



From Green Love marks to Brand Loyalty: Examining the Underlining Role of Customer Engagement Behaviour and Altruism

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From green lovemarks to brand loyalty: Examining the underlining role of customer engagement behaviour and altruism

Abstract

The current study aims to examine the interplay between green lovemarks and brand loyalty via the underlining role of customer engagement behaviour and altruism. Academics have shown a growing interest in the exploration of lovemark brands, however, understanding lovemarks from a green perspective and its key underlining mechanisms remained unexplored. Grounded in social exchange theory the current study examines the green lovemark brands (i.e., hybrid and electric cars) and brand loyalty relationship through the mediation of customer engagement behaviour. Furthermore, consumer altruism was assumed to moderate the proposed mediating effect. The current study adopted a questionnaire survey method for drawing a sample of 479 hybrid and electric car users in Pakistan. The analysis was performed by using structural equation modelling approach. The current study adopted the recommended two-stage disjoint analysis to analyse higher-order latent variables (i.e., green lovemarks and brand loyalty). The findings of the current study suggest that brand loyalty positively regresses on green lovemarks and customer engagement behaviour. Furthermore, customer engagement behaviour mediates the link between green lovemarks and brand loyalty. Consumer altruism moderates the indirect effect of customer engagement behaviour where the relationship was stronger among consumers with a higher level of altruism. This is the first study to conceptualise green lovemarks and examine the role of customer engagement behaviour in the green lovemark-brand loyalty relationship. The current study also discussed the novel role of altruism in green consumption thus offering numerous theoretical and managerial implications that are outlined in this study.

Keywords: Green brands, Green lovemarks, brand loyalty, customer engagement behaviour, altruism, social exchange theory.

1. Introduction

The transportation industry is a major contributor towards air pollution, which is a key concern to environmental health and responsible for around 3.5 million premature deaths (Leckie et al., 2021). Stakeholders around the world, which include businesses, governments, and consumers must take necessary counteractions to overcome the existing air pollution problem. Consumers in general are becoming more aware of how their purchasing patterns contribute to environmental deterioration and the necessity for a cleaner environment (Girón et al., 2021). Consumers are thus demonstrating a stronger readiness to embrace sustainable purchasing practices (Mesagan, 2021). Sustainable consumption is the practice of buying, using, and discarding products/ services that accounts for socioeconomic and ecological conditions and its consequences for future generations (Girón et al., 2021). The analysis of consumer behaviour concerning sustainable consumption has helped to further our knowledge of how and why consumers choose green brands during purchases. Prior studies suggest that consumers' green purchase decisions are primarily inspired by environmental concerns (Policarpo & Aguiar, 2020; Ullah et al., 2021). The consumer's growing demand and governments policies towards environment friendly products and services has forced the producers and service providers to align their strategies that is consistent with the demand of stakeholders (Leckie et al., 2021; Ullah et al., 2021). From a context of automobile sector, we find several automakers producing or planning to produce green products such as electric and hybrid cars, which can be seen as a reaction to the social and environmental pressures. Green brands are products or services of a firm that possess an ecological and environmental advantage over alternative products and are designed to inspire consumers with green orientation and green preferences (Panda et al., 2020). A prior study argued about green brands in the automobile sector suggesting that such brands shall promote sustainable commuting decisions by highlighting environmental considerations and environment-friendly consumer choices (Mamula Nikolić et al., 2021).

Inspired by the growing demand for green consumption, the current study attempts to investigate the influence of green lovemarks on brand loyalty via the mediating role of customer engagement behaviour and moderating role of altruism. Green lovemarks refers to the consumer's unconditional love and respect (Roberts, 2004) for the green brands and services. Brand loyalty, on the other hand, can be seen as consumer behaviour, which is influenced by the consumer choice for creating favourable consumer outcomes such as repurchase intentions and for remaining loyal to the brand (Solem, 2016). In this sense, brand love and respect form two core dimensions of lovemarks which can further influence brand loyalty. Lovemarks goes beyond the simple understanding of consumer choice based on satisfaction, value for money, and physical attributes and

acknowledges the significance of relationship experiences (Javed et al., 2023). A close inspection of the lovemarks reveals its significance and consequences such as consumer behaviour, purchase intentions, and brand loyalty. One such consequence lies in the understanding of customer engagement in green lovemarks and loyalty relationship. Customer engagement behaviour can be seen as the consumer's cognition, emotions and behavioural activities concerning its relations with a firm and its product (Hollebeek et al., 2017). Thus it is essential to promote customer engagement by building consumer trust (via green lovemark brands) where sharing accurate information about the green products and practices becomes highly significant (Lin et al., 2019). Via green lovemarks it becomes possible to promote interactions, debates, and dialogues with consumers about green awareness and the significance of green consumption (Pilgrimienė et al., 2020) that can further lead to enhance levels of brand loyalty. The perception of the brands and its green orientation is influenced by the varying level of personality traits. Altruism is a personality trait of selfless concern for the social welfare and well-being of others (Celuch et al., 2015). Altruism from a consumer perspective can be seen as an individual behaviour of helping others by sharing their knowledge and experiences about a product (Panda et al., 2020). The current study thus argues that the indirect relationship of green lovemarks with brand loyalty via customer engagement will be stronger among consumers who display a higher level of altruistic values.

Reviewing the literature on lovemarks, brand loyalty, customer engagement behaviour, and consumer altruism, several research gaps were identified in the current study. First, an understanding of perceived lovemark brands from a green perspective remains unexplored. The current study thus presents a novel green lovemarks concept, which is inspired by customer love and respect (Giovanis & Athanasopoulou, 2018) for green brands. Second, Brand loyalty remains a highly debated concept in marketing literature, but research is quite limited in understanding the key role of the underlying mechanism and its intended and unintended consequences (Quach et al., 2020). Understanding brand loyalty relationships with perceived green lovemarks may contribute to the literature. A highly engaged customer will provide positive feedback and word-of-mouth, which may result in positive consequences for the firm and its products (Pansari & Kumar, 2017). Despite the growing significance of customer engagement behaviours little is known about how it can influence the green lovemarks and brand loyalty relationship. Finally, consumer views of the world, issues, actions, and reactions vary and so does their understanding, awareness, and significance of environment and green consumption. Considering the varying level of consumer altruism, they may react to the firms and their green products differently (Leckie et al., 2021). Although consumer altruism can be seen as an influential personality trait, little is known about its interaction effect in green lovemarks and customer engagement behaviour relationship. Building on the paucity of research

that is discussed above, the current study examined the association between green lovemarks and brand loyalty for hybrid and electric car users in Pakistan. The current study also attempts to critically examine if customer engagement behaviour mediates in green lovemarks and brand loyalty relationships. Finally, this study examines the moderating role of consumer altruism on the indirect relationship between green lovemarks and brand loyalty via customer engagement behaviour. By doing so, the current study adds to existing body of literature by examining the significance of green lovemarks and its consequences for automobile sector in Pakistan.

