Corporate social responsibility in container shipping: Its effects on customer satisfaction and loyalty — the case of Turkey[1]

Konteyner taşımacılığında kurumsal sosyal sorumluluk: Türkiye örneği üzerinden müşteri memnuniyeti ve sadakati üzerindeki etkileri

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Abstract

Corporate social responsibility (CSR) is becoming increasingly important for the maritime logistics industry's competitive advantage while simultaneously enhancing its social accountability. The objective of this research is to assess how the CSR practices of container shipping companies in Turkey affect customer satisfaction and loyalty among customers of foreign trade services. Using the theoretical framework of Social Exchange Theory (SET), a quantitative research methodology was employed, and an online survey was administered to 165 export companies (n=165) that are members of the Aegean and Marmara Exporters' Associations. The survey data were analysed using correlation and regression analyses and ANOVA. The statistical findings support the conclusion that CSR significantly improves both customer satisfaction and commitment ($p < 0.05$). The regression analyses showed high explanatory power. In addition, the ANOVA tests demonstrated that significant differences exist across industries (for example, fisheries and animal products, textiles, minerals, and natural stone) and company size, with large companies perceiving companies' CSR efforts more favourably than do small or medium-sized companies. Therefore, these findings demonstrate that adopting sustainable-oriented CSR initiatives will create strong customer engagement and serve as a key differentiator at the strategic level in Turkey's container shipping industry.

Keywords: Container Shipping, Corporate Social Responsibility (CSR), Customer Satisfaction, Customer Loyalty

Jel Codes: M14, M31, L92, Q56

Öz

Kurumsal Sosyal Sorumluluk (CSR), denizcilik lojistiği sektöründe rekabet avantajı elde etmek açısından giderek daha önemli hale gelirken, aynı zamanda firmaların sosyal sorumluluk düzeyini de artırmaktadır. Bu araştırmanın amacı, Türkiye'de faaliyet gösteren konteyner hat taşımacılığı şirketlerinin kurumsal sosyal sorumluluk uygulamalarının, dış ticaret hizmeti müşterilerinin bakış açısından müşteri memnuniyeti ve müşteri sadakati üzerindeki etkisini incelemektir. Araştırma, Sosyal Değişim Teorisi (Social Exchange Theory – SET) çerçevesine dayanmaktadır ve nicel bir araştırma yöntemi kullanılmıştır. Veriler, Ege ve Marmara İhracatçı Birlikleri'ne üye olan 165 ihracatçı firmadan (n=165) çevrim içi anket yoluyla toplanmıştır. Anketten elde edilen veriler korelasyon analizi, regresyon analizleri ve ANOVA testleri kullanılarak analiz edilmiştir. İstatistiksel bulgular, kurumsal sosyal sorumluluk uygulamalarının hem müşteri memnuniyetini hem de müşteri bağlılığını anlamlı düzeyde artırdığını göstermektedir ($p < 0,05$). Regresyon analizlerinde yüksek düzeyde açıklayıcılık elde edilmiştir. Ayrıca ANOVA testleri, sektörler arasında (örneğin; su ürünleri ve hayvansal ürünler, tekstil, mineraller ve doğal taş) ve firma büyüklüğüne göre anlamlı farklılıklar olduğunu ortaya koymuştur. Özellikle büyük ölçekli firmaların, konteyner taşımacılığı şirketlerinin kurumsal sosyal sorumluluk faaliyetlerini küçük ve orta ölçekli firmalara kıyasla daha olumlu algıladıkları görülmüştür. Sonuç olarak, bu bulgular sürdürülebilirlik odaklı kurumsal sosyal sorumluluk girişimlerinin benimsenmesinin güçlü bir müşteri bağlılığı yaratabileceğini ve Türkiye'deki konteyner taşımacılığı sektöründe stratejik düzeyde önemli bir farklılaştırıcı unsur olabileceğini göstermektedir.

Anahtar Kelimeler: Konteyner Taşımacılığı, Kurumsal Sosyal Sorumluluk (KSS), Müşteri Memnuniyeti, Müşteri Sadakati

JEL Kodları: M14, M31, L92, Q56

Introduction

As production capacity has increased over time, a company's ability to survive depends on factors beyond profit. Also, as we move forward environmentally and socially, we have entered an era in which consumers consider social and environmental factors alongside economic considerations when making purchases. Today, as much or more than economic considerations, social and environmental considerations drive how consumers perceive a company. This is leading to the expectation that companies will conduct themselves responsibly and be accountable to all stakeholders. Consumer purchasing decisions are influenced by rising levels of social and environmental awareness, thereby creating greater responsibility for businesses. These changes have fundamentally altered the competitive landscape for business survival.

The emergence of CSR has added another dimension to how companies interact with customers, transforming how they engage with each other. CSR is no longer a competitive strategy but a critical operational practice with a significant impact on the environment and society. CSR is shaping voluntary management policies that were previously focused solely on economic objectives and now incorporate ethical, environmental and societal considerations. Ultimately, social responsibility refers to a company implementing practices and policies that reflect the social responsibility expectations of both internal and external stakeholders. Furthermore, CSR requires a company to address the needs of its internal and external environments (Demir and Songür, 1999). Today, many companies are restructuring their management and operations to address CSR. The recent increase in environmental and social disasters has raised CSR policies to the top of corporations' priorities. A company's ability to meet needs, address social and environmental issues, develop CSR initiatives, and manage stakeholder relationships will influence consumers' purchasing preferences.

