



# Investigating the effect of ESG on retail banks' customer equity

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## Abstract

Environmental, social and governance (ESG) has recently been gaining attention as an important consideration for corporate management strategies worldwide. Drawing on the literature surrounding equity theory and customer equity, this study aimed to investigate the influence of ESG on the customer equity of retail banks in Hong Kong. Based on a survey of 300 banking customers, the study found governance initiatives affected customer attitude, while environmental initiatives and social initiatives had no significant effect on it. Customer attitude provided a strong explanation for value equity, brand equity and relationship equity. Value equity and relationship equity had a positive influence on purchase intention, but the relationship between brand equity and purchase intention was insignificant. Customer attitude also mediated the relationship between governance initiatives and customer equity. The findings of this study add value to the understanding of sustainable marketing initiatives and responsible banking. The study contributes to the development of the ESG and customer equity literature and advances the implementation of sustainable banking practices. Practically, the results of this study suggest that banking practitioners should focus on governance initiatives as a primary driver of customer equity and purchase intention. Understanding the role of ESG initiatives in customer attitude and customer equity can help to develop and improve sustainable marketing strategies. Policymakers can use a governance approach to promote sustainable and responsible banking practices.

**Keywords** ESG · Customer equity · Sustainability · Banking · Marketing · Consumer behavior

## Introduction

Environmental, social and governance (ESG) has received a great amount of attention in contemporary business since it was introduced in 2006 in the United Nations (UN) Principles of Responsible Investment. Concerns about environmental and social goals and outcomes further increased with the introduction of the Sustainable Development Goals (SDGs) in the 2030 Agenda for Sustainable Development adopted by all UN member states in 2015. Additionally, the COVID-19 pandemic has exposed social and environmental issues that firms need to address in their social responsibility initiatives (Ferrell and Ferrell 2021). Since the 2020

pandemic, firms have recognized that their overall mission is to protect and serve people (Ferrell and Ferrell 2021). Thus, ESG is increasingly integrated as an important business strategy and has been incorporated into business policies and practices around the world (Sharma 2019).

In line with the SDGs, Hong Kong's policies have focused on sustainable finance and investment. Under Hong Kong's Climate Action 2030+, published by the Environmental Bureau in 2017, Hong Kong aims to reduce its carbon intensity by between 65 and 70% by 2030 compared with 2005 levels. Hong Kong's Green Bond Framework was adopted in March 2019, with a view to issuing green bonds to fund projects to improve the environment and facilitate the transition to a low-carbon economy. The Hong Kong Monetary Authority (HKMA) is currently driving finance. It established the Government Green Bond Programme with an inaugural US\$1 billion green bond issuance in 2019 and a further offering of US\$2.5 billion in May 2022, besides adopting responsible investment in the Exchange Fund.

The recent "Smart and Sustainable Banking" promoted by the HKMA (2019) encourages environmentally and socially conscious banking practices. To strengthen Hong

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Kong's financial ecosystem to support the sustainability goals, regulators are tightening the ESG reporting requirements from voluntary to mandatory across relevant sectors no later than 2025 (HKMA 2020). In practice, banks will consider sustainability when providing funding to various parties (Hong Kong and Shanghai Banking Corporation 2022). Effective strategic decisions to inject resources and capital to improve and achieve the commitments pertaining to ESG help banks to achieve a sound financial position and an upsurge in customer loyalty (Shakil et al. 2021). Any negligence surrounding ESG may harm goodwill toward the bank and bring its long-term sustainability into question.

Globally, there has been a rise in consumers' expectations and awareness surrounding businesses' ESG involvement. According to the PwC Global Consumer Survey, over 83% of consumers think companies should be actively shaping ESG best practices (PwC 2021). The COVID-19 pandemic has shifted consumer behavior and enlarged the pool of conscientious consumers who are willing to pay more for healthier, safer, more environmentally friendly and socially conscious products and services. To comply with legal requirements and to meet the expectations of investors and customers, banks are increasing their involvement and investment in ESG. For example, the Hong Kong and Shanghai Banking Corporation in 2022 alone contributed US\$113.8 million to charities and nonprofit organizations running community projects around the world. As such, assessing ESG performance has been of interest to researchers and practitioners.

While the bulk of the literature on ESG has focused on the connection between ESG and corporate financial performance and the use of ESG performance indicators for investment decision-making (Sultana et al. 2017), there is limited research available on consumer attitudes and behavior from the perspective of ESG management and marketing (Koh et al. 2022). This may be due to the complexity of measuring and attributing consumer behavior to ESG factors. While some studies, such as those by McKinsey and Deloitte, have highlighted a positive correlation between ESG-oriented products and consumer spending, there are challenges in isolating the impact of ESG claims from other factors such as marketing investments and distribution (Sidebar 2023). Additionally, a report from Harvard Business Review suggests that there is a gap between consumer attitudes about sustainability and their actual purchasing behavior, indicating the complexity of understanding and influencing consumer choices in this domain (Johns 2023). The multifaceted nature of consumer behavior and the evolving nature of ESG management and marketing imply the need for more comprehensive research. Scholars have called for further research on which ESG initiatives customers truly value and how firms can build and maintain customer equity (Sun et al. 2020). Customer equity is the sum of the customer lifetime values for every client of a particular brand. It is

the potential profit that all of the company's customers can bring during the business–customer relationship. It serves as a proxy for future customer behavior, which helps to promote the long-term profitability of the firm (Sun et al. 2020). In addition, Farrell and Farrell (2021) called for research on the influence of ESG on consumer behavior, which is considered a new discipline known as ESG marketing (Vlad and Luca 2020). The tightening of ESG regulatory requirements, dynamic changes in the banking industry and new expectations from stakeholders imply that ESG and customer behavior are a meaningful research area in the context of the banking industry. This study therefore aimed to investigate the impact of ESG on customer equity in the Hong Kong banking context.