The current study investigation is grounded in social exchange theory (SET), which primarily argues about social interactions, reciprocity, and transactional (social and economic) value (Kakakhel & Khalil, 2022). Humans interact and involve in relationships by analysing the transactional value, such as assessing the cost-benefit analysis of the transaction and are willing to reciprocate for the benefits they seek (Khalil et al., 2021). In other words, they are willing to pay the cost if the benefit they seek is higher than the associated cost. Green lovemark brands holds transactional (economic) value during the interaction between companies and consumers, which will result in reciprocating behaviours by the customers such as displaying loyalty to the brand. Customer engagement behaviour can be seen as a social interaction where the customer assesses and assumes that the engagement benefits (social value) are greater than the associated cost. Furthermore, customers who possess higher altruistic values will consider such transactions as more beneficial than those with lower level of altruistic values and may further advocate the green brand (reciprocity).

In the following section, the conceptualisation of green lovemarks, interplay between green lovemarks and brand loyalty, mediating role of customer engagement, and moderating role altruism along with the hypothesis development are discussed. The method sections provide an overview of the participants, data collection procedure, descriptive statistics, and measurement scales. The current study explains and analyse the data in results section and discusses the results of hypothesis testing. The findings of the study, theoretical and managerial implications are discussed in the discussion section. The study concludes by presenting limitations of the study and directions for future research in the final section of the current study.

2. Theoretical Background and Hypothesis Development

2.1. Conceptualising Green Lovemarks

The current study operationalises green lovemarks as the consumer's unconditional love and respect for the green brands and services (Roberts, 2004). When a customer exhibits an inexplicable attachment to a brand, it genuinely

attains the status of a "lovemark" brand (Roberts, 2004). The lovemark brands are further classified into two core components such as brand love and brand respect that are discussed below.

Brand love is customer's profound emotional attachment towards a brand/ product (Santos & Schlesinger, 2021). Consumer reciprocity such as repurchase intentions, positive word-of-mouth, promotion and so on, are inspired by brand love, which is a personal, emotional, and committed relationship between a customer and the brand (Giovanis & Athanasopoulou, 2018), thus brand love is the fondness and affection a customer has for a brand. Moreover, brand love is only possible when both separation anxiety and profound fondness are concurrently experienced (Shuv-Ami, 2017). Roberts's (2004) work closely resonates with the trinity of love theory, which was presented by Sternberg (1986). Sternberg (1986) argued "warm" feature of love is an intimacy that can be seen as a sensation of connection and bonding. Passion is the "hot" element of love that fosters romance, sexual desire, and physical intimacy. Finally, commitment is seen as the "cool" feature of a brand that represents the desire for long-term love. When seen from pro-environmental perspective, the current contends that that the excitement for a green brand, physical affection for a green brand, and commitment to a green brand form unconditional love for a green brand.

Brand respect stems from the customer's positive perception, shaped by their assessment of the brand's performance (Santos & Schlesinger, 2021). Firms can gain respect, which in turn fosters trust and enhance their reputation, by emphasising producing quality goods and services. The cognitive aspects of a brand image may foster trust by reducing risk and increasing performance expectations, which may increase the commitment and confidence of the customers in the brand (Shuv-Ami, 2017). While the discourse on brand love and respect provides insights into the nature of lovemarks, the application of this concept to eco-friendly brands remains underexplored. It is thus important to discuss the relevance of lovemarks by considering the brand's environmental impact, consumer cognizance, and their inclination towards green purchases. It is argued that the examination of customer behaviour from brand love and brand respect (i.e., two facets of lovemark brands) perspectives by aligning it with customer preference for green products can potentially help in understanding the reasons behind customers' loyalty for green lovemarks.

2.2. Green Lovemarks and Brand Loyalty

Brand loyalty is operationalised as a conscious action that is motivated by customer choice to produce favourable customer outcomes, such as staying loyal and considering the brand throughout the repurchase process (Solem, 2016). Quach et al. (2020) argued that consumers remain excited and engaged with their brands, and show

repurchase intentions when brand loyalty is elevated, despite competitors' attempts to switch customer loyalty. Prior research also suggests that focusing only on repurchasing behaviour when analysing loyalty tends to exclude important factors that influence customer loyalty (Quaye et al., 2022). To address this issue, Quaye et al. (2022) critically examined brand loyalty and presented a multidimensional loyalty concept that includes important sub-dimensions for assessing brand loyalty. Quaye et al. (2022) work can be seen as a reflection and extension of Oliver's (1999) brand loyalty model seen through the subdimension of cognitive, affective, conative, and action loyalty. Cognitive loyalty refers to a customer's perception of a brand/product being better than what is offered by the competitors (Oliver, 1999). While cognitive loyalty is motivated by how customers think, in contrast, affective loyalty is often driven by how consumers feel (Quaye et al., 2022). Customer with a higher level of affective loyalty displays a strong affection for a brand and the threat of loyalty switch is marginalised. Building the positive thinking and feeling that is driven by cognitive and affective loyalty, conative loyalty is a customer desire to take positive action in the future, for instance, purchase intention (Javed et al., 2023). Finally, action loyalty refers to the customers' purchases or repeat purchases that are inspired by conative loyalty (intention to purchase) (Oliver, 1999). Action loyalty thus is the outcome of cognitive, affective, and conative loyalty. Building on this argument, Quaye et al. (2022) looked at brand loyalty as a higher-level construct representing three lower-level latent variables i.e., cognitive, affective, and conative loyalty that results in action loyalty, for instance, intention to purchase. The current study aligns with Quaye et al. (2022) study by measuring brand loyalty as a higher-level construct and assumes that the three subdimensions i.e., cognitive, affective, and conative loyalty, will drive customer purchase and repurchase decisions (action loyalty). This allows us to frame and critically examine brand loyalty as a multifaceted construct that encapsulates respondents' holistic perception of brand loyalty.

Consumers are expected to find perceived lovemarks very gratifying, and they may generate indisputable brand loyalty (Shuv-Ami, 2017). Consumers assess green products and services subjectively, which is inspired by their green aspirations, expectations, and requirements (Lin et al., 2017). Such customer appraisals may result in emotional and behavioural reactions to the brand, for instance, repurchase intentions and behavioural loyalty in the form of favourable word-of-mouth (Chen, 2013). Existing research has demonstrated that perceived green value associated with green brands can contribute towards customer satisfaction, trust, loyalty, and desire to repurchase (Chen, 2013). Policarpo and Aguiar (2020) suggests that customers with environmental concerns choose to acquire hybrid automobiles since they may gain self-expressive advantages and have a greater perceived value from purchasing green items.

The argument that green lovemarks may influence the brand loyalty of a customer is ground in SET that argues about the resource transfers (Ap, 1992), which may occur during brand-customer interaction. The SET emphasises the value of reciprocity in human relationships (Khalil et al., 2021). Lambe et al. (2001) argued about the four basic principles that aid in comprehending SET. First, social interactions provide better social and economic outcomes. Second, to determine the relative worth and level of confidence in these exchanges, the outcomes are regularly compared with alternatives. Third, effective communication increases the degree of commitment and trust. Finally, these social interactions create relational exchange norms for the relationships. Additionally, social science typically debates the attitudes and behaviours that include negotiated norms and reciprocity (Kakakhel & Khalil, 2022; Khalil et al., 2021). These exchanges ultimately result in the formation of social relationships, reciprocity, and dependency (Garner, 2017). The current study contends that customer will engage with green lovemark brands as these holds economic value (e.g., better millage or lower travel cost) during the interaction between companies and consumers, which will result in reciprocating behaviours by the customers such as displaying loyalty to the brand. It is hypothesised that:

Hypothesis 1 (H1). *Brand loyalty positively regresses on perceived green lovemarks.*