Customer satisfaction can be measured through customers' purchasing activities, resulting in either positive or negative outcomes that reflect customers' opinions after using the products (Churchill Jr. et al., 1982). Customers will assess their expectations against the product or service's actual performance. These comparisons will result in an evaluation of the company and its products/services, which, in turn, will affect customer satisfaction. Overall, customer satisfaction is the customer's attitude or assessment of the product/service relative to expectations and perceptions (McQuitty et al., 2000). Therefore, since customer satisfaction is an integral component of the customer-provider relationship, it is a vital element in enhancing the quality of that relationship (Saleh et al., 2015). In evaluating customer satisfaction across both the product and service industries, the evaluation process is generally straightforward and measurable, with the focus on specific performance measures. On the other hand, when evaluating service performance, the process is generally considered to be more subjective and difficult to measure (Saleh et al., 2015). It is commonly recognised that customer satisfaction affects post-purchase attitudes and the likelihood of repeat purchases. As stated earlier, overall, the customer's satisfaction in their post-purchase evaluation will have a direct impact on the customer's decision-making process regarding the future use of the product or service, including future brand choices, behavioural changes, and repeat purchases (Hayan and Samaan, 2015; Bilgili and Özkul, 2015).

Many researchers have defined customer loyalty over the years, and one of the most frequently cited definitions was developed by Oliver (1997). According to Oliver, loyalty is "a pleasing satisfaction" and he defines customer loyalty as "the continued intention to purchase a product or service in the future, despite marketing attempts by competitors to alter this intention" (Oliver, 1999:34). A customer that is loyal according to Oliver is someone that consistently purchases a product or service solely because they want to own it, and continues this purchasing behaviour regardless of influence from others. When a company achieves this type of loyalty, it signifies ultimate loyalty. Additionally, Dick and Basu (1994) define customer loyalty as a customer's consistent preference for the same product or service, while Ellinger et al. (1999) define it as a long-term relationship between the customer and the business, combined with the customer's intentions to make repeat purchases.

Container transportation plays a vital role in international trade, with capacity expanding over the years and spanning numerous countries and regions. With the rise of container transportation, significant savings in international shipping costs have been achieved compared to bulk cargo transport, along with many operational advantages. Alongside the rapid growth of global commercial activity, container ship capacity has also increased. The expansion of trade borders and the growth in load capacity over the past 20 years have led to new developments in liner shipping services. As the container shipping industry has grown, the number of container routes, networks, and ports of call has expanded, and service frequency has increased. In an ever-growing, competitive environment, container shipping companies have had to rethink their management strategies.

Based on all this information, this study seeks to clarify the relationship between shipping companies' corporate social responsibility activities and customer satisfaction and loyalty. The research examined how container line operators, a major player in maritime transportation, influence customer satisfaction and loyalty through their corporate social responsibility initiatives. Members of the Aegean and Marmara Exporters' Associations, which operate in the two regions with the highest foreign trade volume in Turkey, were chosen as the study sample.

While CSR has been widely examined across various service industries, its specific role and perception in the maritime logistics sector — especially from the viewpoint of service users — are less explored. Most existing maritime CSR research tends to focus on internal, firm-centred perspectives, such as those of logistics providers, managers, and executives. In contrast, this study specifically examines the perceptions of foreign trade companies, the main users of container shipping services. This user-focused approach fills a crucial gap in the research, offering a more comprehensive understanding of how CSR efforts are perceived throughout the supply chain.

Literature review

Corporate social responsibility (CSR) influences customer satisfaction and loyalty across many sectors — from telecommunications to banking and tourism — as documented in multiple studies. However, the mechanisms through which CSR affects customers — often mediated by factors such as corporate image, customer trust, and brand identification — vary significantly across industries.

In consumer-facing sectors, the link between CSR and satisfaction is often mediated by intangible brand assets. For instance, Mohammed and Rashid (2018) demonstrated that in the tourism industry, brand image acts as a vital bridge between the four dimensions of CSR (economic, legal, ethical, and philanthropic) and customer satisfaction. Similarly, in the life insurance and banking sectors, research by Agyei et al. (2021) and Islam et al. (2021) highlights that CSR not only improves satisfaction but also significantly enhances deeper psychological constructs such as customer-brand identification and trust. These findings are echoed in recent studies within the food industry during the COVID-19 pandemic, where heightened concerns for health and safety further amplified the role of corporate image in securing customer loyalty.

Transitioning into the maritime industry, the focus will be on maintaining relationships and building an operational reputation. Early research in this area, e.g., Shin and Thai (2015), who examined CSR's effect on customer loyalty by improving relationship maintenance in South Korea, has provided insight. A significant gap persists between the internal and external viewpoints. For example, while Senbursa and Tehci (2023) and Yang et al. (2021) have illustrated the strategic role of internal CSR in increasing employee commitment and organisational performance in both Turkey and internationally, their findings are from a supplier-focused viewpoint.