Although ESG is a global trend, research on the role of ESG in customer equity is rare. To the best of our knowledge, very few studies, and none in the context of banking industry, have empirically researched how ESG affects customer equity and purchase intention. To fill in the gap and respond to the calls of previous studies, this study proposes a customer equity model with ESG initiatives as drivers and verifies it empirically in a banking setting. Thus, theoretically, this study can contribute to the ESG, marketing and equity literature by providing an understanding of ESG–equity relationships in the banking context. Practically, the results of this study will be of interest to marketing practitioners who wish to maximize customer equity via an ESG-related marketing mix. Retail banks will also benefit from the results of this study as their allocation of resources on ESG may depend on whether ESG can help to create value for stakeholders.

## Theoretical background and hypothesis development

### Consumer decision-making model, equity theory and customer equity

The literature surrounding consumer decision-making model (CDM model) for financial services, equity theory and customer equity was adopted as the theoretical base of this study.

Consumer decision-making model (CDM model) for financial services was proposed by Milner and Rosenstreich (2013). The CDM model was designed to explain consumer decision-making in financial services. The model used some elements from past CDM models but offered significant changes relevant to the characteristics of financial services. The CDM model for financial services consists of input, processes and outcomes. CDM input refers to the information relating to the marketing mix and other stimulus. CDM processes refers to situations where consumers use



the information to make evaluations and judgment. CDM outcomes refers to the decision, purchase and post-purchase evaluations. In this study, the CDM model for financial services was applied to explain the role of ESG (CDM input) on customer attitude (CDM processes), which affects customer equity and purchase intention (CDM outcomes).

Equity theory suggests that a person's "rewards in exchange with others should be proportional to his or her investments" (Swan and Oliver 1989). It focuses on considering both inputs and outcomes in the service encounter. According to equity theory, a customer's evaluation of the equity of the exchange will induce a positive or negative customer attitude (Oliver and Desarbo 1988). Thus, equity theory considers the causes and possible consequences of equitable or inequitable situations and is effective in customer behavior studies (Hao and Chon 2022).

The concept of customer equity is derived from equity theory. It is an important measurement of return on marketing investment (Ho and Chung 2020). Increasing studies have analyzed customer equity in the fields of business, services and marketing (Kim et al. 2020). It has been widely used in the marketing literature to understand the allocation of marketing expenditure for sustainable profitability, assessing firm value through a customer-centric approach and improving customer relationship management strategies (Hao and Chon 2022). In this study, the literature surrounding equity theory and customer equity was applied to explain how ESG initiatives affect customer attitude and its impact on customer equity and purchase intention. More specifically, this study examined the antecedents of consumer equity (i.e., ESG initiatives and customer attitude) and their subsequent influence on purchase intention in the context of the banking industry in Hong Kong.

## ESG

ESG has become an important term in business management globally. ESG stands for the nonfinancial factors from the viewpoint of social or environmental sustainability that a firm should consider alongside financial factors when making investment decisions (Koh et al. 2022). ESG has drawn the attention of scholars and practitioners since it was introduced in 2006 by the UN. ESG is also called the three new pillars of corporate social responsibility. Its definitions include terms such as "green," "ethical," "responsible," "value," "socially responsible," and "sustainability," which refer to the practices of having a good social impact (Puriwat and Tripopsakul 2022). While ESG is still an evolving concept without a clear definition, ESG concerns are relevant for every business. Through integrating ESG considerations into business practices, banks can benefit from streamlined regulatory compliance, reduced operating costs, better talent

acquisition, better shareholder returns and stronger customer loyalty (Moon et al. 2022).

Environmental (E) refers to a firm's business actions in terms of environmental responsibility. Environmental initiatives consider energy consumption, pollution, climate change, waste production, the preservation of natural resources and animal welfare (Koller et al. 2019). Social (S) refers to a firm's commitment to the community—not only the community in which it operates but also beyond that community. Social initiatives concern human rights, child and forced labor, community engagement, health and safety, stakeholder relations, employee relations and diversity (Koller et al. 2019). Governance (G) measures the degree to which a firm's systems and processes guarantee that its members and board executives act in the best interest of its shareholders when they envision long-term operations. Governance initiatives relate to quality of management, board diversity and structure, conflicts of interest, transparency and disclosure, executive compensation and shareholder rights (Koller et al. 2019). All of the individual initiatives are intertwined. For example, social initiatives overlap with environmental criteria and governance when an organization seeks to broader concerns about sustainability.

## Customer attitude

Customer attitude explains a customer's global evaluation of a product or service offering. It means that the customer evaluation corresponds to the customer's overall judgment about the product or service, and is not simply limited to an evaluation of a specific transaction (Sahoo and Pillai 2017). Customer attitude reflects either a favorable or an unfavorable evaluation of an object, which can also be a brand, price, package or any other aspect of consumption. Consumer attitudes can be formed from a variety of sources, including information and experiences (Anshu et al. 2022). Consumers may rely on existing attitudes toward a firm's name and logo when forming their attitudes toward a company or brand, and these attitudes can change over time. Attitudes toward a firm can be thought of as how much customers like or dislike the firm in general (Ahn and Back 2018). Customer attitude is widely regarded as one of the most important elements leading to actual consumer behavior (Anshu et al. 2022).

According to CDM model for financial services, ESG can be regarded as the stimulus (CDM input) which enters the buyers' consciousness. ESG initiatives will influence consumer conception of how to go about evaluating their choices, and the evaluation itself, thus affecting their attitude (CDM processes). ESG and customer attitude are related because ESG factors have a direct impact on consumer satisfaction and loyalty, which in turn influences the financial performance and long-term value of a company (Puriwat and Tripopsakul 2023). ESG indicators can predict customer



satisfaction and affect companies' reputation and brand perception (Cheng et al. 2023). Consumers are becoming more socially and environmentally conscious, and their preferences for sustainable products and services extend to their investment choices (Cheng et al. 2023). Previous research has investigated the relationship between ESG and customer attitude. In a survey of five ecommerce businesses in South Korea, Koh et al. (2022) reported that consumers' ESG perceptions affected their customer attitude, with brand credibility, brand image and perceived quality as mediators. In the context of the hotel industry, Ahn (2020) discovered that the corporate social responsibility activities of a company could help to develop a positive customer attitude. The findings of Ali et al. (2022) indicated that sustainable practices had a significant effect on consumer attitude toward a business. Through investigating a digital platform of Thailand, Puriwat and Tripopsakul (2022) found that digital ESG initiatives had a significant effect on customers' attitudes. They revealed that digital ESG initiatives can reinforce positive customer attitudes toward firms or brands, ultimately leading to higher levels of brand equity. Thus, we advance the following hypotheses:

**H1a:** Environmental initiatives are positively related to customer attitude.

**H1b:** Social initiatives are positively related to customer attitude.

**H1c:** Governance initiatives are positively related to customer attitude.

## Customer equity

Customer equity can be analyzed from two perspectives: information economics and consumer behavior. From an information economics perspective, customer equity is defined as “the sum of the discounted stream of cash flows generated from a company’s pool of customers” (Villanueva and Hanssens 2007, p. 8). It is “the total of the discounted lifetime values summed over all of the firm’s current and potential customers” (Rust et al. 2004, p. 110). In other words, customer equity measures the lifetime value of a customer, which supports an organization’s customer relationship management (CRM) investment decisions by using various economic models. From a consumer behavioral perspective, customer equity measures a customer’s value evaluation of a product or service, a brand and company–customer relations. It represents the value of a customer’s relationship with a firm over time (Yuan et al. 2016). It can help to predict customer satisfaction, repurchase intention and word of mouth, which subsequently promote profitability (Kim et al.

2020). To analyze banking customers, this study focused on consumer behavioral perspective.

Customer equity consists of three dimensions: value equity, brand equity and relationship equity. Value equity refers to the objective customer assessment of the usefulness of a brand based on the customer’s perceptions of what is offered and what is given up (Lemon et al. 2001). Value equity consists of quality, price and convenience. Brand equity is a customer’s subjective assessment of a brand choice (Kim et al. 2020). Brand equity represents the overall utility that a customer assigns to one brand compared to other brands (Boo et al. 2009). Relationship equity refers to the “tendency of the customer to stick with the brand, above and beyond the customer’s objective and subjective assessments of the brand” (Lemon et al. 2001, p. 2). It is the customer’s value perception of their relationship with a company with regard to the company’s various product or service offerings (Yu and Yuan 2019).

In CDM model for financial services, customer equity is regarded as CDM outcomes which mean decision or choice. A decision to choose a brand and to establish a relationship with a brand is the immediate result of the process elements (i.e., customer attitude) of decision-making (Milner & Rosenstreich 2013). While customer equity is a measure of the total value of all customer relationships, customer attitude plays a crucial role in shaping customer equity. It is because customer attitude influences customer satisfaction which is an indicator of the quality of interactions and customer experience provided by a brand (Zhang et al. 2019). Satisfied customers are more likely to remain loyal to the brand and recommend it to others, contributing to the brand's customer equity (Kim et al. 2020). Several studies have focused on the relationship between attitude and customer equity. In a study of luxury fashion brands, Kim et al. (2012) reported a positive relationship between customer attitude toward a brand and customer equity. They suggested that a firm can promote customer equity through nurturing the customer attitude toward the brand. In their study of the social media platforms in Hong Kong and Macau, Yuan et al. (2016) indicated that parasocial relationships directly influence attitude, which further affects customer equity drivers. The authors suggested that the customer attitude toward the social media platforms was positively related to customer equity drivers. Puriwat and Tripopsakul (2022) analyzed 212 respondents in Thailand and found that customer attitude had a significant influence on brand equity. Thus, we propose the following hypotheses:

**H2a:** Consumer attitude is positively related to value equity.

**H2b:** Consumer attitude is positively related to brand equity.



**H2c:** Consumer attitude is positively related to relationship equity.

### Purchase intention

Purchase intention is a consumer's attitude toward a specific purchase behavior (Haines et al. 1970). It refers to the consumer's willingness to pay and the likelihood that the consumer plans or is willing to buy from a certain brand in the future (Huang et al. 2011). Directly related to the consumer's attitude, behavior and perceptions, purchase intention is applicable to consumer decision-making about current and new products and/or services (Morwitz 2014). An increase in purchase intention mirrors an increase in the chance of actual purchase behavior. Bank services are considered high involvement services because the products or services can be risky, are time consuming and mostly are purchases made for long term (Hinchcliff et al. 2023). In order for the consumer to make a decision, the bank would need to offer a great deal of information on the product as the consumer is well invested in the decision (Hinchcliff et al. 2023). Thus, studying purchase intention in a high involvement setting like banking services is worthwhile because it provides banks with insights into customer preferences and needs, allowing them to tailor their offerings accordingly.

The CDM model suggests that as the consumers make the decision to choose a brand and to build relationship with a brand (customer equity), this will lead to certain purchase (CDM outcomes). The purchase component is particularly relevant not only because it is the output to the decision-making process, but also because purchasing is a highly behavioral aspect of the process. Customer equity influences purchase intention as it is closely related to customers' attitudes and preferences, which in turn affect their decision to buy a product or service (Kim et al. 2023). Customers develop familiarity with the brand when perceived relationship equity grows. This familiarity can lead to a more positive attitude toward the brand and increased purchase intention (Pradhan et al. 2016). Thus, as customer equity increases, purchase intention also increases. The literature has suggested that customer equity has a positive influence on purchase intention. In a study of mobile app customers in Taiwan, Ho and Chung (2020) reported that high customer equity can lead to a high purchase intention. They suggested that mobile app operators could enhance value equity, brand equity and relationship equity to induce continuing purchase intention. Wang et al. (2021) investigated the role of brand equity in consumer behavior in Vietnam and found that brand equity directly influenced purchase intention. They claimed that consumer purchase intention was formed because of the time and effort required to discover and experiment with unfamiliar brands. In their study of green product consumption, Liao et al. (2020) found that

green customer value (value equity) was positively associated with green purchase intention. They indicated that customers decided to purchase a product if it was attractive and valuable to them. Ho and Wong (2022) studied customer relationships in premium banking and reported that improved customer relationships (relationship equity) helped to enhance customer purchase intention and loyalty. Thus, we posit the following hypotheses:

**H3a:** Value equity is positively related to purchase intention.

**H3b:** Brand equity is positively related to purchase intention.

**H3c:** Relationship equity is positively related to purchase intention.

### Mediating role of customer attitude

In the customer equity literature, the mediating effect of customer attitude between ESG initiatives and customer equity has rarely been explored. In a study of sustainable practices in Thailand, Puriwat and Tripopsakul (2022) confirmed that customer attitude positively mediated the relationship between digital ESG and customer equity. The authors claimed that digital ESG initiatives can reinforce positive customer attitudes toward brands, resulting in higher levels of brand equity. Van et al. (2017) examined customer behavior in 18 industries and found that customer attitude played a mediating role in the relationship between corporate social responsibility and customer relations (relationship equity). Jensen et al. (2018) validated the mediating role of customer attitude in the relationship between sustainable initiatives and value creation (value equity). Their results showed that the positive and significant effect of corporate social responsibility on perception of customer value was mediated through customer attitude. As customer attitude can act as a mediator, the following hypothesis is proposed:

**H4:** Customer attitude mediates the relationship between ESG initiatives and customer equity.

The conceptual model is presented in Fig. 1.

## Methodology

### Research design and data collection

This study aimed to investigate how ESG initiatives influence customer attitude, customer equity (value, brand and relationship equity) and purchase intention. To attain this outcome, this study relied on customer perceptions of retail





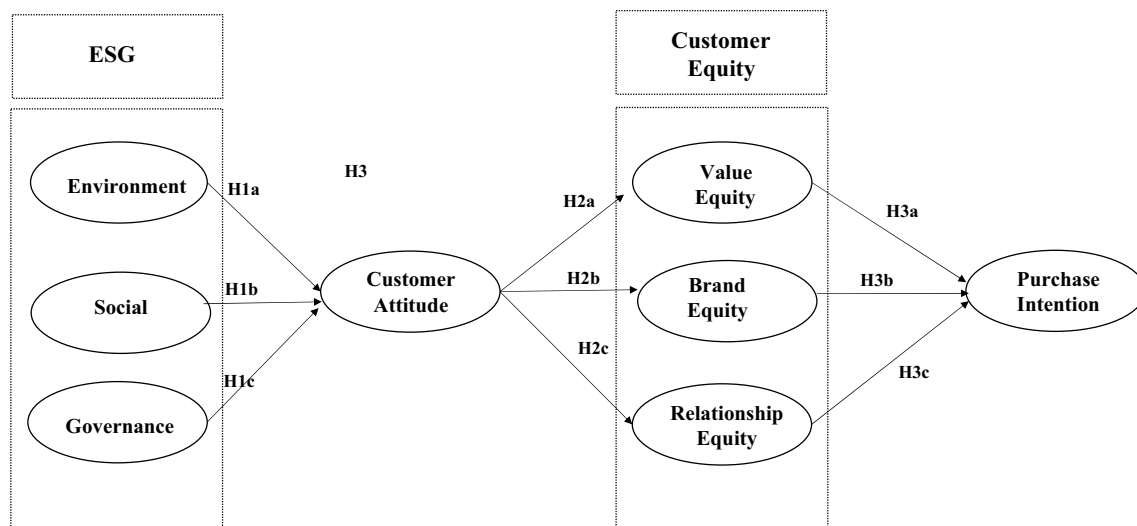


Fig. 1 Conceptual model

banks in Hong Kong. Hong Kong's retail banking industry was selected as the backdrop of this study as its landscape has experienced dramatic changes because of government policies aiming to build a sustainable ecosystem and infrastructure in the banking and finance industry.

A random sampling method was used in this study. To target the right respondents (i.e., banking customers), a professional market research company with a rich database of online panel participants was employed. The online questionnaire was floated to contacts from this database, and panel members were told that participation was voluntary. A total of 300 online responses were collected. The IP address and demographic information of each respondent were collected.

Table 1 shows the demographic information for all of the valid responses received. The sample contained a higher proportion of females (56.67%) than males. Most of the respondents were 25–34 years old (30.67%), 26.33% were 35–44 years old and 15.67% were 45–54 years old. In terms of education level, 59% of the respondents held an undergraduate degree and 24.67% had a diploma, high diploma, associate degree or certificate. The respondents' most common occupations were clerical or administrative (33%), manager or executive (14.67%) and professional or consultant (13.67%). Over 43% of the respondents had a monthly income between HK\$20,001 and HK\$40,000, while 37.33% had an income of HK\$20,000 or below.

### Measurement instrument

The questionnaire consisted of three sections: a screening question, items relating to the constructs and demographic information. Each of the three types of ESG initiatives,

Table 1 Demographic profile of the respondents (n = 300)

Variable	Range	Frequency	Percent
Gender	Male	130	43.33
	Female	170	56.67
Age	18–24	39	13.00
	25–34	92	30.67
	35–44	79	26.33
	45–54	47	15.67
	55 or above	43	14.33
Education	Secondary	49	16.33
	Diploma/high diploma/associate degree/certificates	74	24.67
	Tertiary/University	153	51.00
Occupation	Postgraduate or above	24	8.00
	Professional/consultant	41	13.67
	Technician/Operator	31	10.33
	Education	16	5.33
	Clerical/Administrative	99	33.00
	Manager/Executive	44	14.67
	Retired	7	2.33
	Housewife	17	5.67
	Unemployed	10	3.33
	Student	24	8.00
Monthly income	Other	11	3.67
	HK\$20,000 or below	112	37.33
	HK\$20,001–\$40,000	130	43.33
	HK\$40,001–\$60,000	40	13.33
	HK\$60,001–\$80,000	13	4.34
	HK\$80,001–\$100,000	5	1.67



namely environmental initiatives, social initiatives and governance initiatives, was measured with four items adopted from Koh et al. (2022). Customer attitude was assessed using three items taken from Bianchi et al. (2019). Each component of customer equity, namely value equity, brand equity and relationship equity, was measured with three items adopted from Lee and Park (2019). Purchase intention was assessed using three items from Koh et al. (2022). To operationalize the constructs, 7-point Likert scales were used, ranging from 1 (strongly disagree) to 7 (strongly agree).

