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HOW CORPORATE SOCIAL RESPONSIBILITY, ABSORPTIVE CAPACITY AND SUPPLY CHAIN COLLABORATION SHAPE FIRM PERFORMANCE: EVIDENCE FROM FREIGHT FORWARDING FIRMS IN HO CHI MINH CITY, VIETNAM

COMO A RESPONSABILIDADE SOCIAL CORPORATIVA, A CAPACIDADE DE ABSORÇÃO E A COLABORAÇÃO NA CADEIA DE SUPRIMENTOS MOLDAM O DESEMPENHO DAS EMPRESAS: EVIDÊNCIAS DE EMPRESAS DE TRANSPORTE DE CARGAS EM HO CHI MINH CITY, VIETNÃ

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Abstract
Purpose: Based on Resource-Based View (RBV), Dynamic Capabilities Theory (DCT) and Stakeholder Theory (ST), this study examines how Corporate Social Responsibility (CSR) is transformed into firm performance (FP) through organizational mechanisms and capabilities in the context of freight forwarding firms in Ho Chi Minh City. CSR is conceptualized according to stakeholder groups, including: CSR to social and non-social stakeholders (CSRSS), customers (CSRC), employees (CSRE) and government (CSRG). The study simultaneously evaluates the roles of Green Human Resource Management (GHRM), Absorptive Capacity (AC), Supply Chain Collaboration (SCC) and Innovation Capability (IC) in the value creation mechanism.

Resumo
Objetivo: Com base na Visão Baseada em Recursos (RBV), na Teoria das Capacidades Dinâmicas (DCT) e na Teoria das Partes Interessadas (ST), este estudo examina como a Responsabilidade Social Corporativa (RSC) é transformada em desempenho empresarial (FP) por meio de mecanismos organizacionais e capacidades no contexto das empresas de frete em Ho Chi Minh City. A RSE é conceituada de acordo com os grupos de partes interessadas, incluindo: RSE para partes interessadas sociais e não sociais (CSRSS), clientes (CSRC), funcionários (CSRE) e governo (CSRG). O estudo avalia simultaneamente os papéis da Gestão de Recursos Humanos Verdes (GHRM), Capacidade de Absorção (AC), Colaboração na

Methodology: Cross sectional survey data from 603 freight forwarding firms were analyzed using covariance based structural equation modeling (CB-SEM) and bootstrapping to test for mediating effects. Findings: Multidimensional CSR has a direct positive impact on FP, but only at a moderate level (β ≈ 0.098–0.114), while value is primarily formed through internal transformation mechanisms. CSRE is the strongest antecedent of GHRM (β = 0.357). GHRM is the central link, directly impacting FP (β = 0.157) and promoting IC (β = 0.286). At the same time, AC and SCC primarily enhance FP through IC (AC → IC → FP; SCC → IC → FP). The model achieved a good fit (CMIN/df = 1.898; CFI = 0.951; TLI = 0.944; RMSEA = 0.039) and explained 31.7% of the variance in FP (R^2 = 0.317). Contributions: This research clarifies CSR as an intangible asset. It shows that CSR creates value when it's integrated through micro-level processes, like GHRM, and dynamic capabilities, such as AC, SCC and IC. The study also provides real-world evidence from the logistics sector in a developing economy.

Keywords: Corporate Social Responsibility. Green Human Resource Management. Absorptive Capacity. Supply Chain Collaboration. Innovation Capability. Firm Performance. Freight Forwarding Firms.

Cadeia de Abastecimento (SCC) e Capacidade de Inovação (IC) no mecanismo de criação de valor. Metodologia: Dados de pesquisa transversal de 603 empresas de frete foram analisados usando modelagem de equações estruturais baseada em covariância (CB-SEM) e bootstrapping para testar os efeitos mediadores. Resultados: A RSE multidimensional tem um impacto positivo direto na FP, mas apenas a um nível moderado (β ≈ 0,098–0,114), enquanto o valor é formado principalmente através de mecanismos de transformação interna. A CSRE é o antecedente mais forte da GHRM (β = 0,357). A GHRM é o elo central, impactando diretamente a FP (β = 0,157) e promovendo a IC (β = 0,286). Ao mesmo tempo, a AC e a SCC aumentam principalmente a FP por meio da IC (AC → IC → FP; SCC → IC → FP). O modelo alcançou um bom ajuste (CMIN/df = 1,898; CFI = 0,951; TLI = 0,944; RMSEA = 0,039) e explicou 31,7% da variação no FP (R^2 = 0,317). Contribuições: Esta pesquisa esclarece a RSE como um ativo intangível. Ela mostra que a RSE cria valor quando é integrada por meio de processos em nível micro, como GHRM, e capacidades dinâmicas, como AC, SCC e IC. O estudo também fornece evidências reais do setor de logística em uma economia em desenvolvimento.

