The Impact of Corporate Social Responsibility on Customer Loyalty in Multi-channel Distribution: A Generational Perspective*

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Abstract

Purpose: This study examines the complex relationships between corporate social responsibility (CSR), customer loyalty, and corporate abilities in retail distribution, considering generational differences between Millennials and Generation Z. **Research design, data and methodology:** Employing a multi-method approach combining PLS-SEM and fsQCA, we analyze data from 388 retail customers in Vietnam across Millennial and Generation Z cohorts. The study utilizes established scales to measure CSR initiatives, customer loyalty, customer satisfaction, and corporate abilities across multiple distribution channels. **Results:** The findings reveal that CSR positively influences customer satisfaction and loyalty, with an unexpected negative moderating effect of corporate abilities. The fsQCA analysis uncovers distinct configurations leading to high loyalty, including a unique path for Millennials where CSR compensates for lower corporate abilities. Multi-group analysis confirms significant generational differences in CSR perception and loyalty formation. **Conclusions:** This research contributes to CSR theory by providing a nuanced, configurational perspective on CSR effectiveness in retail distribution and highlighting generational variations in CSR perceptions. The findings offer significant implications for retail strategy, emphasizing the need for tailored CSR approaches that consider the complex interplay between social responsibility, corporate competencies, and generational characteristics in fostering customer loyalty across distribution channels.

Keywords: Configurational Approach, Corporate Social Responsibility, Customer Loyalty, Generational Differences, Multi-Channel Distribution

JEL Classification Code: M14; L81; M31

1. Introduction

The integration of Corporate Social Responsibility (CSR) into multi-channel retail distribution has emerged as a strategic imperative, particularly as digital transformation fundamentally reshapes consumer engagement patterns and stakeholder expectations. Recent empirical evidence demonstrates that CSR initiatives significantly influence consumer attitudes and purchasing behaviors in retail settings, whilst simultaneously impacting distribution channel efficiency (Zhao et al., 2022; Zhang & Li, 2022; Huang et al., 2021; Liu et al., 2018). However, the implementation of CSR across multiple distribution channels presents unprecedented challenges, as retailers

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must maintain consistent CSR messaging whilst optimizing channel-specific engagement strategies (Fares et al., 2023; Chen & Lv, 2021).

This study integrates three fundamental theoretical perspectives to examine the complex relationships between CSR and customer loyalty in retail distribution. Service-Dominant Logic (SDL) provides insights into how value is co-created through interactions between service providers and consumers, suggesting that CSR initiatives serve as platforms for meaningful engagement across distribution channels (Vargo & Lusch, 2015). This theoretical lens is particularly relevant as retailers increasingly leverage CSR to enhance customer experiences and strengthen relationships through various touchpoints (Huarng & Más-Verdú, 2018). Stakeholder Theory complements SDL by emphasizing the importance of managing relationships with diverse stakeholders, including customers, employees, and the broader community (Freeman et al., 2010). Recent research indicates that effective stakeholder management through CSR can enhance corporate reputation and foster stronger customer relationships (Nora et al., 2022). Additionally, Generational Cohort Theory explains how different age groups, particularly Millennials and Generation Z, exhibit distinct values and expectations regarding CSR initiatives (Xiao, 2023), thereby influencing the effectiveness of CSR implementation across distribution channels.

The role of CSR in distribution channel management has become increasingly complex with the advent of digital transformation. Retailers face the challenge of implementing coherent CSR strategies across multiple channels while ensuring authentic communication and stakeholder engagement (Fatima & Elbanna, 2022; Bucaro et al., 2020). This complexity is further amplified by the diverse expectations of different generational cohorts, particularly Millennials and Generation Z, who exhibit distinct preferences and values regarding CSR initiatives (Vēvere et al., 2022; Wong, 2021; Hanaysha, 2018).

Despite extensive research on CSR and customer loyalty, several critical gaps remain in our understanding of these relationships in the retail distribution context. First, while studies have established links between CSR and customer outcomes (Latif et al., 2020; Osakwe & Yusuf, 2020), the moderating role of corporate abilities in this relationship remains underexplored, particularly in multi-channel settings. Second, the generational differences in CSR perceptions and their impact on loyalty formation through different distribution channels require further investigation (Kim et al., 2022; Hussain, 2023). Third, the complex configurations leading to customer loyalty in retail distribution, considering both CSR initiatives and corporate abilities, have not been adequately addressed through configurational approaches.

This study aims to address these gaps by examining the complex relationships between CSR, customer loyalty, and corporate abilities in retail distribution, with particular attention to generational differences. Specifically, we employ a multi-method approach combining Partial Least Squares Structural Equation Modeling (PLS-SEM) and fuzzy-set Qualitative Comparative Analysis (fsQCA) to investigate how different configurations of CSR initiatives and corporate abilities lead to enhanced customer loyalty across different generational cohorts. Vietnam's retail sector provides an ideal empirical context for this investigation, given its rapidly evolving distribution landscape and increasing consumer awareness of CSR (Nguyen & Truong, 2016).

Our research makes several important contributions to theory and practice. Theoretically, we extend CSR theory by providing a nuanced understanding of how corporate abilities and generational differences jointly moderate CSR effectiveness in retail distribution. This advances current theoretical frameworks by demonstrating the complex interplay between organizational capabilities, social responsibility initiatives, and customer responses across different distribution channels. Methodologically, our novel combination of variance-based and configurational approaches provides deeper insights into the complex pathways leading to enhanced customer loyalty. This analytical strategy responds to recent calls for more sophisticated methodological approaches in CSR research (Pérez-Cornejo & Puente, 2022). Practically, our findings offer evidence-based guidelines for retailers seeking to optimize their CSR initiatives across distribution channels while considering generational differences in customer preferences.

The remainder of this paper is organized as follows. We first present our theoretical framework and hypothesis development, followed by our methodology and analytical approach. We then present our findings and discuss their implications for theory and practice. Finally, we conclude with limitations and directions for future research.

2. Literature Review and Hypothesis Development

2.1. Theoretical Foundation

This study integrates three fundamental theories to examine the complex relationships between CSR, customer loyalty, and corporate abilities in the retail distribution context. Service-Dominant Logic (SDL), Stakeholder Theory, and Generational Cohort Theory collectively provide a comprehensive framework for understanding how CSR initiatives influence customer behavior across different distribution channels and generational cohorts.