A pilot test was conducted with 35 respondents. This test confirmed the reliability of the scales, as the Cronbach's alpha, composite reliability (CR) and average variance extracted (AVE) values were satisfactory; thus, construct reliability and validity were both achieved (Fornell and Larcker 1981).

## Findings

### Measurement model

SmartPLS 4.0 was used to analyze the data because it allows the rigorous assessment of the conceptual model and because it is appropriate for testing small sample sizes (Hair et al. 2022). It can test a model from a prediction perspective and measure the relationships among latent variables with multiple structural paths (Hair et al. 2022). To test the reliability of the scales, Cronbach's alpha and CR were used. As shown in Table 2, the Cronbach's alpha values ranged from 0.802 to 0.915, all above the 0.70 threshold level (Nunnally 1978), while the CR values ranged from 0.884 to 0.946, exceeding the 0.70 threshold essential for reliability (Bagozzi and Yi 1988). Additionally, convergent validity was assessed by examining the factor loadings and AVE. The factor loadings ranged from 0.736 to 0.941, all exceeding 0.50 (Hair et al. 2022), and showed statistical significance ( $p < 0.001$ ). The AVEs for all of the constructs were above 0.5, and all of the items demonstrated good internal consistency and a high degree of convergence. In short, the reliability and convergent validity of the measurement scales were supported (Fornell and Larcker 1981).

Discriminant validity was assessed using the Fornell–Larcker criterion (Fornell and Larcker 1981), cross-loading criterion and heterotrait–monotrait (HTMT) ratio. As shown in Table 3, the AVE for each construct was greater than the squared correlations between the constructs (Fornell and Larcker 1981). Using the cross-loading criterion (Chin 1998), discriminant validity was confirmed when an item correlated strongly with the same item but weakly with another item (Table 4). In addition, all of the HTMT values were below 0.90 (Hair et al. 2022); thus, discriminant validity was achieved.

### Common method bias

To manage common method bias, some procedures recommended by Podsakoff et al. (2003) were adopted in this study. First, the measures for the independent variables (i.e., ESG initiatives) and the dependent variables (i.e., customer attitude and purchase intention) were taken from different sources. Moreover, all of the data collected were kept confidential, and the respondents were assured that there was no potential risk related to their participation in the study. In addition, to test for common method bias, a common latent construct connecting all of the observed items to the measurement model was added. The results showed that the fit for the measurement model used in this study (standardized root mean residual [SRMR] = 0.116) was superior to the measurement model with a common latent construct (SRMR = 0.055). The absence of significant method variance implied the nonappearance of common method effects (Podsakoff et al. 2003).

### Structural model

The research model was assessed using SmartPLS 4.0 based on the data from all of the respondents ( $n = 300$ ). At the initial evaluation stage, the structural model was evaluated for collinearity (Hair et al. 2022) by investigating the variance inflation factor (VIF) values of all of the predictor constructs in the model. According to Hair et al. (2022), VIF values above 5 cause concern about collinearity problems. In the analysis of the data, all of the constructs presented acceptable VIF values ranging between 1.49 and 4.11, confirming that collinearity was not at critical levels. Next, the hypothesized paths in the conceptual framework were estimated using a bootstrapping procedure with 5,000 subsamples in SmartPLS 4.0. The SRMR of the structural model was 0.116, showing a good fit between the conceptual model and the observed data. The coefficient of determination ( $R^2$ ),  $Q^2$  predict indicator ( $Q^2$  predict) and path coefficients were adopted to examine the predictive ability of the hypothesized model (Hair et al. 2022). As shown in Table 5, the endogenous constructs' predictive power showed substantial  $R^2$  values of 0.456 (attitude), 0.505 (value equity), 0.539 (brand equity), 0.406 (relationship equity) and 0.503 (purchase intention), which validated the strong predictive power of the model (Hair et al. 2022). The PLSpredict approach indicated that the  $Q^2$  predict values of 0.413 (attitude), 0.371 (value equity), 0.411 (brand equity), 0.328 (relationship equity) and 0.271 (purchase intention) were concluded.  $Q^2$  predict values were all positive, implying the prediction error of the PLS-SEM results is smaller than the prediction error of simply using the mean value of the training sample to predict the outcomes of the holdout sample, thus confirming the predictive relevance. As the  $Q^2$  predict indicators in



**Table 2** Reliability and validity of the constructs

Construct	Item	Standardized factor loading	Cronbach's alpha	Composite reliability	Average variance extracted
Environment	I think my bank communicates with its customers on its environmental initiatives	0.736	0.870	0.912	0.722
	I think my bank runs internal programs to improve awareness of and capacities for environmental management	0.875			
	I think my bank has environmental management policies, such as reducing greenhouse gas emissions	0.891			
	I think my bank makes efforts to protect the environment and runs related programs	0.887			
Social	I think my bank makes efforts to fulfill its social responsibilities by implementing policies for local community development	0.823	0.853	0.901	0.694
	I think my bank provides funding for social and cultural activities to contribute to the development of society	0.859			
	I think my bank has policies to realize and expand equal employment	0.818			
	I think my bank makes efforts to comply to consumer-related laws	0.831			
Governance	I think my bank runs its business in a way that conforms to legal guidelines and the expectations of the government	0.766	0.867	0.909	0.714
	I think my bank has a transparent, comprehensive and strict ethical code of conduct to prevent any illegal activities, including bribes and corruption	0.865			
	I think my bank makes efforts to create a healthy governance structure	0.863			
	I think my bank makes efforts to create a healthy capital structure	0.880			
Customer Attitude	I feel positive about my bank	0.854	0.863	0.917	0.785
	I have good feelings about my bank	0.918			
	I like my bank very much	0.886			
Value Equity	The quality of the bank services is far superior to its price	0.835	0.802	0.884	0.717
	The prices of bank services are fair compared to the other banks	0.880			
Brand Equity	My bank provides convenient services	0.824	0.830	0.898	0.747
	I can recognize my bank with attractive brand	0.907			
	My bank has a different image from other brands	0.835			
Relationship Equity	My bank has a good name and reputation	0.848	0.874	0.909	0.668
	I feel intimately connected with my bank	0.875			
	I know my bank well	0.902			
Purchase Intention	My bank matches my image	0.902	0.915	0.946	0.855
	When I need a product, I will buy it from my bank	0.923			
	It is highly likely that I will purchase products from my bank	0.941			
	I will most certainly purchase products from my bank	0.909			

this study shows a moderate to large effect and  $R^2$  indicator shows a moderate effect, the predictive quality and validity are satisfied, thus confirming the significance and relevance of the structural model relationships (Hair et al. 2022).