Although maritime CSR research has expanded, a critical comparison reveals a persistent "service-user blind spot." Most studies in the Turkish maritime context, including those by Yorulmaz and Taş (2022) and Balci et al. (2019), focus on core service quality, such as reliability and pricing, or on relational bonding strategies from the perspective of freight forwarders. In contrast to these approaches, which frequently treat CSR as a secondary or internal administrative function, the present study contends that CSR perceptions held directly by foreign trade firms, the primary service users, are fundamental drivers of Social Exchange Theory (SET) within the container shipping supply chain.

The studies provide insight into CSR in maritime logistics; however, most fail to incorporate the perspectives of service users — especially those who are primarily reliant on container shipping as importers/exporters. As such, this study is unique compared to past research in that it explores CSR practices perceived by service users (i.e., foreign trade firms) that use container shipping in Turkey. Thus, the current study provides a service-user–oriented perspective on the literature on maritime CSR, which has traditionally focused on an internal, firm-centred view of logistics providers. The inclusion of service users' perspectives in the study will add value to the existing CSR literature in maritime logistics, with a customer–centric focus, by examining how service users' perceptions of CSR influence their levels of satisfaction and loyalty toward the provider. The study will also develop a user-oriented model of CSR and propose hypotheses for empirical testing.

Conceptual model and hypotheses

This study develops a conceptual model grounded in Social Exchange Theory (SET) to examine the influence of perceived corporate social responsibility (CSR) practices on customer satisfaction and loyalty. Unlike previous studies that focus on logistics service providers, the current research emphasises the perceptions of foreign trade companies as service users in the container shipping sector.

This user-based approach provides a novel perspective and addresses a key gap in the maritime CSR literature.

The origins of Social Exchange Theory (SET) date back to the 1920s, drawing from anthropology, social psychology, and sociology (Cropanzano and Mitchell, 2005). SET is defined as a process in which one party initiates an action, followed by an attitudinal or behavioural response from the target, leading to a continuing relationship based on reciprocity (Cropanzano et al., 2017).

The present study is grounded in SET, which posits that relationships between parties are built upon reciprocal exchanges of value (Cropanzano and Mitchell, 2005). Within this framework, corporate social responsibility (CSR) activities implemented by container line operators can be seen as socially beneficial initiatives that provide value beyond basic service delivery. In turn, customers—here, foreign trade companies—are likely to respond to these perceived benefits with positive attitudinal outcomes, such as satisfaction and loyalty.

Several empirical studies have demonstrated that CSR perceptions are positively related to customer satisfaction, especially when CSR activities align with stakeholders' values and expectations (e.g., Shin and Thai, 2015; Islam et al., 2021). In line with this, the following hypothesis is proposed:

H₁: There is a significant relationship between the CSR activities of container line operators and customer satisfaction.

Furthermore, the literature suggests that when customers perceive a company as socially responsible, they are more likely to continue their relationship with the company and recommend it to others—hallmarks of customer loyalty (Yuen et al., 2016; Mohammed and Rashid, 2018). Therefore, the following hypothesis is also proposed:

H₂: There is a significant relationship between the CSR activities of container line operator businesses and customer loyalty.

Customer satisfaction, in turn, is widely recognised as a key antecedent of loyalty, with several studies highlighting a positive relationship between these constructs (Mohammed and Rashid, 2018; Zhang, 2022).

H₃: There is a significant relationship between customer satisfaction and customer loyalty.

In addition to these relationship-based hypotheses, this study also proposes two effect-based hypotheses to examine the causal impact of CSR activities:

H₄: CSR activities of container line operators affect customer satisfaction.

H₅: CSR activities of container line operators affect customer loyalty.

Moreover, this study investigates whether perceptions of CSR differ among customer firms according to their organisational characteristics. The literature suggests that factors such as sector and firm size can influence how companies interpret and prioritise CSR efforts (Yang et al., 2021; Udayasankar, 2008). For example, firms in more environmentally sensitive sectors may place greater value on CSR activities, while larger firms may have more structured evaluation criteria for supplier responsibility. In line with this, the following hypotheses are proposed:

H₆: There is a significant relationship between the foreign trade sector and the CSR activities of container line operators.