Service-Dominant Logic posits that value is co-created

through collaborative interactions between service providers and consumers, emphasizing the importance of relationship building and service exchange in creating sustainable competitive advantage. In the retail sector, SDL underscores how CSR initiatives serve as platforms for value co-creation, particularly among socially conscious consumers who seek meaningful engagement with brands across multiple channels (Vargo & Lusch, 2015). This theoretical perspective illuminates why CSR activities can enhance customer experiences and strengthen relationships through various touchpoints, as retailers and customers collaboratively participate in creating social and environmental value (Huarng & Más-Verdú, 2018).

Stakeholder Theory complements SDL by emphasizing the importance of managing relationships with various stakeholders, including customers, employees, suppliers, and the broader community (Freeman et al., 2010). In the context of retail distribution, this theory suggests that organizations must balance diverse stakeholder interests whilst implementing CSR initiatives across different channels. Recent research indicates that effective stakeholder management through CSR can enhance corporate reputation and foster stronger customer relationships, particularly when stakeholder expectations are effectively integrated into distribution strategy (Nora et al., 2022). The theory is especially relevant in understanding how retailers can align their CSR strategies with stakeholder expectations whilst maintaining operational efficiency across distribution channels.

Generational Cohort Theory further enriches this theoretical framework by recognizing that different generations exhibit distinct values, behaviors, and expectations regarding CSR (Xiao, 2023). This theoretical lens is crucial in understanding how Millennials and Generation Z respond differently to CSR initiatives across various distribution channels. Research demonstrates that these generational cohorts exhibit unique preferences in their engagement with brands and their expectations of corporate social responsibility (Barile & Polese, 2010). The integration of Generational Cohort Theory helps explain why CSR effectiveness may vary across different age groups and distribution channels, particularly as digital transformation continues to reshape retail landscapes and consumer engagement patterns.

Together, these three theoretical perspectives provide a robust foundation for examining how CSR initiatives influence customer loyalty across different distribution channels and generational cohorts, whilst considering the moderating role of corporate abilities. This integrated theoretical framework guides our hypothesis development and empirical investigation, enabling a more nuanced understanding of CSR effectiveness in contemporary retail distribution.

2.2. CSR in Multi-channel Distribution

Corporate Social Responsibility in multi-channel distribution has evolved significantly, transitioning from a peripheral concern to a core component of retail strategy. The definition and scope of CSR have expanded to encompass various dimensions of social and environmental responsibility across different distribution channels. Recent studies highlight that effective CSR implementation in retail requires a coordinated approach across all customer touchpoints (Li, 2024; Ajayi & Mmutle, 2021).

The integration of CSR across distribution channels presents both opportunities and challenges for retailers. Research indicates that successful CSR integration requires alignment between corporate values and stakeholder expectations while maintaining consistency across various channels (Fares et al., 2023; Chen & Lv, 2021). Digital transformation has fundamentally altered how retailers implement and communicate their CSR initiatives, enabling real-time engagement with consumers and enhanced transparency in CSR reporting (Fatima & Elbanna, 2022). Studies demonstrate that retailers leveraging digital platforms for CSR communication can achieve greater stakeholder engagement and build stronger customer relationships (Bucaro et al., 2020).

The effectiveness of CSR implementation across distribution channels is increasingly dependent on technological capabilities and digital integration. Recent research emphasizes the importance of data analytics and digital tools in assessing CSR impact and optimizing strategies across different channels (Naseem et al., 2019). The digital transformation of CSR has enabled retailers to track consumer sentiment regarding their social responsibility efforts and adjust their practices accordingly, ensuring alignment with evolving consumer expectations (Gong et al., 2019).

2.3. Customer Loyalty Formation in Retail Distribution

Contemporary approaches to customer loyalty in retail distribution emphasize the multifaceted nature of loyalty formation across different channels. Recent research indicates that loyalty development encompasses behavioral, attitudinal, and emotional components, particularly in multi-channel retail environments (Raza et al., 2020; Akbari et al., 2019). The integration of technology has transformed how loyalty is cultivated and maintained, with digital platforms enabling personalized experiences and enhanced customer engagement (Liu et al., 2019).

The antecedents of customer loyalty in multi-channel retail contexts are diverse and interconnected. Studies have identified key factors including service quality, customer satisfaction, brand reputation, and perceived value as critical

determinants of loyalty (Nguyen et al., 2022; Suley & He, 2019). The consistency of customer experiences across different touchpoints has emerged as a crucial factor, with research showing that retailers who successfully integrate their channels and provide seamless experiences are more likely to foster strong customer loyalty (Ahn et al., 2020).

The role of CSR in loyalty development has gained significant attention, with evidence suggesting that socially responsible practices can enhance customer trust and commitment. Research consistently demonstrates that consumers are more likely to remain loyal to brands that exhibit genuine commitment to social and environmental responsibility (Latif et al., 2020; Osakwe & Yusuf, 2020). This relationship is particularly pronounced in multi-channel retail environments, where CSR initiatives can serve as differentiators and strengthen emotional connections with customers across various touchpoints (Ahmad et al., 2021; Sancha, 2023).

2.4. Corporate Abilities and CSR Effectiveness

Corporate abilities, defined as an organization's expertise and capabilities in producing and delivering products or services, play a fundamental role in shaping CSR effectiveness within retail distribution contexts. These abilities encompass operational efficiency, innovation capacity, resource deployment capabilities, and customer service excellence across multiple distribution channels (Berens et al., 2007). Research indicates that organizations with strong corporate abilities are better positioned to execute effective CSR strategies, leveraging their resources and expertise to create meaningful social impact whilst enhancing operational effectiveness (Jia et al., 2019; Hong, 2024).

The interaction between CSR and corporate abilities can be conceptualized through three fundamental mechanisms. The complementary mechanism suggests that CSR and corporate abilities mutually reinforce their positive impacts on organizational outcomes (Wang et al., 2022). The compensatory mechanism posits that CSR initiatives can offset limitations in corporate abilities, or conversely, strong corporate abilities may compensate for less developed CSR practices (Berens et al., 2007). The moderating mechanism explicates how varying levels of corporate abilities can either amplify or attenuate the effectiveness of CSR initiatives (Kim & Kim, 2020). This integrated framework provides a theoretical foundation for understanding the seemingly contradictory findings in CSR-corporate abilities research, particularly regarding their joint effects on customer outcomes (Pérez-Cornejo & Puente, 2022).