The structural model exhibited the relationships (paths) between the constructs in the conceptual model of this study. H1a proposed that environmental initiatives would be

positively related to customer attitude. The results revealed that environmental initiatives had an insignificant impact on customer attitude ( $\beta = -0.003$ ,  $t = 0.045$ ,  $p = 0.982$ ). H1b predicted a positive relationship between social initiatives and customer attitude. However, the outcomes revealed an insignificant association between social initiatives and customer attitude ( $\beta = 0.129$ ,  $t = 1.512$ ,  $p = 0.139$ ), and thus, H1b was





**Table 3** Correlations and square root of average variance extracted (Diagonal)

	Mean	Std. Deviation	Environment	Social	Governance	Attitude	Value equity	Brand equity	Relationship equity	Purchase Intention
Environment	4.75	1.15	<b>.85*</b>							
Social	4.96	1.10	.70*	<b>.83*</b>						
Governance	5.27	1.04	.56*	.70*	<b>.85*</b>					
Attitude	5.05	1.02	.40*	.52*	.65*	<b>.89*</b>				
Value equity	4.90	1.15	.44*	.57*	.62*	.71*	<b>.85*</b>			
Brand equity	4.10	1.06	.43*	.54*	.67*	.73*	.76*	<b>.86*</b>		
Relationship Equity	4.76	1.14	.47*	.55*	.59*	.64*	.70*	.70*	<b>.89*</b>	
Purchase Intention	4.54	1.21	.43*	.54*	.55*	.61*	.61*	.58*	.68*	<b>.93*</b>

\*  $p < .001$

not supported. H1c projected a positive link between governance initiatives and customer attitude. The results showed that H1c was supported as there was a positive correlation between governance initiatives and customer attitude ( $\beta = 0.562, t = 7.592, p < 0.0001$ ). H2a, H2b and H2c predicted positive relationships between customer attitude and value equity, brand equity and relationship equity, respectively. The findings demonstrated a positive link between customer attitude and value equity ( $\beta = 0.711, t = 21.44, p < 0.0001$ ), customer attitude and brand equity ( $\beta = 0.734, t = 23.78, p < 0.0001$ ) and customer attitude and relationship equity ( $\beta = 0.637, t = 16.566, p < 0.0001$ ). Thus, H2a, H2b and H2c were supported. H3a, H3b and H3c proposed positive relationships between purchase intention and value equity, brand equity and relationship equity, respectively. There was a positive link between value equity and purchase intention ( $\beta = 0.201, t = 2.050, p < 0.005$ ) and between relationship equity and purchase intention ( $\beta = 0.468, t = 6.484, p < 0.0001$ ), supporting H3a and H3c, respectively. However, there was no significant correlation between brand equity and purchase intention ( $\beta = 0.105, t = 1.161, p = 0.246$ ). H3b was therefore not supported. To contribute to advances in PLS modeling, the zero-confidence interval method in SmartPLS was used (Henseler et al. 2015). In PLS tests, path coefficients are statistically significant at 95% when confidence intervals (lower and upper) do not include the value zero. Thus, H1a, H1b and H3b were rejected.

### Mediation analysis

To perform mediation analysis, Baron and Kenny's (1986) recommendations were applied. The direct and indirect effects were simultaneously estimated using a bootstrapping procedure (with 5,000 subsamples). The mediating effect test results are shown in Table 6. To test H4, a direct path from ESG to customer attitude was specified. A significant direct path indicated the presence of a partial mediation via customer attitude. Then, the indirect effects of ESG initiatives on customer equity (via customer attitude) were examined. A significant overall standardized indirect effect of 0.336 ( $t = 0.034, p < 0.0001$ ) was found. Therefore, H4 was supported. In addition, the strength of mediation was determined via the variance accounted for (VAF) method (Hair et al. 2022). A VAF value over 80% represents full mediation while a VAF value between 20 and 80% indicates partial mediation. The results confirmed that customer attitude partially mediated the relationship between ESG initiatives and customer equity (VAF = 48%), supporting H4.



**Table 4** Cross-loading criterion

	Environment	Social	Governance	Attitude	Value equity	Brand equity	Relationship Equity	Purchase Intention
Environment 1	<b>0.736</b>	0.513	0.488	0.303	0.315	0.383	0.372	0.341
Environment 2	<b>0.875</b>	0.588	0.493	0.349	0.378	0.384	0.37	0.375
Environment 3	<b>0.891</b>	0.606	0.438	0.314	0.382	0.359	0.402	0.363
Environment 4	<b>0.887</b>	0.654	0.478	0.386	0.406	0.34	0.448	0.376
Social 1	0.714	<b>0.823</b>	0.553	0.361	0.445	0.383	0.435	0.452
Social 2	0.613	<b>0.859</b>	0.572	0.462	0.422	0.405	0.487	0.458
Social 3	0.463	<b>0.818</b>	0.577	0.427	0.513	0.459	0.489	0.447
Social 4	0.559	<b>0.831</b>	0.627	0.469	0.512	0.54	0.429	0.452
Governance 1	0.497	0.633	<b>0.766</b>	0.405	0.46	0.496	0.438	0.352
Governance 2	0.469	0.619	<b>0.865</b>	0.604	0.572	0.599	0.546	0.516
Governance 3	0.496	0.547	<b>0.863</b>	0.563	0.485	0.555	0.451	0.447
Governance 4	0.445	0.592	<b>0.88</b>	0.598	0.57	0.602	0.548	0.517
Attitude 1	0.381	0.468	0.646	<b>0.854</b>	0.538	0.607	0.527	0.521
Attitude 2	0.325	0.429	0.568	<b>0.918</b>	0.635	0.652	0.533	0.514
Attitude 3	0.358	0.485	0.522	<b>0.886</b>	0.708	0.689	0.629	0.57
Value equity 1	0.393	0.443	0.455	0.637	<b>0.835</b>	0.627	0.576	0.469
Value equity 2	0.367	0.479	0.51	0.601	<b>0.88</b>	0.634	0.604	0.517
Value equity 3	0.352	0.522	0.612	0.564	<b>0.824</b>	0.674	0.597	0.56
Brand equity 1	0.346	0.502	0.572	0.632	0.742	<b>0.907</b>	0.617	0.546
Brand equity 2	0.376	0.424	0.535	0.596	0.642	<b>0.835</b>	0.648	0.506
Brand equity 3	0.392	0.472	0.627	0.674	0.588	<b>0.848</b>	0.54	0.461
Relationship equity 1	0.417	0.445	0.529	0.565	0.624	0.647	<b>0.875</b>	0.553
Relationship equity 2	0.416	0.543	0.517	0.538	0.615	0.559	<b>0.902</b>	0.626
Relationship equity 3	0.427	0.493	0.535	0.602	0.636	0.658	<b>0.902</b>	0.644
Purchase intention 1	0.414	0.526	0.556	0.545	0.558	0.556	0.636	<b>0.923</b>
Purchase intention 2	0.437	0.523	0.492	0.566	0.548	0.531	0.611	<b>0.941</b>
Purchase intention 3	0.339	0.457	0.478	0.567	0.581	0.531	0.643	<b>0.909</b>