2.3. Customer Engagement Behaviour as a Mediator

Customer engagement behaviour is operationalised as the consumer's cognition, emotions and behavioural activities concerning its relations with a firm and its product (Hollebeek et al., 2017). Inspired by the psychological state perspective argued that customer engagement “occurs by virtue of interactive, co-creative customer experience with a focal agent/object (e.g., a brand) in focal service relationships.” (Brodie et al., 2011, p. 260). An examination of customer engagement from a behavioural standpoint defines customer engagement behaviour as “a customer’s motivationally driven, volitional investment of focal operant resources (including cognitive, emotional, behavioural and social knowledge and skills), and operand resources (e.g., equipment) into brand interactions in service systems” (Hollebeek et al., 2019, p. 617). By looking into the prior conceptualisations of customer engagement, the current study tends to align with the behavioural perspective where customer engagement behaviour is seen as continuous and non-transactional customer involvement with a brand/ product. This aligns with prior study (Harmeling et al., 2017) when we consider explicit and implicit meaning of customer engagement behaviour its and its significance in marketing research. Positive customer-brand relations are influenced by customer engagement, which can be reflected through a display of various behaviours. A recent study suggested that customers' engagement with their preferred brand/ product is reflected through their

encouraging word-of-mouth recommendations, helping consumers of the preferred brand, and their constructive feedback to the firms (Pansari & Kumar, 2017). Through social media platforms, customer engagement is shown to influence others about the preferred brands and provide a platform for customer feedback about the brands, products, and services (Pansari & Kumar, 2017).

It is assumed that the green lovemarks would inspire customers to favourably mention their favourite brand and their unique green benefits with others, and remain loyal to the green brand, thus allowing the green lovemark businesses to charge a premium price. Lovemark brand strengthens the relationship between consumers and a brand, which is comprised of brand love and respect (Giovanis & Athanasopoulou, 2018). The process of establishing a consumer-brand connection will therefore be driven by the emotional characteristics of a brand that contribute to the establishment of brand love, as well as the functional characteristics of a brand (i.e., brand respect). These two concepts act as key dimension of lovemarks, which characterises the nature of consumer-brand interactions. According to Quaye et al. (2022), the cornerstone of customer-brand interactions is the organization's ability to satisfy consumer expectations, which in turn induces reciprocal behaviours such as trust, love, and loyalty.

It is argued that customer engagement behaviour can be influenced by perceived green lovemarks. This argument aligns with Lin et al. (2017) findings by contending that consumers who value green consumption undoubtedly exhibit several beneficial outcomes, for instance, participation in feedback activities and advocating green brands. Building on the interconnectedness between brand loyalty and perceived green lovemarks, and the interplay between customer engagement behaviour with perceived green lovemarks and brand loyalty, the current study presents the following hypothesis:

Hypothesis 2 (H2). *Customer engagement behaviour positively predicts brand loyalty.*

Hypothesis 3 (H3). *Perceived green lovemarks positively predict customer engagement behaviour.*

The contention that customer engagement behaviour will mediate the green lovemark and brand loyalty relationship is based on the cost-benefit aspect and reciprocity of SET. Customer engagement behaviour can be seen as a social interaction where the customer assesses and assumes that the engagement with green products/brands offer social benefits that are highly desirable. For instance, purchasing electric or hybrid cars can be related to its superior fuel efficiency (economic value), but its consumption also provides ethical and moral satisfaction (social benefit), for instance; positive feeling of using environment friendly product, as they are known to be eco-friendly products. Similarly, customer engagement will yield a social benefit for the customers when it is believed

that the firms/ products adhere to the customer's feedback and offer green products that they desire. The current study thus contends that customer engagement behaviour can be seen as a customer expression goes beyond the economic value (i.e., fuel efficient green lovemark brands) and admire and advocate the social value (ethical and moral satisfaction) during the social interactions. It is assumed that the economic value of green lovemark brands along with the social value of customer engagement behaviour will tend to produce a reciprocating behaviour such as remaining loyal to the brand.

Recent studies have shown the beneficial relationship between engagement and brand loyalty (Parihar et al., 2018). These studies reveal that customers when engaged with a brand/organisation exhibits support for the organisation and its products (Abbas et al., 2018), that includes expressing an intention to make a repurchase (Quaye et al., 2022). Customer engagement behaviour that results from a company's prosocial endeavours often results in an enhanced level of customer loyalty (Abbas et al., 2018). A recent study argued that sustainable customer engagement behaviours is crucial for customer loyalty and self-brand integration relationship (Chuah et al., 2020). The prevalent literature about consumer behavioural research has shown evidence of customer engagement being a key mediating variable in the link between brand identification with repurchase intention (Nyadzayo et al., 2020). Therefore, consumer resonance or active engagement with the preferred brands is further promoted by effective customer-brand interactions (Parihar et al., 2018), which leads to enhanced brand equity and loyalty. The mediating role of customer engagement behaviour between perceived green lovemarks and brand loyalty is not fully understood, therefore, it is hypothesised that:

Hypothesis 4 (H4). *Customer engagement behaviour mediates the perceived green lovemarks and brand loyalty association.*

2.4. Altruism as a Moderator

Altruism is operationalised as “the intention to benefit others as an expression of internal values, regardless of social or motivational reinforcement” (Price et al., 1995, p. 257). People with a higher level of altruism often exhibit selflessness, empathy, and helpful behaviours (Saleem et al., 2018). Altruism from a prosocial perspective can be seen as a powerful motivator of engagement with firms and with groups that promote social causes (Merrilees et al., 2021).

Analysing the role of altruism in green consumption, a prior study argued that people with a higher level of altruism exhibit prosocial intentions, which influences consumer pro-environmental behaviour (Panda et al., 2020). Consequently, customers with a higher level of altruism often exhibit high levels of environmental

awareness and attempt to address environmental issues by buying green products (Zou & Chan, 2019). People with a higher level of altruism believe in helping and benefiting others and/or preventing others from harming the environment (Saleem et al., 2018). From a consumer behaviour perspective, a recent study (Hollebeek et al., 2017) of FMCG brands argued that several altruistic actions such as assisting, empathising, and mingling can influence the level of customer engagement. Considering the varying level of consumer altruism, it can be seen as an influential factor when examining that interplay between green lovemarks, brand loyalty and customer engagement behaviours. From a SET perspective, customers who possess higher altruistic values will consider green transactions (brand-customer interaction) as more beneficial (social and economic value) than those with lower level of altruistic values and may further advocate the green brand consumption (reciprocity).

Despite the significance and relevance of customer engagement for the green lovemarks-brand loyalty relationship, one cannot underestimate the influence of human personality and attitudes. One way of understanding the role of human personality is through the lens of altruism. Prior studies have presented their empirical findings to suggest that altruism affects prosocial brand engagement and influences the way they promote and advocate for brands and their products by highlighting the brand's role in societal betterment via digital media networks (Vander Schee et al., 2020). The current study contend that customer altruism varies and may influence customer engagement in the link between green lovemarks and brand loyalty. It is proposed that:

Hypothesis 5 (H5). *Altruism moderates the indirect effect of customer engagement behaviour in the link between perceived green lovemarks and brand loyalty, such that the effect will be strong when altruism is high.*

Figure 1 provides a summary of the overall discussion, which encapsulates the key variables, their manifest variables, and the hypothesized relationships. The model presents lovemarks as reflective second-order constructs manifested by brand respect and brand love as its first-order constructs. Brand loyalty is hypothesised as a formative second-order construct containing cognitive, affective, and conative loyalty (lower-order dimensions) as manifest variables.