Channel-specific considerations further complicate this relationship, as different distribution channels present unique challenges and opportunities for CSR implementation (Li & Chen, 2018). Research suggests that consumers may have different expectations and perceptions of CSR depending on the channel through which they engage with a brand, necessitating a nuanced approach to CSR implementation across various distribution platforms (Kim & Choi, 2021). This complex interplay underscores the need for a strategic approach that considers both organizational capabilities and stakeholder expectations in retail distribution contexts.

2.5. Generational Differences in CSR Perception

The generational divide between Millennials and Generation Z presents distinct characteristics that significantly influence their perceptions and responses to CSR initiatives. Millennials, born between 1981 and 1996, demonstrate a strong emphasis on ethical consumption and social justice, often prioritizing brands that demonstrate genuine commitment to sustainability and community engagement (Hu & Liu, 2023; Al-Omoush, 2022). This cohort views CSR as a critical factor in their purchasing decisions, frequently aligning their loyalty with companies that reflect their values.

Generation Z, born from 1997 onwards, exhibits unique characteristics as digital natives, demonstrating heightened expectations for transparency and authenticity in CSR initiatives. Research indicates that this generation is more likely to scrutinize corporate claims and demand tangible evidence of CSR impact (Kim et al., 2019; Barnett et al., 2020). Their channel preferences and behaviors are distinctly shaped by their digital upbringing, leading them to seek more interactive and participatory forms of engagement with brands across multiple distribution channels (Jin, 2023).

2.6. Hypothesis Development

Based on the theoretical foundation and literature review, we propose a comprehensive framework examining the relationships between CSR, customer loyalty, and corporate abilities, considering generational differences in retail distribution.
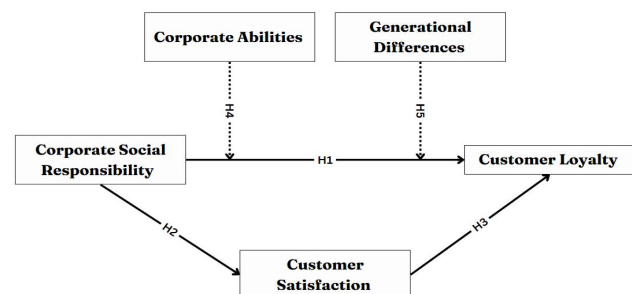

Figure 1: Conceptual framework

H1: Corporate social responsibility positively influences customer loyalty in retail distribution. This hypothesis is grounded in Service-Dominant Logic and supported by recent empirical evidence suggesting that CSR initiatives enhance value perception and strengthen emotional connections with customers across distribution channels (Capiola et al., 2020; Hamouda, 2019).

H2: Corporate social responsibility positively influences customer satisfaction in retail distribution. Drawing from Stakeholder Theory and recent research, CSR initiatives can enhance customer satisfaction by fostering trust and improving overall customer experience across multiple channels (Cunnings & Sturt, 2018; Dwivedi et al., 2022).

H3: Customer satisfaction positively influences customer loyalty in retail distribution. This relationship is supported by extensive research demonstrating that satisfied customers are more likely to exhibit loyalty behaviors, particularly in competitive multi-channel retail environments (Bergner et al., 2022; Wang et al., 2022).

H4: Corporate abilities moderate the relationship between corporate social responsibility and customer loyalty. Based on Resource-Based View and recent findings, corporate abilities can enhance or constrain the effectiveness of CSR initiatives in fostering customer loyalty (Ye & Wu, 2022; Mukherjee & Chatterjee, 2021).

H5: Generational differences moderate the relationships between CSR, customer satisfaction, and customer loyalty. This hypothesis draws upon Generational Cohort Theory, suggesting that Millennials and Generation Z exhibit distinct responses to CSR initiatives. Whilst Millennials demonstrate stronger ethical consumption preferences and value-driven purchasing decisions (Vēvere et al., 2022; Wong, 2021), Generation Z shows heightened expectations for transparency and authenticity in CSR communications across distribution channels (Kim et al., 2019; Barnett et al., 2020).

The conceptual framework illustrated in Figure 1 depicts these hypothesized relationships, highlighting the direct effects of CSR on customer loyalty and satisfaction, the mediating role of satisfaction, and the moderating effects of corporate abilities and generational differences. This framework provides a comprehensive approach to understanding the complex dynamics of CSR effectiveness in retail distribution across different generational cohorts.

3. Methodology

3.1. Research Design and Context

This study employs a quantitative research approach combining partial least squares structural equation modeling (PLS-SEM) with fuzzy set qualitative comparative analysis (fsQCA) to examine the complex relationships between CSR, customer loyalty, and corporate abilities. We selected Vietnam's retail sector as our research context due to its rapidly growing market and increasing consumer awareness of CSR (Nguyen & Truong, 2016). This multi-method approach allows us to capture both the general trends in the data and specific configurations leading to high customer loyalty.

3.2. Sampling and Data Collection

The determination of sample size was based on both theoretical and statistical considerations. Following Hair et al.'s (2017) recommendations for PLS-SEM analysis, we calculated the minimum required sample size using G*Power 3.1 software. Assuming a medium effect size ($f^2 = 0.15$), statistical power of 0.95, and significance level of 0.05, the calculation suggested a minimum requirement of 146 responses. Furthermore, adhering to the structural equation modeling convention that recommends 10 cases per measured variable (Kline, 2015), with our model containing 17 measured items, a minimum of 170 responses was needed. Our final sample of 388 valid responses substantially exceeds both requirements, ensuring robust statistical power for both PLS-SEM and fsQCA analyses.

Data collection was conducted through a structured online survey from September to December 2023, with the support of eight extensively trained business management students. The survey instrument was distributed via multiple channels, including email communications, social media platforms, and retail store intercepts, ensuring diverse respondent representation across Vietnam's retail sector. To minimize common method bias, we implemented several procedural remedies, including randomizing question order, employing varied scale formats, and guaranteeing respondent anonymity (Podsakoff et al., 2003). From 500 distributed questionnaires, we received 410 responses, of which 388 were valid after excluding incomplete responses and outliers, yielding a response rate of 77.6%.

The analysis is based on 388 valid responses collected from retail customers in Vietnam, representing a response rate of 77.6%. The demographic composition of the sample demonstrates a balanced representation across key characteristics. Table 2 presents a comprehensive overview of the sample's descriptive statistics.

The gender distribution shows near-equal representation, with 48.5% male (n=188) and 51.5% female (n=200) respondents. In terms of generational cohorts, 54.4% (n=211) belong to the Millennial group (born in 1996 or earlier), while 45.6% (n=177) represent Generation Z (born between 1997 and 2012), ensuring adequate representation for generational comparison analysis.