**Table 5** Hypotheses testing results

Relationship	Path coefficients $\beta$	Confidence Interval 2.5%	Confidence Interval 97.5%	T Statistics $t$	$P$ value	Hypothesis testing
H1a Environment $\rightarrow$ Attitude	-0.003	-0.137	0.151	0.045	0.982	Reject
H1b Social Attitude	0.129	-0.052	0.291	1.512	0.139	Reject
H1c Governance $\rightarrow$ Attitude	0.562	0.414	0.705	7.592	0.000	Support***
H2a Attitude $\rightarrow$ Value equity	0.711	0.643	0.775	21.344	0.000	Support***
H2b Attitude $\rightarrow$ Brand equity	0.734	0.674	0.793	23.780	0.000	Support***
H2c Attitude $\rightarrow$ Relationship equity	0.637	0.560	0.710	16.566	0.000	Support***
H3a. Value equity $\rightarrow$ Purchase intention	0.201	0.012	0.392	2.050	0.040	Support*
H3b. Brand equity $\rightarrow$ Purchase Intention	0.105	-0.071	0.279	1.161	0.246	Reject
H3b. Relationship equity $\rightarrow$ Purchase Intention	0.468	0.327	0.611	6.484	0.000	Support***
H4 ESG initiatives $\rightarrow$ customer attitude	0.336			9.860	0.000	Support***
$\rightarrow$ customer equity	0.456 (0.413)					
$R^2$ ( $Q^2$ predict) for Attitude	0.505 (0.371)					
$R^2$ ( $Q^2$ predict) for Value equity	0.539 (0.411)					
$R^2$ ( $Q^2$ predict) for Brand equity	0.406 (0.328)					
$R^2$ ( $Q^2$ predict) for Relationship equity	0.503 (0.271)					
$R^2$ ( $Q^2$ predict) for Purchase intention						

\* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ 

**Table 6** Mediation analysis

Path estimates	Effect	SD	t-value	P value	Mediator
Indirect effects					
ESG → customer attitude	0.613	0.042	14.743	.000	H4 ESG Initiatives → customer attitude → customer equity
Customer attitude → customer equity	0.548	0.044	12.499	.000	
Indirect total	0.336	0.034	9.860	.000	
Direct effects					
ESG → customer equity	0.364	0.049	7.367	.000	
Total effect	0.700	0.038	18.613	.000	
	VAF	48%			

\*VAF = variance accounted for; VAF > 80% = full mediation, 20% ≤ VAF ≤ 80% = partial mediation and VAF < 20% = no mediation

## Discussion and implications

### Discussion

The findings demonstrate the power of ESG initiatives to explain customer attitude, customer equity and purchase intention, and they reinforce the importance of ESG initiatives in customer–firm interactions in the banking context (Koh et al. 2022; Puriwat and Tripopsakul 2022).

First, the findings indicate that environmental initiatives and social initiatives did not affect customer attitude (H1a and H1b), contradicting the findings in the literature (Ali et al. 2022; Puriwat and Tripopsakul 2022). Unlike environment-related industries, it is difficult for banks to persuade customers about their commitment to the environment via their environmental policies (Koh et al. 2022). In addition, bank customers may not have sufficient understanding of the importance of environmental initiatives when they conduct financial transactions (Ahmad et al. 2021). Regarding social initiatives, bank consumers tend to overlook aspects such as employee relations, human rights and community involvement, which are not perceived as creating value (Bătae et al. 2021). Sometimes, consumers give more weight to their individual financial well-being than to initiatives related to broader societal impacts (Yusof et al. 2015).

Second, governance initiatives (H1c) showed a positive relationship with customer attitude, consistent with previous studies (Koh et al. 2022). In the banking context, customers perceive risk and uncertainty in the strength and ethics of banks (Pérez et al. 2015). Logically, customers resort to governance initiatives such as transparency, compliance, governance structure and capital structure in their buying and deposit decisions. Specifically, the series of global financial crises has eroded consumer trust in financial institutions and put forward the importance of corporate governance and

related initiatives (Berkman and Lu 2021). As such, governance initiatives lead to positive customer attitudes.

Third, the results indicate that customer attitude predicted value equity (H2a), brand equity (H2b) and relationship equity (H2c), consistent with previous studies (Kim et al. 2012; Yuan et al. 2021; Yuan et al. 2016). Thus, positive customer attitudes can strengthen customer equity. Customers choose a brand mainly based on their positive evaluation and experience of the brand (Nambisan and Watt 2011). Customers' positive feelings toward a bank represents a value proposition that induces a preference for and further relationship development with the bank (Ebrahim et al. 2016; Ho and Chow, 2023). Bank customers in Hong Kong have a positive attitude toward the quality of their banks' products or services and treasure their relationships with them. The relationship between customer attitude and customer equity was strong, implying that customer attitude offers a powerful explanation for customer equity (Kim et al. 2012).