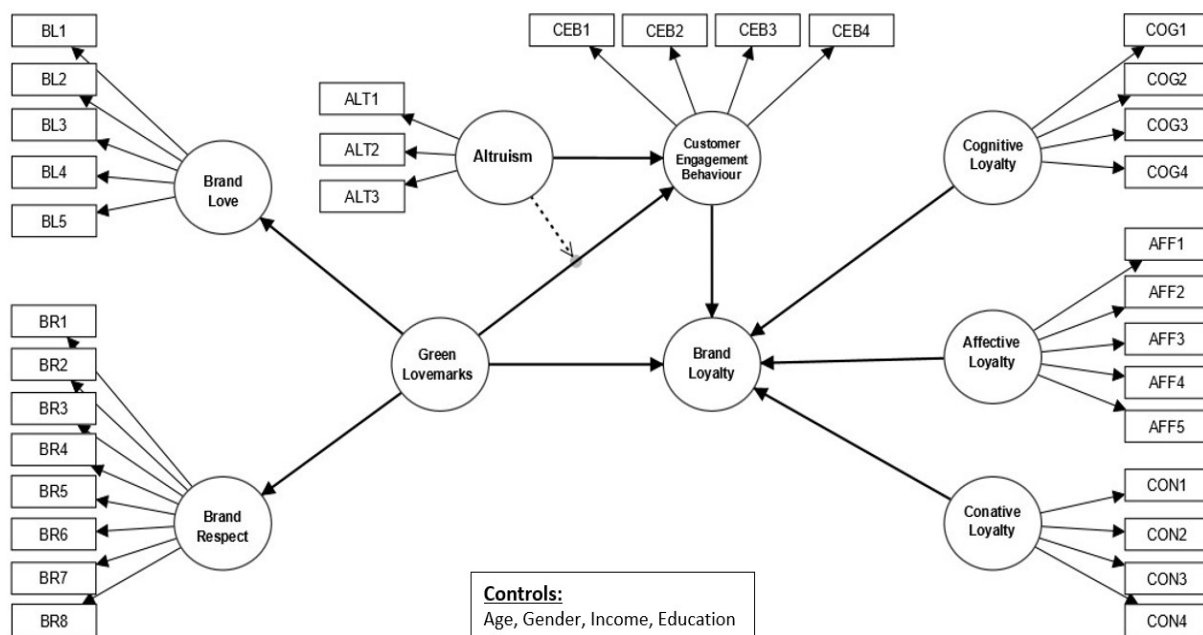


Fig 1. Hypothesised Model.

3. Method

3.1. Data Collection and Sample Characteristics

The objective of the current study aligns with positivism as a philosophical stance and deductive approach where cross section surveys were used to collect data (Saunders et al., 2003). The current study used an online questionnaire survey method for data collection among hybrid and electric car owners in Pakistan, which aligns with a recent study using online surveys conducted in similar settings (Javed et al., 2023). The questionnaire was made available on Google Forms, distributed through email, and shared on LinkedIn and Facebook. The use of social media to gather consumer data for research purposes is becoming more and more common since it is more efficient and cost-effective at reaching potential respondents (Stieglitz et al., 2018). The data collection for the current study took place between March 15, 2022, to May 02, 2022. Respondents were requested to read the consent form and indicate their agreement to participate in the research before continuing with the survey.

Identifying minimum sample size for multivariate analysis via structural equation modelling, a recent study recommends the use of power analysis (Sarstedt et al., 2022). The current study used a-priori sample size method for identifying sample size. By computing recommended information (effect size= 0.2, desired statistical power= 0.8, probability level= 0.05, unobserved variables= 7, and observed variable= 33) via power analysis procedure (Westland, 2010) the minimum sample size of 425 was identified for the current study. Considering that not all respondents would complete the questionnaire (missing values), the current study assumed returned

and useable questionnaires at 75%, thus a total of 567 (425/0.75) respondents were invited to take part in the current study, which is consistent with recent studies conducted in similar settings (Javed et al., 2023). A total of 512 responses were received where 479 responses were used after the data-cleaning process to account for missing data and outliers. The participants were requested to confirm if they own a hybrid or electric car as it was a crucial parameter of the current study.

The proportion of men in the current study stood at (78%). 34% of the participant were 30-40 years old while 27% were 19-30 years old. A total of 41% of the participants were earning between PKR 90,000 to PKR 150,000 followed by 31% of the total participants who belonged to an income class of PKR 151,000 or more. Furthermore, 54% of the participants had sixteen years of education while those who had completed their high school education stood at 18%. The majority of the participants i.e., 35% belonged to the Punjab Province of Pakistan, followed by 28% from Khyber Pakhtunkhwa province.

3.2. Measures

The current study used the well-established scales from previous research studies to assess the latent variables. Data were gathered via Likert scale with a five-point range. Adapting the established scale of lovemarks the current study adapted green lovemarks scale (Giovanis & Athanasopoulou, 2018), which was conceptualised as a higher-order construct. Two subdimensions (i.e., brand love and respect) were used to measure perceived lovemarks for green brands. A 5-item scale was used to measure brand love and an 8-item scale to assess brand respect, which was adapted from a recent study (Giovanis & Athanasopoulou, 2018).

Customer altruism was evaluated using a 3-item adapted scale (Saleem et al., 2018) while customer engagement behaviour was measured with a 4-item adapted scale (Ullah et al., 2021). With the help of its three reflective lower-order constructs i.e., cognitive, affective, and conative loyalty, the current study assessed the formative higher-level brand loyalty construct. Cognitive loyalty was measured with a 4-item, affective loyalty with a 5-item and conative loyalty with a 4-item adapted scale (Quaye et al., 2022). Human behaviours, gender, and social status can influence behaviours thus we controlled for age, educational background, gender, and income.