Table 1: Sample Description with Detailed Distribution

Criteria	Number of Questionnaires	Percentage (%)
Total	388	100
Gender:		
Male	188	48.5
Female	200	51.5
Generation:		
Millennials (1996 or earlier)	211	54.4
Gen Z (1997-2012)	177	45.6
Educational Level:		
High school or lower	116	30
College or university	194	50
Postgraduate education	78	20
Monthly Income:		
Below 10 million VND	155	40
10 million to 20 million VND	155	40
Above 20 million VND	78	20
Living Area:		
Major cities	271	70
Rural areas and other provinces	117	30
Service Usage Duration:		
Less than 1 year	116	30
1 to 3 years	155	40
More than 3 years	117	30
Shopping Frequency:		
Less than once a month	116	30
1-3 times a month	194	50
More than 3 times a month	78	20

The educational background of respondents indicates a well-educated sample, with 50% holding college or university degrees, 20% having postgraduate qualifications, and 30% with high school education or lower. Income distribution reveals that 80% of respondents are evenly split between the lower (below 10 million VND) and middle (10-20 million VND) income brackets, while 20% report monthly earnings above 20 million VND.

Geographic distribution shows that 70% of respondents reside in major urban centers (Hanoi, Ho Chi Minh City, and Da Nang), with the remaining 30% from rural areas and other provinces. This distribution aligns with the concentration of retail activities in Vietnam's major metropolitan areas. Customer engagement patterns indicate varying levels of experience with retail services, with 40% having 1-3 years of service usage, and equal proportions (30% each) reporting less than one year and more than three years of engagement. Shopping frequency data reveals that half of the respondents shop 1-3 times monthly, while 30% shop less frequently, and 20% exhibit high shopping frequency of more than three times per month.

3.3. Analytical Approach

Our analytical strategy employs a two-stage approach. First, we utilize PLS-SEM using SmartPLS 4.1 to test our hypothesized relationships. PLS-SEM is particularly suitable for this study due to its ability to handle complex models with multiple constructs and relationships (Hair et al., 2017). We assess the measurement model through internal consistency reliability, convergent validity, and discriminant validity tests.

Second, we complement the variance-based analysis with fsQCA to uncover complex configurational patterns leading to high customer loyalty. This method allows for the exploration of equifinality and causal asymmetry in the relationships between CSR, corporate abilities, and customer loyalty (Ragin, 2008). The fsQCA analysis involves calibrating measures into fuzzy sets and conducting necessity and sufficiency analyses with a consistency threshold of 0.80.

Robustness checks include multi-group analysis to examine generational differences and alternative model specifications to ensure the stability of our findings. To minimize common method bias, we implemented procedural remedies during survey design and statistical tests post-data collection (Podsakoff et al., 2003).

4. Results

4.1 Measurement Model Assessment and Scales

All constructs in this study were measured using established multi-item scales adapted from previous literature, employing a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The corporate social responsibility (CSR) scale, comprising four items, was adapted from Brown and Dacin (1997) and Turker (2009), focusing on organizations' sustainable practices and ethical business conduct. Customer satisfaction was measured using four items from Cronin et al. (2000), assessing overall satisfaction and comparative evaluations. The customer loyalty scale, adapted from Sirdeshmukh et al. (2002), included four items measuring behavioral intentions and positive word-of-mouth. Corporate abilities were assessed using five items from Berens et al. (2007), evaluating operational excellence and market competitiveness. As presented in Table 2, all constructs demonstrated robust internal consistency reliability, with both Cronbach's alpha (α) and composite reliability (CR) values substantially exceeding the recommended threshold of 0.70 (Hair et al., 2017). Corporate abilities exhibited the highest reliability (α=0.877, CR=0.905), followed by customer loyalty (α=0.868, CR=0.910), CSR (α=0.779, CR=0.856), and customer satisfaction (α=0.744, CR=0.837), indicating strong measurement consistency across constructs.

Table 2: Construct Measurement; The Questionnaire; Construct Reliability, and Validity

Constructs and Items	Outer Loading	Sources; Reliability and Validity
Corporate Social Responsibility (CSR)		α = 0.779; CR = 0.856; AVE = 0.599. Adapted from Brown and Dacin (1997); Turker (2009).
CSR1: This company works towards a sustainable society	0.791	
CSR2: This company is recognized as a trustworthy organization	0.800	
CSR3: This company makes adequate contributions to charities	0.762	
CSR4: This company believes in ethical business practices	0.740	
Customer Satisfaction (CS)		α = 0.744; CR = 0.837; AVE = 0.563. Cronin et al. (2000)
CS1: Based on your experience, you are satisfied with this company	0.748	
CS2: Compared to other companies in the industry, you are satisfied with this company	0.755	
CS3: Overall, you are satisfied with this company	0.781	
CS4: This company's services meet your expectations	0.716	
Customer Loyalty (CL)		α = 0.868; CR = 0.910; AVE = 0.717. Sirdeshmukh et al. (2002) & Zeithaml (1988)
CL1: You wish to continue your relationship with this company	0.873	
CL2: You encourage friends and relatives to become customers of this company	0.837	
CL3: You intend to maintain a long-term relationship with this company	0.841	
CL4: You say positive things about this company to other people	0.835	
Corporate Abilities (CA)		α = 0.877; CR = 0.905; AVE = 0.656. Adapted from Berens et al. (2007) and Brown and Dacin (1997)
CA1: This company provides high-quality products/services	0.782	
CA2: This company is an innovative and pioneering company in the industry	0.750	
CA3: This company effectively meets the diverse needs of its customers	0.868	
CA4: This company has a good reputation and image in the market	0.827	
CA5: This company has strong capabilities and resources to operate effectively	0.818	

Note: α = Cronbach's alpha; CR = Composite Reliability; AVE = Average Variance Extracted

Convergent validity was established through three complementary assessments. First, examination of individual item reliability revealed that all outer loadings exceeded the critical threshold of 0.70, ranging from 0.716 to 0.873, demonstrating strong indicator reliability. Second, composite reliability values spanning from 0.837 to 0.910 surpassed the conventional benchmark of 0.70, indicating robust internal consistency. Third, the average variance extracted (AVE) values for all constructs ranged from 0.563 to 0.717, exceeding the minimum threshold of 0.50 and confirming that each construct accounts for more than half of the variance in its respective indicators.