H₇: There is a significant relationship between the size of the foreign trade enterprises and the CSR activities of container line operator enterprises.
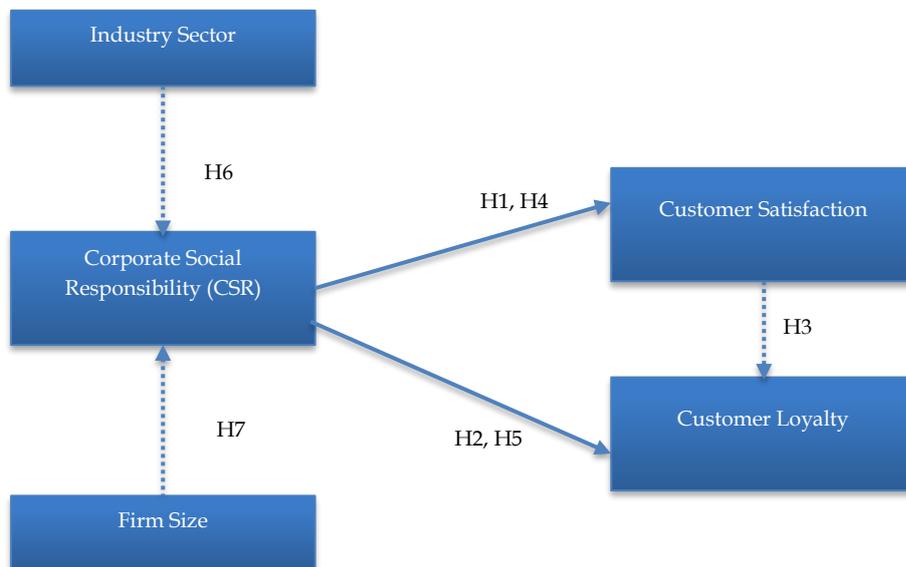
Figure 1: Conceptual Research Model

Figure 1 presents the hypothesised relationships between container line operators' perception of CSR and customer outcomes. The model follows an analytic flow in a systematic manner: H1, H2, H3 establish the relational foundation for the relationship of CSR with customer outcomes by means of Pearson correlation; H4 and H5 measure the causal effect and predictive power of the relationship through simple linear regression; the model also considers the context of the relationship, and H6 & H7 are used to assess if the perception of CSR varies significantly among different industry sectors and firm size by means of ANOVA and post hoc comparison. The use of this multi-perspective framework ensures that the research question is analysed through both relational and comparative frameworks.

Methodology

Research design

This study used a quantitative, specifically descriptive and correlational, methodology to determine whether there were relationships between the service user's perception of corporate social responsibility (CSR) and their degree of satisfaction and loyalty to a container shipping service provider. The conceptual framework for this study utilised Social Exchange Theory (SET). SET indicates that when one party provides another with a benefit (for example, CSR), it creates an attitude (satisfaction) or behaviour (loyalty) towards the providing party. In addition to measuring and identifying the relationships among the variables in this study, we will also investigate whether the service user's perception of the company differs across different levels of the firm (industry sector, company size). Therefore, a survey was the primary data collection technique to measure service users' subjective perceptions in a standardised way across a large number of respondents. This methodology was considered appropriate for testing the hypothesis developed for this study and for making generalisations about Turkish foreign trade companies that utilise container shipping services.

Population and sampling

The target population of this study comprises foreign trade companies operating in the Marmara and Aegean regions of Turkey that actively use container line operators for their logistics operations. These companies represent the demand side of the maritime transport sector and serve as key service users in the container shipping industry. To construct the sampling frame, publicly available contact information from the websites of the Marmara Exporters' Association (Istanbul, Bursa, etc.) and the Aegean Exporters' Association (İzmir and surrounding provinces) was used. No restrictions were placed on company size or industry sector during sample selection to increase representativeness and diversity.

Following the recommendations of Altunışık et al. (2007) and Hair et al. (2010) that the minimum sample size for multivariate analysis should be at least 10 times the number of observed variables, a target sample size of 370 was calculated for this study, which includes 37 observed variables.

A total of 400 structured questionnaires were distributed electronically via Google Forms. Data collection took place between September 2023 and March 2024, yielding a final sample of 165 valid

responses, for a response rate of approximately 47%. Each participating company was asked to provide one response from an employee with experience in customer relations or logistics operations. Although the total number of completed samples from 165 respondents fell well short of the original sample size goal of 400, this reflects the unique difficulties associated with high-level Business-to-Business (B2B) surveys in the Maritime Sector. The main reason for the difference between the intended and actual sample sizes is that managers and other logistics decision-makers are very busy and have very little free time due to their professional obligations.

Additionally, because the data collected is strategic in nature (assessments of service providers' performance and CSR initiatives), many organisations will be reluctant to participate in an independent academic study. Despite these barriers to survey participation, the 47% response rate is sufficient for statistical purposes for this specialised industry, and, as such, the geographic focus of the sample on Turkey's most important export hubs continues to provide reliable and valid results for the empirical analysis.

Data collection instruments

The primary data collection tool in this study was a structured questionnaire designed to measure perceived corporate social responsibility (CSR), customer satisfaction, and customer loyalty from the perspective of foreign trade companies that use container shipping services. The questionnaire consisted of closed-ended items and was administered electronically via Google Forms.

The measurement items were adapted from validated scales in the existing literature:

- CSR items were adapted from Ali et al. (2021),

- Customer satisfaction and customer loyalty items were adapted from the scale by Shin and Thai (2015).

All items were measured on a 5-point Likert scale ranging from 1 ("Strongly disagree") to 5 ("Strongly agree"). The questionnaire included a cover letter explaining the research aim, assuring participants of anonymity, and seeking their informed consent.