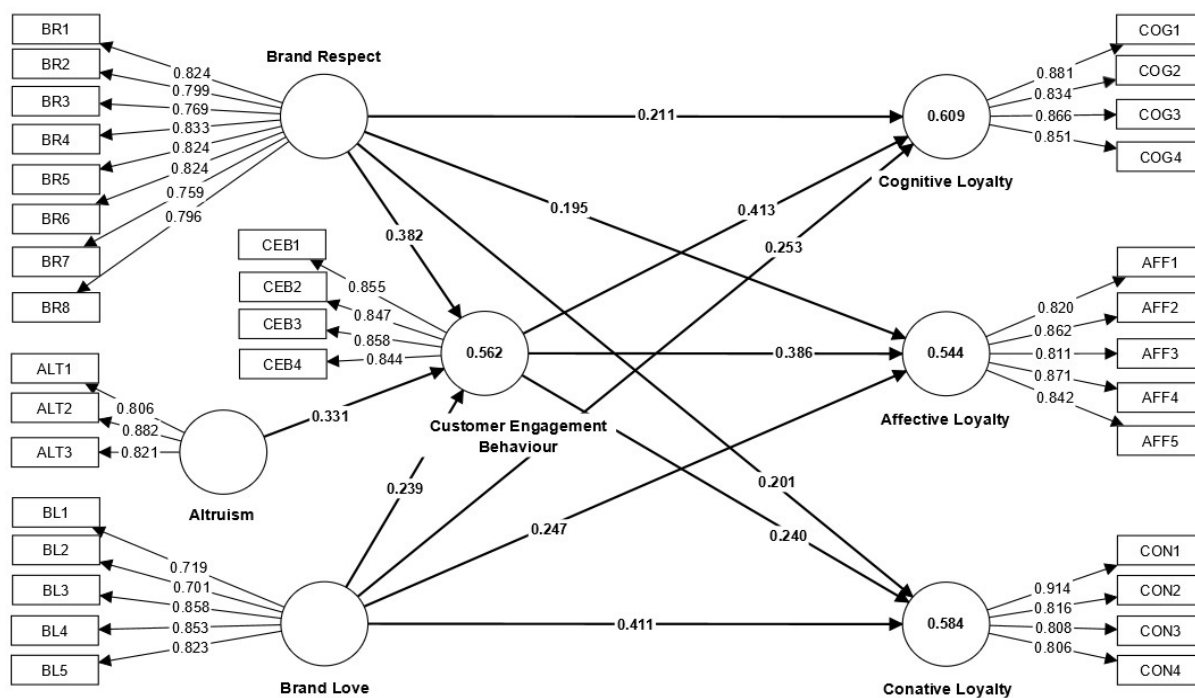


Fig 2. First-order Estimates.

4. Results

The current study used the suggested partial least square structure equation model analysis method with SmartPLS 4 to determine the psychometric properties of each construct (commonly referred as measurement model) followed by structural model for testing hypothesis (Hair Jr et al., 2021; Ringle et al., 2022). Measurement model analysis was conducted independently for first- and second-level latent variables using a two-step disjoint analysis.

4.1. Measurement Model - Lower Level

The current study began the analytical process through the data assessment of stage 1 indicators (reflective) by examining the seven lower-level constructs. Figure 2 shows the analysis of first-level constructs. As evident from Table 1, the factor loading ranged from 0.701 to 0.914. The composite reliability ranged from 0.894 to 0.936, which according to Hair Jr et al. (2021) recommendation, is comfortably placed within the acceptable range of 0.70 to 0.95.

Each latent factor's AVE, which measures convergent validity, ranged from 0.630 to 0.737, thus meeting the threshold value of >0.5 (Sarstedt et al., 2022). Being reflective first-order constructs, the current study used the suggested PLS consistent technique to get more reliable estimates (Hair Jr et al., 2021).

Table 1. First-order measurement model.

Items	Loadings
Affective Loyalty ($\alpha = 0.924$, $\rho_a = 0.924$, $\rho_c = 0.924$, AVE = 0.708)	
AFF1: When I consider the available options, I like my preferred car brand.	0.820
AFF2: The product and services of my preferred car brand are extraordinary.	0.862
AFF3: I enjoy using the products of my preferred car brand.	0.811
AFF4: I am pleased with the preferred brand as they offer high-quality products and services compared to other car brands.	0.871
AFF5: It always makes me happy to do business with my preferred car brand.	0.842
Consumer Altruism ($\alpha = 0.874$, $\rho_a = 0.877$, $\rho_c = 0.875$, AVE = 0.700)	
ALT1: I believe pollution is a major concern all over the earth.	0.806
ALT2: I believe that the impact of pollution on health is more than we realize.	0.882
ALT3: Keeping our environment clean and protected will improve our quality of life	0.821
Brand Love ($\alpha = 0.894$, $\rho_a = 0.899$, $\rho_c = 0.894$, AVE = 0.630)	
BL1: I believe that I am highly committed towards my preferred car brand.	0.719
BL2: My preferred car brand is highly reliable.	0.701
BL3: I feel passionate towards my preferred car brand.	0.858
BL4: My preferred car brand is captivating.	0.853
BL5: I feel connected towards my preferred car brand.	0.823
Brand Respect ($\alpha = 0.935$, $\rho_a = 0.936$, $\rho_c = 0.936$, AVE = 0.646)	
BR1: The product quality of my preferred car brand is very good.	0.824
BR2: The product durability of my preferred car brand is very good.	0.799
BR3: My preferred car brand performance is consistent.	0.769
BR4: My preferred car brand is well-known.	0.833
BR5: My preferred car brand is highly reputable.	0.824
BR6: My preferred car brand always keeps its promises.	0.824
BR7: My preferred car brand shares honest information and does not make false claims.	0.759
BR8: My preferred car brand is committed towards customer satisfaction.	0.796
Customer Engagement Behaviour ($\alpha = 0.913$, $\rho_a = 0.913$, $\rho_c = 0.913$, AVE = 0.724)	
CEB1: I always share positive information about my vehicle with others.	0.855
CEB2: During my discussions with friends and family, I encourage them to buy the vehicle I use.	0.847
CEB3: I will always recommend my vehicle when someone seeks my advice.	0.858
CEB4: I always provide honest feedback about my vehicle user experiences to its manufacturer.	0.844
Cognitive Loyalty ($\alpha = 0.918$, $\rho_a = 0.918$, $\rho_c = 0.918$, AVE = 0.737)	
COG1: My preferred car brand has more features than competing brands.	0.881
COG2: The services offered by my preferred car brand are superior to rival car brands.	0.834
COG3: I will always prefer my preferred car brand as they are more affordable than rival cars/vehicles.	0.866
COG4: My preferred car brand products and services are better than rival brands.	0.851
Conative Loyalty ($\alpha = 0.904$, $\rho_a = 0.906$, $\rho_c = 0.903$, AVE = 0.701)	
CON1: I always promote my preferred car brand to others.	0.914
CON2: It is highly likely that I will recommend my preferred car brand to others.	0.816
CON3: During my discussion with friends and family, I always support my preferred car brand.	0.808
CON4: I advise my friends and family to consider my preferred car brand when buying a vehicle.	0.806

Note: α = Cronbach's alpha, ρ_a and ρ_c = composite reliability, AVE = average variance extracted

Furthermore, none of the indicators' variance inflation factors (VIF -Indicator) exceeded the cut-off value of three, thus indicating that collinearity was not an issue for the current study. The current study followed the steps outlined in prevalent literature to establish discriminant validity using the heterotrait-monotrait (HTMT) ratio method of analysis (Henseler et al., 2015). When compared to the conventional Fornell and Larcker procedure, which only captures around 21% of discriminant validity, the HTMT is found to be a more reliable method for determining discriminant validity as it can detect 97-99% of discriminant validity (Henseler et al., 2015). The results of the current study (Table 2) showed that the lower order variables HTMT values met the conservative values i.e., <0.85).

Table 2. Discriminant Validity statistics – HTMT.

Constructs	1	2	3	4	5	6	7
1. Affective Loyalty							
2. Altruism	0.233						
3. Brand Love	0.649	0.344					
4. Brand Respect	0.634	0.208	0.783				
5. Cognitive Loyalty	0.779	0.224	0.687	0.671			
6. Conative Loyalty	0.703	0.251	0.718	0.671	0.803		
7. Customer Engagement Behaviour	0.671	0.493	0.648	0.637	0.712	0.634	

4.2. Measurement Model - Higher Level

To measure green lovemarks, the current study extracted the scores of brand respect and brand love. The measurement model results for the higher-level green lovemarks were statistically significant. The procedure for higher-level green lovemarks is consistent with the methodology that was used to measure lower-level variables. Brand respect (0.929) and brand love (0.929) indicator factor loadings provide support for establishing the validity of the indicators. For establishing the reliability and convergent validity, the current study investigated the composite reliability (CR) and average variance extracted (AVE) values for the green lovemark that yields CR = 0.927 and AVE= 0.863, which exceeds the acceptable level of values i.e., CR>0.7 and AVE>0.5 (Hair Jr et al., 2021).

