Egypt		USA vs. Saudi Arabia		USA vs. Egypt		Saudi Arabia vs. Egypt	
	Path coefficients diff	P value diff	Path coefficients diff	P value diff	Path coefficients diff	P value diff	Path coefficients diff	P value diff	Path coefficients diff	P value diff	Path coefficients diff	P value diff
RIN→BYT	0.118	0.630	0.046	<b>0.993</b>	0.012	<b>0.997</b>	0.226	0.430	0.739	<b>0.038</b>	0.493	0.322
PIN→BYT	0.627	0.129	0.407	<b>0.998</b>	0.089	0.638	0.079	<b>0.995</b>	0.080	<b>0.998</b>	0.184	0.079
RIN→PSV	0.079	0.384	0.590	0.194	0.065	0.539	0.490	0.098	0.123	0.589	0.573	0.584
PIN→PSV	0.418	0.210	0.289	0.430	0.326	0.237	0.128	0.434	0.439	0.110	0.120	0.120
PSV→BYT	0.129	0.328	0.075	<b>0.991</b>	0.410	0.129	0.069	0.203	0.691	<b>0.046</b>	0.403	0.439
RIN→ENV	0.530	0.120	0.073	0.438	0.632	0.037	0.230	0.312	0.438	0.129	0.226	0.120
PIN→ENV	0.210	0.379	0.230	0.304	0.120	0.451	0.549	0.078	0.120	0.567	0.710	0.589
ENV→BYT	0.487	0.106	0.732	0.061	0.417	0.210	0.218	0.439	0.405	0.129	0.418	0.128

avoid boycotts behaviours. Moreover, relativism was found to have a positive effect on customers boycotts which is in line with prior examinations (Palacios Florencio et al., 2019). Customers with high levels of relativism are more willing to boycotts.

Customers who have strong ideas about a topic are more likely to accept evidence that supports their position (Liao and Liu, 2022). It has been found by Seyfi et al. (2021) that consumers who care more about the environment are more likely to trust green information. Consumers who appreciate the environment will exercise self-control and refrain from engaging in behaviours that are not helpful to businesses' eco-innovation efforts, even if they experience psychological contract violations.

Our study revealed that "reactive eco-innovation" has a higher impact on consumers boycotts behaviours in the developed economies (i.e., UK, USA) sample than in the developing economies (i.e., Saudi Arabia, Egypt) sample, while proactive eco-innovation has a higher impact on consumers boycotts behaviours in the developing economies (i.e., Saudi Arabia, Egypt) sample than in the developed economies (i.e., UK, USA) sample. These results implies that customers in developed societies are more likely to boycotts when their companies implement reactive eco-innovation than customers in developing societies, while customers in developing societies are more likely to avoid boycotts when their companies implement proactive eco-innovation than customers in developed societies. Moreover, the influence of both environmental concern and psychological contract violations on customer boycotts were greater in the developed societies sample than in the developing societies sample. This means that customers in the developed nations are more willing to boycotts when they feel that companies breach their psychological contracts and when also they feel that their companies don't implement programs on corporate social responsibility and protecting the environment.

5.2. Theoretical implications

This research adds to wider research on eco-innovation and customers boycott as follow: First, customers boycott is caused by reactive eco-innovation and proactive eco-innovation. Prior research supported the notion that reactive eco-innovation has a critical influence in enhancing company's reputation and improve and makes them more competitive (Chen et al., 2022; Yao et al., 2019; Zheng and Iatridis, 2022). Nonetheless, it turns out that according to the attribution theory that we used, individuals don't like when companies make involuntary changes to their products because they think they are doing it for their own benefit and don't like it. Reactive eco-innovation usually leads to

individuals not buying the products of businesses that use it. Environmental innovation and customers behaviour theory both benefit from this study. It connects reactive eco-innovation of companies with customers boycott to make it easier for both fields to explore. Moreover, to the best of the author knowledge, the link between proactive eco-innovation and customers boycotts has not been explored. Thus, our examination takes the first step in exploring the negative influence of proactive eco-innovation on customer boycotts.