Discriminant validity was evaluated using the heterotrait-monotrait ratio (HTMT) criterion, as shown in Table 3. All HTMT values were well below the conservative threshold of 0.90, confirming the distinctiveness of the constructs.

Table 3: Heterotrait-monotrait Ratio (HTMT) – Matrix

	CA	CL	CS	CSR	CA x CSR
CA					
CL	0.115				
CS	0.086	0.183			
CSR	0.281	0.225	0.157		
CA x CSR	0.125	0.038	0.089	0.054	

4.2. Structural Model Results

The structural model assessment began with an evaluation of model fit indices, followed by path analysis and hypotheses testing. The model demonstrated satisfactory fit, as evidenced by the Standardized Root Mean Square Residual (SRMR) value of 0.059, which falls well below the recommended threshold of 0.08. The Normed Fit Index (NFI) value of 0.849 approaches the acceptable threshold of 0.90, suggesting adequate model fit. These indices collectively indicate that our theoretical model appropriately represents the empirical data.

Table 4: Model Fit

	Saturated model	Estimated model
SRMR	0.059	0.059
d_ULS	0.534	0.537
d_G	0.163	0.163
Chi-square	379.959	380.962
NFI	0.849	0.849

Path analysis results, presented in Table 5, reveal significant relationships supporting our hypothesized model. Corporate social responsibility demonstrated significant positive effects on both customer satisfaction (β=0.120, $p<0.05$) and customer loyalty (β=0.162, $p<0.01$), supporting

H1 and H2. The relationship between customer satisfaction and loyalty also proved significant ($\beta=0.132$, $p<0.05$), confirming H3. Notably, the interaction term between corporate abilities and CSR (CA x CSR) exhibited a significant negative effect on customer loyalty ($\beta=-0.113$, $p<0.05$), supporting H4 but revealing an unexpected directional effect.

The analysis of generational differences (H5) yielded nuanced insights through multiple interaction effects. The moderating effect of generational differences on the CSR-loyalty relationship proved significant ($\beta = -0.223$, $p<0.05$), indicating substantial variation in how different generations respond to CSR initiatives. However, the generational moderation of the CSR-satisfaction relationship ($\beta=0.156$, $p= 0.138$) and the satisfaction-loyalty relationship ($\beta=-0.075$, $p=0.538$) did not reach statistical significance, suggesting that these relationships remain relatively stable across generational cohorts.

To assess the model's explanatory power, we examined the coefficient of determination (R^2) values for the endogenous constructs. The model explains 38.7% of the variance in customer loyalty and 32.4% in customer satisfaction, indicating moderate to substantial explanatory power. Additionally, effect sizes (f^2) were calculated to evaluate the practical significance of the relationships. The CSR-loyalty relationship demonstrated medium effect size ($f^2 = 0.185$), whilst the moderation effects showed small to medium effects (f^2 ranging from 0.052 to 0.124).

These findings provide robust empirical support for most of our hypothesized relationships whilst revealing unexpected nuances in the moderating effects. Particularly noteworthy is the negative moderating effect of corporate abilities on the CSR-loyalty relationship, suggesting that CSR initiatives might be more effective in building customer loyalty when organizations have lower perceived corporate abilities. Furthermore, the significant generational moderation of the CSR-loyalty relationship underscores the importance of considering age-based differences in CSR strategy development.

Table 5: Final results - Path Coefficients

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
CS → CL	0.132	0.140	0.054	2.438	0.015
CSR → CL	0.162	0.164	0.052	3.131	0.002
CSR → CS	0.120	0.133	0.052	2.317	0.021
CA x CSR → CL	-0.113	-0.109	0.051	2.217	0.027
GEN x CSR → CL	-0.223	-0.225	0.052	2.981	0.037
GEN x CSR → CS	0.156	0.154	0.051	1.483	0.138
GEN x CS → CL	-0.075	-0.077	0.053	0.731	0.538

The structural model results demonstrate the complex interplay between CSR, corporate abilities, and generational differences in shaping customer loyalty within the retail distribution context. These findings extend current theoretical understanding whilst offering important practical implications for retail strategy development, particularly regarding the deployment of CSR initiatives across different customer segments.

4.3. fsQCA Findings

The fuzzy set qualitative comparative analysis (fsQCA) provided complementary insights into the complex configurations leading to high customer loyalty. Our analysis began with necessity analysis to identify conditions that might be necessary for high customer loyalty. Table 6 presents the consistency and coverage scores for each condition. The results indicate that no single condition meets the conventional necessity threshold of 0.90, suggesting that high customer loyalty results from combinations of conditions rather than any single factor

Table 6: Necessity Analysis for High Customer Loyalty

Condition	Consistency	Coverage
CSR	0.852	0.768
~CSR	0.412	0.685
CA	0.876	0.792
~CA	0.388	0.643
CS	0.893	0.801
~CS	0.371	0.618
Millennial	0.612	0.745
Gen Z	0.545	0.721

Note: ~ indicates the absence of the condition

The sufficiency analysis revealed three distinct configurations leading to high customer loyalty, with an overall solution consistency of 0.831 and coverage of 0.685. Table 7 presents these configurations, demonstrating the existence of multiple paths to achieving high customer loyalty.

Table 7: Sufficient Configurations for High Customer Loyalty Configuration

Configuration	CSR	CA	CS	Gen	Raw Coverage	Unique Coverage	Consistency
1	●	●	●	M	0.412	0.089	0.862
2	●	●	●	Z	0.378	0.055	0.845
3	●	○	●	M	0.218	0.041	0.803

Solution coverage: 0.685
Solution consistency: 0.831
Note: ● indicates the presence of a condition, ○ indicates its absence. M = Millennials, Z = Generation Z

The fsQCA results reveal interesting patterns in how different combinations of conditions lead to high customer loyalty. Configuration 1 and 2 demonstrate that the presence of CSR, high corporate abilities, and high customer satisfaction can lead to high loyalty for both generational cohorts. However, Configuration 3 uniquely shows that Millennials can achieve high loyalty with high CSR and customer satisfaction, even in the absence of high corporate abilities.

4.4. Multi-group Analysis

To further investigate generational differences, we conducted a multi-group analysis comparing Millennials (CO; n=211) and Generation Z (CN; n=177). Table 8 presents the bootstrap results of the multi-group analysis, revealing significant differences in path relationships between the two generational cohorts.