The measurement model of brand loyalty (higher order formative) was examined using the suggested method outlined in prior PLS studies (Kakakhel & Khalil, 2022; Khalil et al., 2021). The latent scores of three subdimensions were computed and assigned as manifest items of brand loyalty in the second stage of measurement model analysis. The findings of the current study (see Table 3) further reveal that collinearity was not an issue since the VIF values were less than three and the regression weights came out statistically significant.

A prior study recommends the use of redundancy analysis for establishing convergent validity for formative constructs (Cheah et al., 2018). In this process, a global item that encapsulates the overall view of brand loyalty was regressed on the formative brand loyalty construct. The bootstrap procedure with 10,000 subsamples yields a point estimate of 0.705 where the confidence intervals were 0.641 and 0.765 for lower and upper levels respectively. The results provide support for establishing convergent validity as the confidence interval values do not contain a zero value (Cheah et al., 2018).

Table 3. Reliability, and validity statistics - formative higher-level construct.

Formative Variables	Estimate	Std. dev	T statistics	P values	2.5%	97.5%	VIF
Cognitive Loyalty -> Brand Loyalty	0.401	0.066	6.063*	0.000	0.272	0.531	2.788
Conative Loyalty -> Brand Loyalty	0.378	0.071	5.316*	0.000	0.237	0.516	2.311
Affective Loyalty -> Brand Loyalty	0.339	0.062	5.428*	0.000	0.216	0.459	2.203

*p<0.01 (two-tailed)

4.3. Structural Model

Once the measurement model was justified, the structural model analysis (Figure 3) was performed (Khalil et al., 2021). Ten thousand subsamples were utilised to test each relationship's significance using bootstrap t-values (Sarstedt et al., 2022). The current study examined green lovemarks and brand loyalty relationship via customer engagement behaviour (mediating effect).

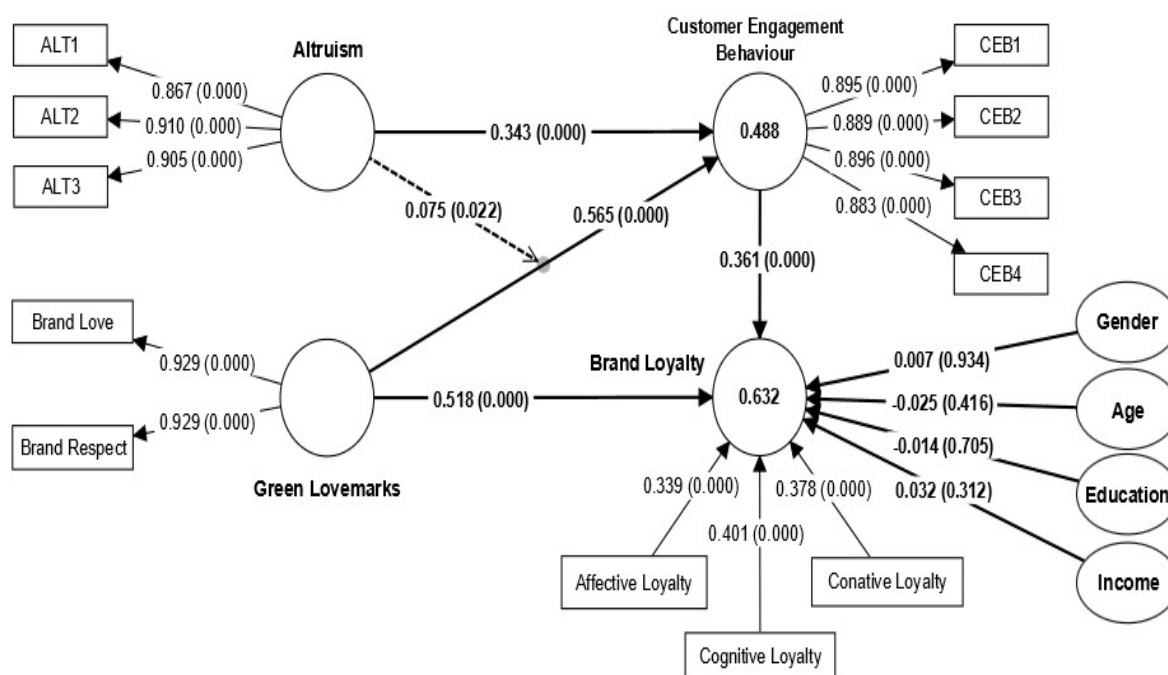


Fig 3. Structural model analysis.

The model's diagnostic criteria (see Table 4) were found to be generally good (Hair Jr et al., 2021) since R2 shows that brand loyalty (63.3%) and customer engagement behaviour (40.5%) have medium to large explanatory power. The effect size (f^2) for the two constructs i.e., green lovemarks and customer engagement behaviour also had a moderate to large effect on brand loyalty. Finally, a test of predictive power of the model was conducted using PLS Predict. The outcomes of PLS Predict show that the model of the current study has medium to strong predictive power.

During hypothesis testing, the current study considered the influence of age, level of education, gender, and household income by controlling their effects. A test of hypotheses, presented in Table 4, validates H1 by demonstrating a direct effect of green lovemarks on brand loyalty ($\beta=0.521$, $t=10.932$, $p<0.01$). The findings support second research hypothesis (H2) that customer engagement behaviour ($\beta=0.358$, $t=6.249$, $p<0.01$) has a positive direct effect on brand loyalty. Additionally, H3 (which hypothesised that green lovemarks are influenced by customer engagement behaviour) came out statistically significant ($\beta=0.637$, $t=17.86$, $p<0.01$). Furthermore, all control variables that were mentioned earlier had no significant effect on brand loyalty.

Table 4. Hypothesis testing results.

Relationships	Std. Error	Std. dev	T statistic	P values	f^2	2.5%	97.5%
H1: Green Lovemarks -> Brand Loyalty	0.518	0.047	10.908*	0.000	0.429	0.424	0.608
H2: Customer Engagement Behaviour -> Brand Loyalty	0.361	0.056	6.446*	0.000	0.210	0.251	0.470
H3: Green Lovemarks -> Customer Engagement Behaviour	0.565	0.040	14.199*	0.000	0.573	0.485	0.640
Age -> Brand Loyalty**	-0.025	0.031	0.814	0.416	0.001	-0.085	0.034
Gender -> Brand Loyalty**	0.007	0.086	0.083	0.934	0.000	-0.161	0.179
Income -> Brand Loyalty**	0.032	0.032	1.012	0.312	0.002	-0.029	0.095
Education -> Brand Loyalty**	-0.014	0.037	0.378	0.705	0.000	-0.085	0.060

* $p<0.01$ (two-tailed), ** Control variables

4.4. Test of Mediation effect

The current study followed the recommended procedure by Nitzl et al. (2016) for assessing mediation in PLS-SEM. The findings of the current study supported hypothesis H4 by demonstrating that customer engagement behaviour mediates the association between green lovemarks and brand loyalty (specific indirect effect $\beta = 0.204$, $t= 5.796$, $p<0.01$, CI95 [0.138, 0.276]). A positive direct and specific indirect effect implies a partial mediation of customer engagement behaviour between brand loyalty and green lovemarks.