Second, "psychological contract violations" and environmental concern act as a mediator on the link between reactive eco-innovation and proactive eco-innovation and customers' boycott. Customers usually think that "reactive eco-innovation" is done not because of a sense of social responsibility, but due to institutional arrangements and market competition. They end up feeling duped and betrayed, and they develop a poor impression of the business as a whole, which makes them less likely to buy from them. There are then boycotts against the company because people have bad feelings and opinions about the company. Even though there have been a lot of research about the relationship between corporate innovation and customers boycott (Galbreath et al., 2021), there hasn't been a lot of research into the mechanism by which eco-innovation, both proactive and reactive, affects customer boycotts. Psychological contract violation theory is used to explore these relationships. It looks at how customers psychological contract violations affects the mediating influence of customers psychological contract violations, and it looks at the influence of company's reactive eco-innovation and proactive eco-innovation on customers boycott. Thus, our study adds to both the psychological contract theory and customer boycotts behaviours. Moreover, our study explored the moderating influence of ethical ideologies on customer boycotts behaviours. The results indicated that idealism has a negative effect on boycotts while relativism has a positive effect on boycotts. Thus, academic studies should pay attention to ethical ideologies to better understand customers boycotts phenomena.

Third, because there are several multinational businesses today in a world that is becoming more and more global, being culturally competent to communicate effectively with people from different backgrounds is more important than ever. Our study revealed that the influence of both reactive eco-innovation and proactive eco-innovation on customer boycotts vary between the developed and developing countries. Knowing how it affects customer boycott behaviour will help communication professionals and their bosses better connect with their different stakeholders (Kuo et al., 2021). This is especially important in times of crisis, like the COVID-19 pandemic, when companies are desperate to change the public's perceptions in order to save their

reputations. This result can add to the cross-culture studies on the effect of eco-innovation on customers boycotts behaviours.

### 5.3. Managerial implications

The main aim of this paper was to explore the influence of both reactive eco-innovation and proactive econ-innovation on customers boycotts behaviours across various cultural environments. Thus, our study offers meaningful implications for companies that carry out two different strategies (i.e., reactive eco-innovation and proactive eco-innovation) to reduce customers boycotts. First, companies should know that “reactive eco-innovation” will make customers to stop buying their products. Consequently, they must be more positive and proactive when it comes to “eco-innovation” in order to get more positive feedback from their customers. Second, when companies do reactive eco-innovation, they should take steps to make sure that customers don't think their psychological contracts have been broken. For instance, companies can use the proper advertisements and word of mouth to decrease their customers perceptions on the psychological contact violations. Third, businesses should think about how customers environmental concerns affects their own level of environmental concerns when they sell reactive “eco-innovation-related products” and try to improve their own level of environmental concerns. Moreover, since high idealism and low relativism are a key driver of customers boycotts, managers can focus on this segment of consumers when developing their marketing tactics and strategies.

Finally, while prior research revealed that customer in developing nations is more likely to boycotts when their sellers implement reactive eco-innovation. Our study indicated that consumers in developed nations (i.e., UK, USA) are more likely to boycotts than consumers in developing nations (i.e., Saudi Arabia, Egypt) if their companies carry out reactive eco-innovation while consumers in developing nations (i.e., Saudi Arabia, Egypt) are more likely to stop boycotts than consumers in developed nations (i.e., UK, USA) if their companies carry out proactive eco-innovation strategies. Marketers in developing countries such as Saudi Arabia and Egypt should use some tactics and strategies to improve the perceptions of customers towards the psychological contract violations and environmental concerns as a mechanism to decrease their boycotts towards their products and services. Moreover, international companies should consider both the developed and developing countries cultural background markets to compete and enter these markets.

### 6. Limitations and directions for future research

This study has some limitations that offer fertile grounds for further studies. First, our paper explores the effect of both reactive eco-innovation and proactive eco-innovation on customers boycotts. Future studies can explore main drivers of eco-innovation such as the influence of external variables on promoting both reactive and proactive eco-innovation. Second, we examined the role of phycological contracts innovation and environmental concerns as mediator on the link between eco-innovation and customers boycotts. More mediators' variables such as perceived egregiousness to understand the mechanism on how reactive eco-innovation and proactive eco-innovation impact customers boycotts. Third, we didn't include any moderators in our proposed model. Further studies should use some moderators such as personality traits to explore and understand customers boycotts. Finally, our proposed model can be tested from the managers perspective and in different context.

### Declaration of competing interest

The author declares that there is no conflict of interests.

### Data availability

Data will be made available on request.

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