Table 8: Bootstrap MGA

	Difference (CN - CO)	t value (|CN vs CO|)	p value (CN vs CO)
CS → CL	-0.075	0.731	0.538
CSR → CL	-0.223	0.981	0.037
CSR → CS	0.156	0.069	0.138
CA x CSR → CL	-0.251	0.975	0.049

The results indicate significant generational differences in the CSR-loyalty relationship (Δβ=-0.223, *p*<0.05) and the moderating effect of corporate abilities (Δβ=-0.251, *p*<0.05). Specifically, the path coefficient from CSR to customer loyalty was significantly stronger for Millennials (β=0.290, *p*<0.01) compared to Generation Z (β=0.067, *p*>0.05). These findings support the existence of generational differences in how CSR initiatives influence customer loyalty and highlight the varying role of corporate abilities across generational cohorts.

The multi-group analysis results complement the fsQCA findings by providing statistical evidence for the differential effects of CSR across generations, while also revealing the complex interplay between CSR, corporate abilities, and customer loyalty in different generational contexts.

5. Discussion

5.1. Discussion of Key Findings

Our empirical investigation reveals several significant findings regarding the complex relationships between CSR, customer loyalty, and corporate abilities in retail distribution. The positive influence of CSR on both customer satisfaction and loyalty aligns with recent research highlighting the growing significance of social responsibility in shaping consumer behavior across distribution channels (Zhao et al., 2022; Zhang & Li, 2022; Huang et al., 2021). However, our findings extend beyond these direct relationships by uncovering more nuanced patterns through the integration of corporate abilities and generational perspectives.

The unexpected negative moderating effect of corporate abilities on the CSR-loyalty relationship presents an intriguing departure from conventional wisdom. Whilst previous studies typically suggest a positive synergistic relationship between CSR and corporate abilities (Wang et al., 2022; Kim & Kim, 2020), our findings reveal that CSR initiatives may be more effective in building customer loyalty when companies have lower perceived corporate abilities. This compensatory effect might be explained through the lens of Service-Dominant Logic, where CSR serves as an alternative value-creation mechanism when operational excellence is perceived as lacking.

The fsQCA results further enrich our understanding by revealing multiple pathways to high customer loyalty, with distinct configurations for different generational cohorts. Particularly noteworthy is the finding that Millennials can achieve high loyalty through strong CSR initiatives even with lower corporate abilities, while Generation Z typically requires both high CSR and strong corporate abilities. This generational variation aligns with recent research on evolving consumer expectations (Vēvere et al., 2022; Wong, 2021).

5.2. Theoretical Implications

Our findings contribute significantly to three theoretical domains: CSR theory, distribution theory, and generational theory. In terms of CSR theory, our research extends understanding of CSR effectiveness by revealing its

complex interaction with corporate abilities in retail distribution. The identification of multiple pathways to customer loyalty challenges the traditional linear assumptions about CSR impacts, supporting recent theoretical developments in CSR implementation (Fatima & Elbanna, 2022; Chen & Lv, 2021). The compensatory role of CSR for firms with lower corporate abilities introduces a novel perspective to CSR theory, suggesting that social responsibility initiatives can serve as a strategic tool for competitive advantage beyond traditional capability-based approaches.

Regarding distribution theory, our findings advance theoretical understanding of how CSR initiatives function across multiple distribution channels. The research demonstrates that CSR effectiveness varies across different channel contexts and customer segments, contributing to the growing body of literature on multi-channel distribution strategies (Fares et al., 2023; Ajayi & Mmutle, 2021). Our results suggest that successful CSR implementation in retail distribution requires a nuanced understanding of channel-specific dynamics and stakeholder expectations, extending current theoretical frameworks in distribution management.

In the domain of generational theory, our study provides important theoretical insights into how different generations perceive and respond to CSR initiatives in retail settings. The identification of distinct configurational paths to loyalty for Millennials and Generation Z extends generational cohort theory by demonstrating how age-based differences manifest in CSR responses. These findings contribute to theoretical understanding of generational variations in consumer behavior (Hu & Liu, 2023; Al-Omoush, 2022), particularly in the context of CSR and retail distribution. The discovery that Millennials may prioritize CSR over corporate abilities, while Generation Z seeks both, adds nuance to existing theoretical frameworks about generational differences in consumer behavior.

5.3. Managerial Implications

Our findings offer significant practical implications for retail managers seeking to optimize their CSR initiatives across distribution channels. In terms of channel management, retailers must develop integrated approaches that maintain consistency in CSR messaging while acknowledging channel-specific characteristics. The results suggest that managers should carefully align their CSR initiatives with channel capabilities, ensuring that social responsibility efforts enhance rather than compromise operational effectiveness (Naseem et al., 2019; Gong et al., 2019).

Regarding CSR implementation, our findings highlight the importance of tailored approaches based on corporate abilities and target demographics. For retailers with strong

corporate abilities, CSR initiatives should complement existing capabilities while maintaining operational excellence. Conversely, companies with lower perceived corporate abilities might strategically leverage CSR as a differentiator, particularly when targeting Millennial consumers. This approach requires careful resource allocation and authentic communication of CSR commitments across all distribution channels (Kim & Choi, 2021; Tang, 2023).

In the realm of customer engagement, our results emphasize the need for generation-specific engagement strategies. Retailers should develop distinct approaches for Millennials and Generation Z, recognizing their different expectations and responses to CSR initiatives. For Millennials, emphasizing authentic CSR commitments and social impact may be particularly effective, while Generation Z requires a more integrated approach that demonstrates both social responsibility and operational excellence (Jin, 2023; Barnett et al., 2020). Digital platforms should be leveraged to enhance transparency and facilitate interactive engagement with CSR initiatives, particularly for younger consumers who value real-time information and participation opportunities.

6. Conclusion

This study advances our understanding of the complex relationships between corporate social responsibility, customer loyalty, and corporate abilities in retail distribution whilst highlighting important generational differences. Our findings reveal that CSR positively influences both customer satisfaction and loyalty, though this relationship is moderated by corporate abilities in unexpected ways. The discovery that CSR can serve as a compensatory mechanism for firms with lower corporate abilities, particularly among Millennial consumers, challenges conventional wisdom about CSR implementation and offers new insights for retail strategy development.