4.5. Test of Moderated Mediation

By setting indicator weight to "Mode B," and product term generation to "standardised", an interaction term (i.e., a dotted line intersecting the line from green lovemark to customer engagement behaviour) was created (see Figure 1), which was necessary for assessing moderation effect of altruism (Hair Jr et al., 2021).

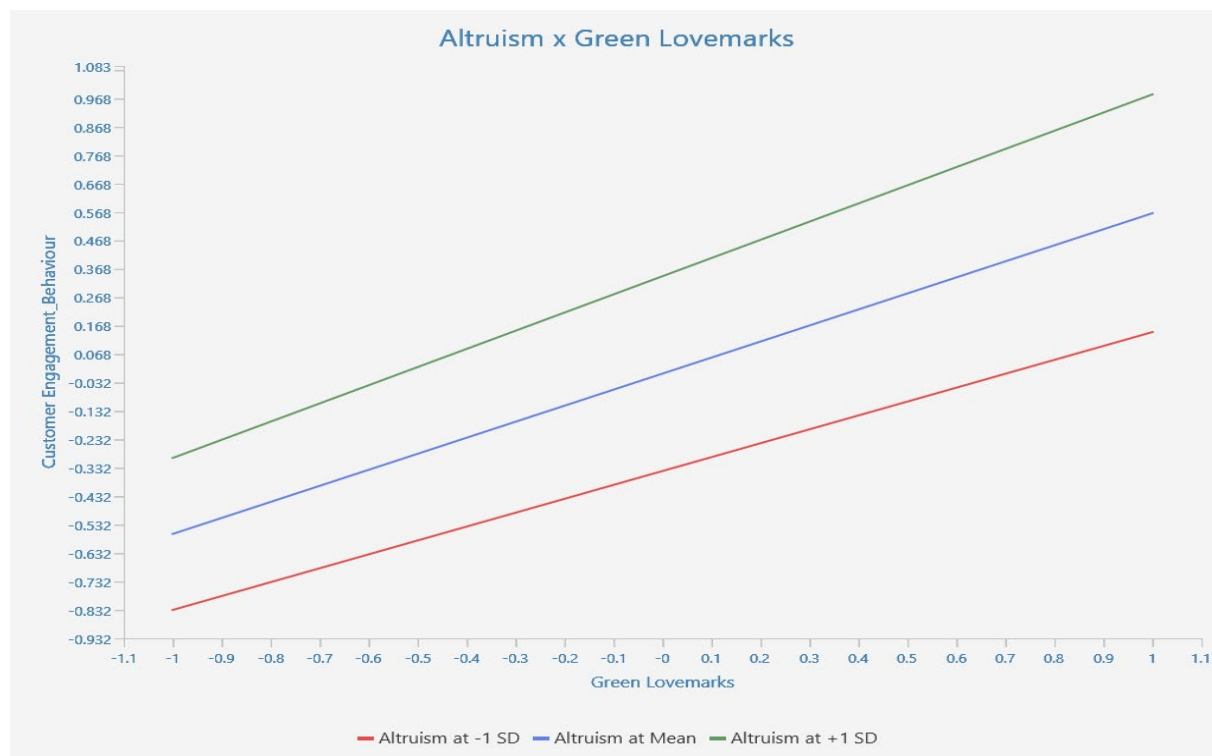


Fig 4. Moderation graph.

By bootstrapping with ten thousand subsamples, the current study analysed the interaction effect of altruism on the relationship between green lovemarks and customer engagement behaviour. The findings of the study confirm the moderating role of altruism as the results came out statistically significant (moderating effect $\beta = 0.075$, $t = 2.297$, $p < 0.05$, $CI_{95} [0.001, 0.129]$). As evident from Figure 4, the current study findings confirm the moderation hypothesis (H5) of the current study, by exhibiting a strong relationship between perceived green lovemarks and customer engagement behaviour when customer altruism is high.

5. Discussion and Implications

5.1. Discussion

The central contention of the current study is to examine the interplay between green lovemarks and brand loyalty via the underlining role of customer engagement behaviour and altruism. The investigation of the interplay

between these key concepts is grounded in SET, which argues about the interactions, transactional value, and reciprocity. There is growing demand to push for sustainable and environment-friendly products, such as electric and hybrid automobiles, considering the growing concerns for carbon footprint and deteriorating air quality (Leckie et al., 2021). The current study makes a positive contribution towards sustainable decision-making and green consumption by examining the key role of customer engagement behaviours in the relationship between green love marks and brand loyalty thus attempting to answer the calls by prior studies (Pilgrimiené et al., 2020) about customer engagement behaviours and its connectedness with green brands. For examining customer engagement behaviour, the current study undertook an in-depth analysis of the green lovemarks and brand loyalty constructs by looking into their key dimensions that provided a better understanding of these concepts. Furthermore, human reactions to situations and conditions vary based on their inbuilt personalities, and their attitude and behaviour. The current study thus analysed the effect of consumer altruistic values to examine if it moderates customer engagement behaviour and the green lovemark relationship. Data was collected from 479 Pakistani customers who have owned and used hybrid and electric cars via an online survey. The current study analysed the data through a structural equation modelling technique for testing hypothesised relationships.

The current study revealed that brand loyalty positively regresses on perceived green lovemarks (H1), customer engagement behaviour positively predicts brand loyalty (H2) and perceived green lovemarks positively predict customer engagement behaviour (H3). Aligning with SET, the current study contend that H1-H3 resonates with the economic value (via green lovemarks) and social value (customer engagement), which triggers a positive reciprocal reaction (brand loyalty) during brand-customer interactions. These findings align with prior studies by arguing that consumers may form strong personal bonds with green brands (Leckie et al., 2021; Lin et al., 2019; Panda et al., 2020). In addition, the current study hypothesised that customer engagement behaviour mediates the perceived green lovemarks and brand loyalty association (H4) which came out statistically significant. From a SET perspective, green lovemarks are perceived to be a part of the transaction that holds economic value among the customers thus enabling them to meet their green needs (Khalil et al., 2021). Considering the mediating role of customer engagement (i.e., as an outcome of green lovemarks and a predictor of brand loyalty), it aligns with the reciprocity social value and perceptive of the SET. Customer engagement as an outcome of green lovemarks, can also be conceptualised as reciprocating behaviour that derives from a perception of the green lovemarks. As a consequence of the perceived green lovemarks, consumers often participate in a variety of (reciprocating) activities, including word-of-mouth promotion, persuading others (i.e., friends and family) to buy the green brands, and providing feedback about their green brand experiences to the brand's company (Pansari & Kumar,

2017; Ullah et al., 2021). Customer engagement as a predictor of brand loyalty, aligns with the social benefit such as, participating in feedback program, feeling valued by the companies, advocating environmental benefits of green consumption and a sense of co-creation of green product, that further enhances their loyalty towards the brand. The current study, therefore, imply that customer engagement behaviour is a key factor in transferring the effects of perceived green lovemarks to brand loyalty. Furthermore, the current study demonstrates that customer altruism moderates the indirect effects of green lovemarks via customer engagement behaviour such that this indirect effect is stronger among customers with a higher level of altruism than employees with a lower level of altruism (H5). Customers who possess higher altruistic values will consider green purchases (brand-customer interaction) as more beneficial (social and economic value) than those with lower level of altruistic values and may further advocate the green brand consumption (reciprocity). The above discussion attempts to present how the interplay of green lovemarks, customer engagement, brand loyalty and altruism is grounded in SET and provide support to the argument that green lovemarks, customer engagement behaviour and their interaction has a statistically significant effect on brand loyalty.