In line with the literature (Ho and Chung 2020; Wang et al. 2021), the findings also support the positive relationships between value equity and purchase intention (H3a) and between relationship equity and purchase intention (H3c). Thus, if consumers value and like a brand, they will purchase from it again. Ultimately, consumers will desire to purchase from a bank based mainly on their value and their relationships formed with the bank (Kim and Ko 2012). Compared with value equity, relationship equity is more influential for banks, which are known to be customer-centric, emphasizing customer relationship management (Ho and Wong 2022). However, brand equity had an insignificant relationship with purchase intention (H3b), which was inconsistent with the literature (Alwan and Alshurideh 2022; Liu and Zhang 2020). Perhaps, if a customer has established a relationship with a bank, the customer will focus on the financial value of the bank's services or products rather than the bank's image and



reputation when purchasing financial products or services from the bank (Ho and Chow 2023).

Finally, the results indicate that customer attitude partially mediated the relationship between ESG initiatives and customer equity (H4), in line with the findings in the literature (Puriwat and Tripopsakul 2022; Van et al. 2017). This was not surprising, as understanding ESG initiatives enhances customer satisfaction and improves customer attitude, leading to positive brand images and customer values (Ltifi and Hichri 2022). Specifically, the banking sector is facing increasing demands to take responsibility for the effect of their activities on society (Ltifi and Hichri 2022). ESG criteria and communications fit the evolving needs of customers and will thus engender goodwill toward the banks and enhance customer equity.

## Implications

### Theoretical implications

This study confirms the influence of customer perceptions of ESG initiatives, as these perceptions can successfully create customer equity among retail bank consumers, which can in turn lead to buying commitment. Thus, this study contributes to the marketing, equity and ESG literature by providing a holistic framework that demonstrates ESG–equity relationships. The findings of this study will be of interest to marketing scholars, who can extend this framework to other fields.

This study confirms the significant effect of governance initiatives on customer attitude and customer equity (value equity, brand equity and relationship equity), in addition to the effect of customer equity on purchase intention. Studies of ESG–equity relationships are rare; this study sought to fill this gap by explaining the role of ESG in customer–firm interactions in the context of banking services. In addition, this study contributes to the service literature by clarifying the predictive power of ESG initiatives on customer equity and pinpointing the governance initiatives that affect customer attitude and customer equity. It also provides insights into academics who are interested in understanding the role of ESG in consumer behavior and decision-making.

### Practical implications

In this study, governance initiatives had a significant positive effect on customer attitude and customer equity, which in turn induced customer purchase intention. This result means that ESG initiatives should be thought of not only as a means to meet the government’s voluntary guidelines but also as an important brand image building tool (Ltifi and Hichri 2022). Banks should prioritize ESG brand-building activities to enhance their brand attractiveness and boost their long-term business performance.

The Hong Kong government’s “Sustainable Banking and Green Finance” policies imply the need for banks to invest more in ESG initiatives (HKMA 2019). Their ESG investments can help not only to develop new segments but also to improve long-term customer relationships. Rather than using ESG for greenwashing purposes, banks that hesitate to play a part in ESG may need to reconsider their investment strategies. The validation of ESG initiatives is an important indicator of the value of this investment, as this study suggests that customers appreciate sustainable practices, which can promote positive customer attitudes, create value and enhance their relationship with a firm over time. It is thus necessary for executives and managers to ensure that ESG communications are delivered to bank customers effectively (Chu et al. 2020). Successful sustainable initiative communications and campaigns generate customer awareness and engage customers, which can create competitive advantages, promote the long-term profitability of banks and improve their positioning strategy in the market and in the minds of their clients (Fernández et al. 2022).

Among the three dimensions of ESG initiatives, only governance initiatives were found to be relevant to bank consumers. Based on this finding, ESG marketing strategies should focus on governance. Managers can utilize the exercise of governance to provide tailor-made marketing communications and information about the bank to customers in a timely manner. Good governance is the key success factor of every financial institution. A bank’s governance mechanisms should be well programmed and well managed to help it achieve its objectives (Ltifi and Hichri 2022). Bank practitioners can use governance practices to prepare financial and social reports that help customers understand the company’s ability to generate sustainable value and assist customers and investors in their financial and investment decision-making. Through intelligent communication, a bank can assert its credibility and honesty. This communication can also be done through websites or social networking platforms to keep stakeholders informed about the bank’s governance practices. At the same time, policymakers can apply a governance approach to promote sustainable and responsible banking practices.

This study affirms the relationship between customer equity and purchase intention. Executives and managers can benefit from a fundamental understanding of the importance of ESG initiatives in enhancing customer equity and purchase intention, which will enable banks to gain a competitive advantage. As such, management will increase their commitment to ESG investment, which may induce more innovative ESG practices, contributing to the industry, society and the world.

ESG activities influence customer equity and purchase intention through customer attitude. This means that banks can use ESG practices to improve their relationships with



customers, but they should focus on customer attitude before attempting to convince customers to purchase products or services.

## Limitations and future research

This study had several limitations. First, it relied on 300 valid responses collected through online surveys, which may limit the understanding of customer–bank interactions. A larger sample size can be adopted in future studies to improve the generalizability of the findings. Second, the context of this study was the banking sector in Hong Kong. While the findings are useful in the banking context, they can also be relevant to other fields or industries. Future studies could replicate and extend this study to other industries or countries. Third, this study found that environmental and social initiatives could not induce customer attitude and customer equity, contradicting the literature. Thus, caution is warranted when replicating this study in other geographical contexts. Further, as ESG is an evolving concept that penetrates the mainstream banking industry, customer attitude may change over time; thus, longitudinal investigations may be needed. Finally, this study was quantitative in nature; future studies can adopt qualitative or mixed methods for triangulation purposes.

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## Declarations

**Conflict of interest** On behalf of all authors, the corresponding author states that there is no conflict of interest.

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