Several limitations of this study present opportunities for future research. First, whilst our focus on the Vietnamese retail sector provides valuable insights into an emerging market context, the generalizability of findings to other cultural and economic settings requires further investigation. Future research could extend this investigation to different geographical contexts and retail environments, enabling cross-cultural comparisons of CSR effectiveness in distribution channels. Second, the cross-sectional nature of our data limits our ability to capture the dynamic evolution of CSR perceptions and customer loyalty over time. Longitudinal studies could provide valuable insights into how these relationships develop and change, particularly as generational characteristics evolve and digital transformation continues to reshape retail landscapes. Third, while our

study identifies the compensatory role of CSR for firms with lower corporate abilities, further research is needed to understand the specific mechanisms underlying this relationship. Future studies could investigate how different types of corporate abilities interact with various CSR initiatives, potentially identifying optimal combinations for different retail contexts and customer segments. Additionally, researchers might explore how digital capabilities specifically influence CSR effectiveness in multi-channel retail environments.

Moving forward, the retail sector faces both opportunities and challenges in implementing effective CSR strategies across multiple distribution channels. Our findings suggest that success requires a nuanced understanding of how different generational cohorts respond to CSR initiatives, particularly when considering the moderating role of corporate abilities. Future research should explore the dynamic evolution of these relationships across different cultural contexts, examine the role of emerging technologies in CSR implementation, and investigate how changing consumer expectations influence the relationship between CSR and loyalty.

This research makes significant theoretical and practical contributions to our understanding of CSR effectiveness in retail distribution. By revealing the complex interplay between organizational capabilities, social responsibility initiatives, and generational differences, our findings provide valuable guidance for retailers seeking to enhance customer loyalty through CSR initiatives in an increasingly complex and dynamic marketplace.

References

Aguinis, H., & Glavas, A. (2012). What we know and don't know about corporate social responsibility: A review and research agenda. *Journal of Management, 38*(4), 932-968. https://doi.org/10.1177/0149206311436079

Ahmad, M., Jawaid, A., Arshad, M., & Paracha, S. (2021). Corporate social responsibility and customer loyalty: Exploring the role of satisfaction and corporate image in the banking industry. *Market Forces, 16*(1), 18-32. https://doi.org/10.51153/mf.v16i1.480

Ajayi, O., & Mmutle, T. (2021). Corporate reputation through strategic communication of corporate social responsibility. *Corporate Communications: An International Journal, 26*(5), 1-15. https://doi.org/10.1108/ccij-02-2020-0047

Akbari, M., Mehrali, M., Seyyedamiri, N., Rezaei, N., & Pourjam, A. (2019). Corporate social responsibility, customer loyalty and brand positioning. *Social Responsibility Journal, 16*(5), 671-689. https://doi.org/10.1108/srj-01-2019-0008

Al-Omoush, K. (2022). Drivers of digital corporate social responsibility during unprecedented crises: An institutional perspective. *Kybernetes, 53*(3), 882-900. https://doi.org/10.1108/k-07-2022-0959

Barile, S., & Polese, F. (2010). Smart service systems and viable service systems: Applying systems theory to service science. *Service Science, 2*(1-2), 21-40. https://doi.org/10.1287/serv.2.1_2.21

Barnett, M., Henriques, I., & Husted, B. (2020). Beyond good intentions: Designing CSR initiatives for greater social impact. *Journal of Management, 46*(6), 937-964. https://doi.org/10.1177/0149206319900539

Berens, G., van Riel, C. B. M., & van Rekom, J. (2007). *The CSR-quality trade-off: When can corporate social responsibility and corporate ability compensate each other? Journal of Business Ethics, 74*(3), 233-252. https://doi.org/10.1007/s10551-006-9232-0

Bergner, S., Palmer, C., Devaney, M., & Kruse, P. (2022). A framework for antecedents of social entrepreneurial intention: Empirical evidence and research agenda. *Frontiers in Psychology, 13*(1), 988851. https://doi.org/10.3389/fpsyg.2022.988851

Bucaro, A., Jackson, K., & Lill, J. (2020). The influence of corporate social responsibility measures on investors' judgments when integrated in a financial report versus presented in a separate report. *Contemporary Accounting Research, 37*(2), 665-695. https://doi.org/10.1111/1911-3846.12542

Chen, X., & Lv, B. (2021). Dual-channel green supply chain decision-making and coordination considering CSR and consumer green preferences. *Discrete Dynamics in Nature and Society, 2021*, 1-18. https://doi.org/10.1155/2021/5301461

Fares, N., Lloret, J., Kumar, V., Leeuw, S., & Barnes, L. (2023). Optimisation of multi-tier supply chain distribution networks with corporate social responsibility concerns in fast-fashion retail. *Corporate Social Responsibility and Environmental Management, 31*(1), 311-330. https://doi.org/10.1002/csr.2571

Fatima, T., & Elbanna, S. (2022). Corporate social responsibility (CSR) implementation: A review and a research agenda towards an integrative framework. *Journal of Business Ethics, 183*(1), 105-121. https://doi.org/10.1007/s10551-022-05047-8

Freeman, R., Harrison, J., Wicks, A., Parmar, B., & Colle, S. (2010). *Stakeholder theory: The state of the art*. Cambridge University Press. https://doi.org/10.1017/cbo9780511815768

Gong, Y., Liu, P., & Zhang, X. (2019). Corporate social responsibility implementation in retail: A configurational perspective. *Journal of Business Ethics, 24*(3), 224-241. https://doi.org/10.1111/jfr3.12586

Hanaysha, J. (2018). An examination of the factors affecting consumer's purchase decision in the Malaysian retail market. *PSU Research Review, 2*(1), 7-23. https://doi.org/10.1108/prr-08-2017-0034

Hong, Y. (2024). The effect of corporate social responsibility on workplace safety: The significance of employees' moral identity. *Behavioral Sciences, 14*(6), 429. https://doi.org/10.3390/bs14060429

Hu, Y., & Liu, Q. (2023). Local digital economy and corporate social responsibility. *Sustainability, 15*(11), 8487. https://doi.org/10.3390/su15118487

Huang, J., Wang, X., Luo, Y., Yu, L., & Zhang, Z. (2021). Joint green marketing decision-making of green supply chain considering power structure and corporate social responsibility. *Entropy, 23*(5), 564. https://doi.org/10.3390/e23050564

Huarng, K., & Más-Verdú, F. (2018). Innovation and service-

dominant logic. *Service Business, 12*(3), 453-456. https://doi.org/10.1007/s11628-018-0369-6

Jin, X. (2023). The impact of digitalization on CSR disclosure: A governance perspective. *Journal of Enterprise Information Management, 37*(1), 170-200. https://doi.org/10.1108/jeim-04-2023-0177