Before full-scale distribution, the questionnaire was reviewed by academic experts and pre-tested with a small group of respondents to ensure clarity and content validity. Following approval from the Ethics Committee for Social and Human Sciences at Yeditepe University, the final version of the survey was distributed to 400 companies between September 2023 and March 2024.

Data analysis techniques

The data analysis was conducted using IBM SPSS Statistics version 22.0. Several statistical techniques were applied to examine the measurement model and test the research hypotheses. First, descriptive statistics (mean, standard deviation, skewness, and kurtosis) were computed for all study variables to assess data distribution and test the normality assumption: skewness and kurtosis values were within the acceptable range of ±2. George and Mallery (2010) indicated that the data were approximately normally distributed. The reliability of the scales was evaluated using Cronbach's alpha coefficients, and validity was assessed through exploratory factor analysis (EFA**)** with Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity.

The research employed a structured, two-step analytical procedure to rigorously test the hypothesised relationships. As a preliminary step, Pearson correlation analysis was performed to assess linear associations and establish the relationships among Corporate Social Responsibility (CSR), customer satisfaction, and loyalty. This ensured that significant bivariate relationships existed before proceeding to more complex causal modelling. Subsequently, simple linear regression was used to evaluate the predictive impact, assess explanatory power (R^2), and determine the causal direction of CSR as a key determinant of customer outcomes. For group comparisons, one-way analysis of variance (ANOVA) and Tukey's HSD post hoc tests were conducted to assess whether CSR perceptions differ significantly across industry sectors and firm sizes, with Levene's test used to assess homogeneity of variance.

Findings

Descriptive statistics and scale reliability

Table 1 presents the descriptive statistics, reliability coefficients, and normality indicators for the main constructs. The scales used in this study demonstrated high reliability, with Cronbach's alpha values exceeding the recommended threshold of 0.70. The Skewness and Kurtosis coefficients fell within the acceptable range of ±2 (George and Mallery, 2010), indicating no substantial deviation from normality.

Table 1: Cronbach's Alpha, Skewness, and Kurtosis Coefficients

Variable	Mean	Item-based Mean	SD	Cronbach's α	Skewness	Kurtosis
Corporate Social Responsibility	78.05	4.10	13.32	0.956	-1.063	0.172
Customer Satisfaction	20.38	4.07	3.82	0.859	-1.305	1.586
Customer Loyalty	16.41	4.10	3.32	0.895	-1.045	0.591

Source: Authors

The descriptive statistical measures presented in Table 1 are cumulative totals across all scales. To use the 5-point Likert scale for interpretation, average item-based scores were also calculated. For example, the Corporate Social Responsibility (CSR) scale, comprising 19 items, produced a mean of 78.05 (4.10 per item; 78.05/19), indicating strong agreement among participants.

Scale validity and reliability analysis

To assess the validity and reliability of the measurement instruments, exploratory factor analysis (EFA) and Cronbach's alpha were used. The Kaiser-Meyer-Olkin (KMO) values for all three scales exceeded 0.70, indicating sampling adequacy (Field, 2009). Bartlett's test of sphericity was significant ($p < 0.001$) for all scales, supporting the factorability of the correlation matrices. The total variance explained ranged from 62.06% for CSR to 76.23% for customer loyalty, exceeding the recommended 50% threshold (Hair et al., 2009). The Cronbach's alpha values for all scales were above 0.85, demonstrating high internal consistency and reliability. Detailed results are provided in Table 2.

Table 2: Construct Validity and Reliability Results of the Measurement Model

Scale	KMO	Bartlett's Test (χ², df, p)	No. of Items	Total Variance Explained (%)	Cronbach's α	CR	AVE
Corporate Social Responsibility	0.954	χ²=2214.807, df=171, p<0.001	19	62.06%	0.956	0.960	0.564
Customer Satisfaction	0.843	χ²=433.922, df=10, p<0.001	5	65.21%	0.859	0.901	0.652
Customer Loyalty	0.795	χ²=402.034, df=6, p<0.001	4	76.23%	0.895	0.928	0.762

Source: Authors

Note: Bartlett's test and KMO confirm that the data are suitable for factor analysis. To assess the structural validity of the variables, average variance extracted (AVE) and composite reliability (CR) were computed. The AVE values exceed .50, and the CR values exceed .70, providing very strong statistical support for both convergent validity and measurement model stability.

As presented in Table 2, the measurement model demonstrates high internal consistency and structural validity. The total variance explained for all scales (ranging from 62.06% to 76.23%) indicates a strong factor structure. Furthermore, the AVE and CR values confirm that the constructs are well-defined and statistically robust, meeting the established criteria for convergent validity in social science research.

To examine potential common-method bias, Harman's single-factor test was conducted. The results showed that the first factor explained 55.66% of the total variance. Although this value slightly exceeds the common 50% threshold, the robust measurement model properties mitigate concerns regarding biased data. Specifically, all Average Variance Extracted (AVE) values (0.564, 0.652, and 0.762) are well above the recommended 0.50 threshold, confirming strong convergent validity. Furthermore, as the regression models exhibit high explanatory power (R^2 values of 0.707 and 0.690), the shared variance is interpreted as reflecting the strong theoretical and practical synergy between CSR and customer outcomes in the Turkish maritime context, rather than as a methodological bias.