5.2. Theoretical Contributions

The current study made several contributions towards the advancement of theory. First, the current study presented a novel concept of green lovemarks, determinants and their consequences. The traditional lovemark brands such as reputed sportscars, fuel efficient cars and so on, in automobile industry have been well documented but conceptualising the emergence of electric and hybrid cars (dubbed as environment-friendly cars) as green lovemarks and investigating its consequences remained underexplored. The current study thus contends that green lovemarks holds unique pro-environmental value (green production and green consumption), which can trigger positive customer outcomes.

Second, even though customers have shown a propensity to buy green brands or to adopt environmentally friendly behaviours (Leckie et al., 2021), the current study shows how a perception of green lovemark brands promotes customer engagement and brand loyalty. With the growing interest in green products both among customers and producers, green lovemarks can play a crucial role in sustaining green consumption and repurchase intentions and promoting positive advocacy for the green brands via customer engagement programs.

Third, the current study responds to recommendations from recent studies (Hollebeek et al., 2019; Pilgrimienè et al., 2020) suggesting further investigation of customer engagement behaviour concerning green brands. The underlining role of customer engagement behaviour was empirically tested and confirmed in the

current study, which aligns with prior studies (Chuah et al., 2020; de Moraes et al., 2021) to confirm the key mediating role of customer engagement within consumer-brand interactions.

Fourth, to further our knowledge about the green lovemarks, customer engagement, and brand loyalty relationship, the current study investigated the moderating effect of altruism in this indirect relationship. By assessing altruism, our study has gained a better understanding of the behaviour that contributes to green brands. The current study has also added to the literature by offering evidence of altruism's role in the consumer decision-making process. The results of the current study specifically point out that consumer altruistic values, those motivated by a desire to benefit societies, suggest that customer interaction positively influence brand loyalty.

Finally, the current study hypothesised relationships are grounded SET by taking a theoretical stance for the brand-customer interactions to provide empirical validation of SET in sustainable and pro-environmental consumption. For instance (a) a favourable perception of green lovemarks (economic value) triggers reciprocity (customer engagement behaviour and brand loyalty), (b) customer engagement holds social value that further promotes brand loyalty (reciprocity), and (c) these social and economic benefits are highly valued among customers with higher level of altruism, which strengthen the indirect effect of green lovemarks on brand loyalty via customer engagement.

5.3. Managerial Contributions

The current study argued about the significance of consumer altruism where customer engagement behaviour mediates perceived green lovemarks and brand loyalty relationship. This can be significant for managers wishing to promote their green brands. The current study suggests that. Managers are advised to utilise emotional advertising to address the customers' altruistic values via the usage of green products to harness altruistic values and enhance customer engagement behaviour. Managers could, for instance, use empathy as an advertising message to highlight the negative environmental effects of the fossil fuel used in cars or appeal for promoting the positive ecological effects of green purchases.

Commercial brands might consider collaboration with non-profit organisations. the current study contends that philanthropic-inclined customers are primarily people with high altruism, and such collaborations will be perceived in a positive way, where these customers can relate their altruism with the brand's altruistic values. Altruism gains more significance when it is seen from perceived green lovemarks and customer engagement behaviour perspective. Focusing on altruism during segmentation strategy, managers can attempt to attract customers with high level of altruism considering the encouraging and substantial impact of altruism has

on customer engagement behaviour and consequently, on brand loyalty. Company advertisements and messages shall make use of the values alignment between green brands and consumer altruism to highlight that both the organization and the consumer are contributing to the environment.

Firms/managers shall identify the key aspects such as brand love and brand respect as they inspire a perception of green lovemarks. A perception of green lovemarks, specifically in the automobile industry, can provide the much-needed niche that managers can wish for. This perception of green lovemarks coupled with strategically developed customer interactions and communications via a variety of channels to highlight how their brand offers green value can further produce favourable managerial outcomes. For instance, managers can work on mechanisms that can help in reducing carbon footprint. Furthermore, managers may also investigate the option of extended warranties for their green cars such as electric and hybrid cars. It became evident from the current study that customer interactions and green awareness discussion shall remain active even after the purchase to enhance and promote positive customer engagement behaviours thus providing superior customer loyalty towards their green brands.

6. Limitations and Future Research

This current study contains some limitations which provide avenues for future research. First, the current study presented a novel concept of green lovemarks and measured it by adapting a traditional lovemark scale. A future study might undertake a comprehensive green lovemarks scale development study to produce more robust items of measurement. Furthermore, the current study also encourages further studies to critically examine the consequences of green lovemarks in different contexts and situations as our understanding is still quite limited on this topic. In this sense, it will be interesting to see how green lovemarks interact with sustainable outcomes via the positive mediating role of green evangelism, consumer knowledge, and trust in brand or via the negative mediating role of greenwashing. The moderating role of altruism was tested in the current study, it will be interesting to examine other moderating factors such as environmental consciousness, cultural factors, socioeconomic factors, and environmental policies and regulations in the future studies. The effect of green lovemarks on brand loyalty in automobile sector of Pakistan may be prone to generalisability issues. It is recommended to conduct similar studies in different sectors and countries to valid/ contradict the findings of the current study.

Hybrid/electric automobiles, which are regarded as high-involvement purchases, constituted the context for the current study. These purchases often involve more thought and effort throughout the decision-making

process. Using an environment with less engagement can provide contrasting outcomes that can be confirmed in subsequent research investigations.

Finally, the limitations of this study are typical of cross-sectional research. Future studies might investigate customer engagement behaviour via a longitudinal study to overcome these restrictions. Examining the links between the variables of the current study at varying purchase stages (i.e., pre-, and post-purchase) may provide information on how customer engagement behaviour evolves through time. Similarly, emphasising the key role of boundary conditions in an experimental design, such as perceived environmental effectiveness, can further influence the links between the green lovemarks, customer engagement behaviour, and brand loyalty.

7. Conclusions

Environmentally conscious consumerism and consumer decision-making are becoming key factors during purchase decisions. To address this, firms have modified their operations and marketing strategies to satisfy this growing customer demand. For instance, companies increasingly make environmental sustainability decisions that are communicated to customers via marketing and are included in their supply chains (Mancuso et al., 2021). Such a strategy might be seen as a strategic reaction to demands to be more honest with customers about their green initiatives and environmental considerations. To interact and communicate with customers about their eco-friendly behaviour, firms use customer engagement methods as part of this transparent strategic strategy. Understanding customer engagement behaviour becomes highly significant for organisations that consider the significance of green brands for customer retention and acquisition and for encouraging sustainable consumption. Organisations thus need to focus on customer engagement behaviour and actively improve customer relationships to encourage sustainable consumption decision-making. One way of promoting customer engagement behaviour is through the development of green lovemark brands that further promotes loyalty towards a green brand. The influence of perceived green lovemarks on customer engagement behaviour may be weakened or strengthened by specific personality factors, such as altruism, and organisations' marketing methods must be adjusted to account for these attributes to meet customer engagement behaviour objectives.

Conflict of Interests: The authors declare no conflict of interest.

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