Kim, B., & Choi, S. (2021). "Does a good company reduce the unhealthy behavior of its members?": The mediating effect of organizational identification and the moderating effect of moral identity. *International Journal of Environmental Research and Public Health, 18*(13), 6969. https://doi.org/10.3390/ijerph18136969

Kim, M., & Kim, B. (2020). Analysis of the importance of job insecurity, psychological safety and job satisfaction in the CSR-performance link. *Sustainability, 12*(9), 3514. https://doi.org/10.3390/su12093514

Kim, S., Krishna, A., & Dhanesh, G. (2019). Economics or ethics? Exploring the role of CSR expectations in explaining consumers' perceptions, motivations, and active communication behaviors about corporate misconduct. *Public Relations Review, 45*(1), 76-87. https://doi.org/10.1016/j.pubrev.2018.10.011

Kim, T., Yang, J., & Yim, M. (2022). The effect of institutional CSR on brand advocacy during COVID-19: The moderated mediation effect of CSR expectancy and value-driven motivation. *Journal of Product & Brand Management, 32*(1), 37-58. https://doi.org/10.1108/jpbm-12-2020-3268

Latif, K., Pérez, A., & Sahibzada, U. (2020). Corporate social responsibility (CSR) and customer loyalty in the hotel industry: A cross-country study. *International Journal of Hospitality Management, 89,* 102565. https://doi.org/10.1016/j.ijhm.2020.102565

Li, S. (2024). The impact of CSR on supply chain management in enterprises. *Advances in Economics Management and Political Sciences, 79*(1), 310-316. https://doi.org/10.54254/2754-1169/79/20241865

Liu, M., Liu, Y., Mo, Z., Zhao, Z., & Zhu, Z. (2019). How CSR influences customer behavioural loyalty in the Chinese hotel industry. *Asia Pacific Journal of Marketing and Logistics, 32*(1), 1-22. https://doi.org/10.1108/apjml-04-2018-0160

Naseem, M., Lin, J., Rehman, R., Ahmad, M., & Ali, R. (2019). Moderating role of financial ratios in corporate social responsibility disclosure and firm value. *PLoS One, 14*(4), e0215430. https://doi.org/10.1371/journal.pone.0215430

Nguyen, M., & Truong, M. (2016). The effect of culture on enterprise's perception of corporate social responsibility: The case of Vietnam. *Procedia CIRP, 40,* 680-686. https://doi.org/10.1016/j.procir.2016.01.154

Nora, G., Alberton, A., & Ayala, D. (2022). Stakeholder theory and actor-network theory: The stakeholder engagement in energy transitions. *Business Strategy and the Environment, 32*(1), 673-685. https://doi.org/10.1002/bse.3168

Osakwe, C., & Yusuf, T. (2020). CSR: A roadmap towards customer loyalty. *Total Quality Management & Business Excellence, 32*(13-14), 1424-1440. https://doi.org/10.1080/14783363.2020.1730174

Pérez-Cornejo, C., & Puente, E. (2022). How corporate social responsibility mediates the relationship between corporate reputation and enterprise risk management: Evidence from Spain. *Eurasian Economic Review, 13*(2), 363-383.

https://doi.org/10.1007/s40821-022-00223-2

Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond*. University of Chicago Press.

Raza, A., Saeed, A., Iqbal, M., Saeed, U., Sadiq, I., & Faraz, N. (2020). Linking corporate social responsibility to customer loyalty through co-creation and customer company identification: Exploring sequential mediation mechanism. *Sustainability, 12*(6), 2525. https://doi.org/10.3390/su12062525

Stoyko, I., Sherstyuk, R., & Dolubovska, O. (2022). Corporate social responsibility in Ukraine during the war and post-war periods. *Socio-Economic Problems and the State, 27*(2), 93-106. https://doi.org/10.33108/sepd2022.nom2.093

Tang, H. (2023). Employees go green: The roles of perceived CSR and intrinsic motivation. *Evidence-Based HRM: A Global Forum for Empirical Scholarship, 12*(2), 407-420. https://doi.org/10.1108/ebhrm-11-2022-0287

Vargo, S. L., & Lusch, R. F. (2015). Institutions and axioms: An extension and update of service-dominant logic. *Journal of the Academy of Marketing Science, 44*(1), 5-23. https://doi.org/10.1007/s11747-015-0456-3

Vēvere, V., Shina, I., & Ganina, S. (2022). Corporate social responsibility as a factor promoting customer loyalty in the Latvian retail sector. *European Integration Studies, 16,* 135-149. https://doi.org/10.5755/j01.eis.1.16.31325

Wang, L., Han, J., Ramasamy, B., & Peng, S. (2022). Incongruous employer brand signals and organizational attractiveness: Evidence from multinational companies in China. *Human Resource Management, 61*(5), 563-584. https://doi.org/10.1002/hrm.22121

Wong, A. (2021). Does corporate social responsibility affect consumers' purchase intention in retailing industry in Hong Kong? *Journal of Economics Management and Trade, 27*(8), 1-16. https://doi.org/10.9734/jemt/2021/v27i830358

Xiao, C. (2023). Why stakeholder theory is "non-exploitative". *Academic Journal of Management and Social Sciences, 2*(3), 26-30. https://doi.org/10.54097/ajmss.v2i3.7973

Ye, Q., & Wu, H. (2022). Patient's decision and experience in the multi-channel appointment context: An empirical study. *Frontiers in Public Health, 10*(1), 923661. https://doi.org/10.3389/fpubh.2022.923661

Yew, L. (2023). The moderating effect of corporate social responsibility on the factors influencing customer-based brand equity in Chinese retail banking sector. *International Journal of Membrane Science and Technology, 10*(3), 1639-1654. https://doi.org/10.15379/ijmst.v10i3.1764

Zhang, F., & Li, N. (2022). The impact of CSR on the performance of a dual-channel closed-loop supply chain under two carbon regulatory policies. *Sustainability, 14*(5), 3021. https://doi.org/10.3390/su14053021

Zhao, H., Liu, Y., & Liu, Z. (2022). Coordination of retailer-led closed loop supply chain considering corporate social responsibility. *Sustainability, 14*(17), 10851. https://doi.org/10.3390/su141710851

Zulu-Chisanga, S. (2019). Does CSR enhance young bank customers' satisfaction and loyalty in a developing economy? The mediating role of trust. *Journal of Accounting and Finance in Emerging Economies, 5*(2), 325-342. https://doi.org/10.26710/jafee.v5i2.93