Correlation analysis

Pearson correlation analysis was performed to examine the relationships between CSR, customer satisfaction, and customer loyalty. All correlations were positive and significant at the $p < 0.01$ level (see Table 3).

Table 3: Correl̇ation Analysis

Variables	1	2	3
1. Corporate Social Responsibility	1		
2. Customer Satisfaction	0.841**	1	
3. Customer Loyalty	0.831**	0.766**	1

Note: **$p < 0.01$

H₁: *A strong positive correlation was found between CSR and customer satisfaction (r = 0.841, p < 0.001). This indicates that as customers perceive higher levels of CSR activities by container line operators, their satisfaction increases accordingly. Thus, H1 is supported.*

H₂: *CSR was also strongly and positively correlated with customer loyalty (r = 0.831, p < 0.001). This suggests that companies that engage in CSR practices are more likely to foster loyal customer relationships. Therefore, H2 is supported.*

H₃: *Customer satisfaction exhibited a significant positive correlation with customer loyalty (r = 0.766, p < 0.001). This result implies that satisfied customers tend to remain loyal and continue their relationships with container line operators. Accordingly, H3 is supported.*

Regression analysis

In addition to correlation analysis, simple linear regression was conducted to examine the causal effects of perceived corporate social responsibility (CSR) on customer satisfaction and customer loyalty. The results demonstrated that CSR significantly predicts both customer satisfaction and loyalty. Detailed regression results are presented in Table 4.

Table 4: Regression Analysis Results for H4 and H5

Dependent Variable	Predictor Variable	β	R²	f^2	F	p-value
Customer Satisfaction	Corporate Social Responsibility	0.241	0.707	2.41	394.19	<0.001
Customer Loyalty	Corporate Social Responsibility	0.207	0.690	2.22	362.46	<0.001

H₄: *The analysis revealed that perceived CSR activities have a significant positive effect on customer satisfaction (β = 0.241, R² = 0.707, p < 0.001). This indicates that CSR activities explain 70.7% of the variance in customer satisfaction.*

H₅: *Similarly, CSR activities were found to have a significant positive effect on customer loyalty (β = 0.207, R² = 0.690, p < 0.001), explaining 69.0% of the variance in customer loyalty.*

These findings provide strong empirical support for H4 and H5. As shown in Table 4, the regression models exhibit high explanatory power, with R² values of 0.707 and 0.690. To assess the practical significance of these results, Cohen's f^2 effect sizes were calculated, yielding values of 2.41 and 2.22, respectively. These figures indicate an exceptionally large effect size, confirming that CSR initiatives are a dominant predictor of customer outcomes in the container shipping industry. The high R² values are attributed to the strategic nature of B2B relationships in this sector; for exporters in the Marmara and Aegean regions, a carrier's social and environmental responsibility is not merely an 'extra' but a core criterion for long-term partnership, leading to the pronounced statistical impact observed.

Group comparison analysis

To examine potential differences in CSR perceptions across customer firm characteristics, one-way ANOVA tests were conducted. The results are presented in Table 5.

Table 5: ANOVA Results for CSR Perceptions by Group

Grouping Variable	F	p-value
Foreign Trade Sector	19.429	<0.001
Firm Size (No. of Employees)	4.050	0.008

The ANOVA test revealed a statistically significant difference in CSR perceptions across foreign trade sectors (F = 19.429, p < 0.001). Post hoc analyses indicated that sectors such as minerals and natural stones, textiles, and olive oil had significantly higher CSR perception levels than the others. These results support H6.

Table 6: Post-Hoc Analysis (Tukey HSD) of CSR Perceptions by Industry Groups

Sector	N	Mean	SD	Tukey HSD Grouping
Fisheries and Animal Products (8)	15	4.52	0.20	a
Textile (9)	20	4.48	0.39	a
Minerals and Natural Stones (6)	31	4.438	0.50	a
Fresh Fruit and Vegetable (11)	26	4.437	0.45	a
Olive and Olive Oil (12)	18	4.40	0.64	a
Cereal, Pulse, Oil Seeds (4)	4	3.77	0.60	ab
Other (13)	39	3.49	0.55	b
Apparel (3)	6	3.09	0.14	c
Ferrous and Non-Ferrous Metals (1)	5	2.83	0.63	c
Total	**165**	**4.10**	**0.70**	

Note: Means with different superscript letters (a, b, c) are significantly different at $p < .05$ according to Tukey HSD post-hoc tests. Leather and Leather Products (N=1) were excluded from post hoc comparisons due to insufficient group sizes.

The Tukey HSD post hoc analysis found differences in perception types (see Table 6). The three industries with the highest levels of CSR alignment were the fisheries and animal products (M = 4.52), textiles (M = 4.48), and minerals and natural stones (M = 4.438). The high levels of CSR alignment in these industries can be attributed to their awareness of ethical and environmental standards, which are typically required for companies operating internationally. In contrast, the ferrous and non-ferrous metals (M = 2.83) and apparel (M = 3.09) industries had significantly lower CSR perceptions than the top three groups (p < .05). The results demonstrated that CSR can be an effective way to encourage customer interaction in the Turkish container shipping industry; however, it does so differently across each industry based on unique regulatory and sustainable demands placed upon them. One interesting result from this research was the difference between the textiles and apparel industries. Although they are commonly grouped, the textile industry (M = 4.48) views CSR as a key component of building long-term customer relationships through strategic partnerships. In contrast, the apparel industry (M = 3.09) focuses primarily on transaction-based cost reductions. This indicates that CSR's influence depends not only on the industry as a whole but also on the company's position in the global supply chain.

The results of Tukey HSD post hoc tests indicate statistically significant differences in CSR perception across certain firm size groups. Specifically, both small (10–49 employees) and medium-sized enterprises (50–249 employees) reported that container line operators' CSR practices were significantly lower than those of large enterprises (250+ employees). The mean differences were -7.315 (p = 0.035) and -7.571 (p = 0.039), respectively, suggesting that larger firms tend to evaluate CSR efforts more favourably (Table 7). This finding supports the idea that organisational resources, expectations, or exposure to CSR initiatives may vary by firm size.

Table 7: Post Hoc Comparisons of CSR Perceptions by Firm Size (Tukey HSD Test)

Firm Size (No. of Employees)	Firm Size (No. of Employees)	Mean Difference (Total)	Mean Difference (Item-Based)	Std. Error	Sig. (p)
Micro (0-9)	Small (10-49)	-5,429	**-0,29**	4,898	0,746
	Medium (50-249)	-5,685	**-0,3**	4,964	0,727
	Large (250 or more)	1,886	**0,1**	4,903	0,985
Small (10-49)	Micro (0-9)	5,429	**0,29**	4,898	0,746
	Medium (50-249)	-0,256	**-0,01**	2,579	1
	Large (250 or more)	**7,315***	**0,39***	2,46	**0,035**
Medium (50-249)	Micro (0-9)	5,685	**0,3**	4,964	0,727
	Small (10-49)	0,256	**0,01**	2,579	1
	Large (250 or more)	**7,571***	**0,40***	2,589	**0,039**
Large (250 or more)	Micro (0-9)	-1,886	**-0,1**	4,903	0,985
	Small (10-49)	**-7,315***	**-0,39***	2,46	**0,035**
	Medium (50-249)	**-7,571***	**-0,40***	2,589	**0,039**

Post hoc comparisons confirmed that larger firms perceived CSR initiatives more favourably than smaller ones, supporting H7.

Discussion

This study aimed to investigate how foreign trade firms operating in Turkey perceive the corporate social responsibility (CSR) practices of container line operators, and how these perceptions influence customer satisfaction and customer loyalty. Grounded in Social Exchange Theory (SET), which posits that mutual trust and reciprocity guide long-term relationships (Cropanzano and Mitchell, 2005), this study's findings confirm that CSR practices are an important non-financial determinant of customer attitudes in maritime logistics.

Consistent with prior research in service industries such as tourism, banking, and insurance (Mohammed and Rashid, 2018; Islam et al., 2021; Agyei, 2021), this study finds a significant and positive relationship between CSR and customer satisfaction (H1) and between CSR and customer loyalty (H2). The correlation and regression results both reinforce that when foreign trade customers perceive shipping lines as socially responsible, they tend to report higher levels of satisfaction and demonstrate greater loyalty. These findings align with those of Shin and Thai (2015) and Yuen et al. (2016), which also confirm the effect of CSR on customer-related outcomes in the maritime sector.

In addition, the statistical evidence supporting H3 confirms the long-acknowledged role of customer satisfaction as an important forerunner to loyalty. This finding is also supported by the theoretical basis for SET, which states that when customers obtain some form of value—whether economic, social, or ethical—from a company's practices, they will have a higher propensity to continue developing their relationship (Cropanzano et al., 2017). Empirical evidence supporting this relationship has been documented in other industries by Mohammed and Rashid (2018) and Zhang (2022).

These regression results provide stronger support for the causal interpretation of the relationship between CSR and customer behaviours; CSR significantly explains variance in both customer satisfaction (R^2 = .707) and customer loyalty (R^2 = .690); thus, we can conclude that our research findings support H4 and H5. In other words, there is evidence that foreign trade companies view CSR as part of their assessment of shipping services, rather than merely a symbolic or optional consideration. Compared with previous studies that typically viewed CSR as an abstract construct or an indirect predictor of customer behaviour, this study demonstrated CSR's direct predictive value for customer behaviour.

Furthermore, the fact that the Cohen's f2 effect size was used to estimate the practical implications of the results also supports the idea that CSR's impact on customer behaviors in the container shipping industry is not just statistically meaningful but strategically relevant; since the calculated Cohen's f2 effect sizes of 2.41 for customer satisfaction and 2.22 for customer loyalty are significantly larger than the conventional .35 threshold for "a large effect." The very high R-squared values for CSR indicate that the B2B maritime context is unique, driven by the importance of ethics and sustainability in the long-

term decision-making process for logistics partnerships among customers in the Marmara and Aegean regions.

An important contribution of this study lies in the exploration of how firm-level characteristics shape CSR perceptions. Findings revealed significant differences across industry sectors (H6), with companies in the fisheries and animal products, textiles, and minerals and natural stones sectors reporting higher CSR perceptions than those in other sectors. This result suggests that sectors more engaged in sustainability-sensitive production may have stronger expectations of their logistics partners' social and environmental performance. This aligns with insights from Yang et al. (2021), who emphasised that the strategic importance of CSR differs across industrial contexts. Interestingly, the results highlight a sectoral nuance between textiles and apparel. Firms in the textile group perceive CSR as a primary driver of satisfaction and loyalty, likely due to the increasing demand for sustainable sourcing in global manufacturing. Conversely, the apparel sector's lower scores suggest that cost-related pressures may still outweigh social responsibility perceptions in logistics provider selection within the retail-facing apparel industry in Turkey.

Similarly, CSR perceptions significantly varied by firm size (H7), with larger companies perceiving container lines as more socially responsible. Post hoc analyses showed that both small and medium-sized firms scored significantly lower than large firms on CSR perception. This may be due to differences in exposure, resources, or expectations, as larger firms often have more established CSR evaluation frameworks and closer partnerships with logistics providers. This result supports Udayasankar's (2008) argument that firm size moderates CSR engagement and perception.

Overall, this study fills a critical gap in the literature by focusing not on service providers, but on service users—foreign trade firms that rely on container shipping. Previous studies in maritime logistics have predominantly taken an internal, provider-focused view (Van Hoang and Vo, 2023; Senbursa and Tehci, 2023), whereas this study shifts the lens to the customer side. In doing so, it offers a more balanced understanding of how CSR practices are received and valued across the supply chain.

Conclusion

This research repositions Corporate Social Responsibility (CSR) in the maritime industry—from an adjunct philanthropy to a primary strategy with a direct impact on service quality and customer loyalty. The use of Social Exchange Theory as an analytical framework allowed us to see that the exporter-container line operator relationship was not simply a transactional cost-based relationship but rather a complex interrelationship of mutual exchange and trust. Thus, we found CSR to be a high-value social investment that reduced risk and strengthened relational bonds among organisations. Turkey's position as a strategic logistics link between East and West lends significance to the findings of this research. In particular, within the Marmara and Aegean regions of Turkey — where the industrial heartland of export production is located — container shipping was shown to be more than a mere logistical process; rather, it was instrumental in global competitiveness itself. Therefore, for exporter firms operating within these regions, a carrier's ethical standing and CSR are means of establishing trust and developing long-term relational relationships with carriers. Consequently, this research provides a new perspective on how CSR functions as a strategic tool in a rapidly changing, emerging market like Turkey.

This study contributes to the growing literature on CSR in logistics and maritime transport by offering an empirical examination of the effects of CSR perceptions on customer satisfaction and loyalty from the perspective of foreign trade companies. Guided by Social Exchange Theory, the research demonstrates that container line operators' CSR activities significantly enhance customer satisfaction and loyalty, underscoring the strategic value of responsible practices in a competitive service industry.

The study's unique contribution lies in its user-focused perspective, as most prior studies in maritime logistics adopt a service-provider perspective. By surveying 165 firms across diverse sectors and sizes, this research provides insights into how CSR is perceived differently across customer segments and how these perceptions influence loyalty dynamics.

Beyond its empirical findings, this study offers key insights for policymakers and industry practitioners. Results show that CSR is not just a tool for reputation management, but a strategic asset that strengthens long-term customer relationships. Given the growing demand for sustainability, authorities should encourage CSR through incentives and clear regulations.

Theoretical implications

This research confirms the applicability of SET in maritime logistics and reinforces the mediating role of satisfaction in the relationship between CSR and loyalty. It also extends the existing literature by empirically demonstrating the direct effects of CSR, rather than treating it as a background or symbolic construct.

Managerial implications

Container line operators are encouraged to invest in socially responsible practices — not just for ethical compliance, but to build customer satisfaction and loyalty. Segmenting customers based on industry and firm size could also enable shipping lines to tailor CSR communication strategies more effectively. Recognising the heightened expectations of environmentally sensitive sectors can support differentiation in a competitive market.

Limitations and future research

The sample of 165 valid responses was large enough to provide sufficient statistical power for the present analysis. However, the relatively small sample size used here will likely limit the generalizability of the results to all of Turkey's export sectors. In addition to the geographic limitations of the present study (which are limited to the Marmara and Aegean regions), future research could benefit from a more geographically diverse sampling frame. Moreover, because the data for the present study were collected using a single-time-point cross-sectional survey methodology, the findings do not adequately capture the dynamic nature of CSR's effects on customer behaviour over time, especially under conditions of economic or supply chain volatility. The strategic role that CSR can play in global supply chains is further clarified by comparing different logistics modes and by conducting additional qualitative interviews.

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