Palavras-chave: *Responsabilidade Social Corporativa. Gestão de Recursos Humanos Verdes. Capacidade de Absorção. Colaboração na Cadeia de Suprimentos. Capacidade de Inovação. Desempenho da Empresa. Empresas de Agenciamento de Cargas.*

1 INTRODUCTION

In the context of globalization, digitalization, and the green transition, logistics and freight forwarding firms face mounting pressures from intensified service competition, stricter regulatory and environmental requirements, and rising stakeholder expectations regarding CSR. Unlike manufacturing firms, freight forwarding companies operate as cross border intermediaries within supply chains, relying heavily on frontline human resources, inter-organizational collaboration, and information sharing. As a result,

FP in this sector increasingly depends not only on operational efficiency but also on intangible resources and organizational capabilities.

Over the past two decades, CSR has been widely conceptualized as an intangible resource capable of generating value by enhancing legitimacy, strengthening stakeholder trust, and mitigating operational risks. Empirical evidence from developing and emerging economies generally reports a positive association between CSR and FP (Bahta *et al*., 2021; Ngo & Le, 2023). In Vietnam, prior studies likewise indicate that CSR contributes to improved FP, corporate reputation, and customer loyalty (Hoang & Vo, 2023; Nguyen & Ho, 2025). However, the literature remains inconclusive. Several studies report statistically insignificant or context dependent effects for specific CSR dimensions, particularly legal or philanthropic CSR (Nazri *et al*., 2020; Lu *et al*., 2020). These mixed findings suggest that CSR does not function as an automatic value creating mechanism; rather, its effectiveness depends on how social commitments are translated into internal organizational processes and capabilities.

A critical review of the literature reveals several unresolved gaps. First, from a theoretical perspective, most CSR–FP studies rely primarily on the RBV or stakeholder theory, while research grounded in DCT often examines AC, SCC or IC in isolation (Singh *et al*., 2020; Prakasa *et al*., 2022). Despite recent efforts to integrate complementary perspectives such as the AMO framework or institutional theory, there remains a lack of a coherent framework explaining how CSR, as an intangible resource, is converted into economic value through micro-level mechanisms and dynamic capabilities (Tanveer *et al*., 2023).

Second, regarding conceptualization, many studies operationalize CSR as a unidimensional or composite construct, potentially obscuring heterogeneous effects across different stakeholder groups. Emerging evidence suggests that stakeholder oriented CSR dimensions operate through distinct mechanisms and yield uneven performance outcomes. In service contexts, for instance, employee related CSR does not consistently exert a direct effect on FP, while other CSR dimensions show divergent effects across industries and countries (Nazri *et al*., 2020; Nguyen & Ho, 2025).

Third, concerning impact mechanisms, although several studies support the mediating role of GHRM in linking CSR to FP (García *et al*., 2021; Tanveer *et al*., 2023), findings within the logistics sector remain inconsistent. Some studies indicate that GHRM

does not always directly enhance FP and that its effectiveness is contingent on contextual conditions (Muafi & Kusumawati, 2021a, 2021b). Similarly, empirical evidence on the mediating role of IC in the relationships between AC, SCC, and FP is mixed (Prakasa *et al*., 2022; Uddin, 2022).

Fourth, most existing evidence is derived from manufacturing sectors or developed economies, while rigorous quantitative research on logistics firms in developing countries particularly Vietnam remains limited. Finally, prior studies employ diverse analytical techniques (SPSS, PLS-SEM, CB-SEM) with varying objectives and sample sizes, constraining cross study comparability. Applications of covariance based structural equation modeling (CB-SEM) to simultaneously test measurement and structural models with multiple mediating mechanisms in the logistics context are still relatively scarce.

Integrating RBV, DCT and stakeholder theory, this study argues that CSR represents a directional intangible resource that generates value only when internalized through organizational practices and capabilities (Barney, 1991; Teece *et al*., 1997). Within this framework, GHRM functions as a critical micro level mechanism that embeds CSR into employee behavior and operational routines. AC and SCC constitute dynamic capabilities grounded in knowledge and inter organizational networks, enabling firms to sense, absorb, and reconfigure resources. IC serves as the final value realization mechanism, transforming knowledge and collaboration into service, process, and technological improvements that enhance FP (Zahra & George, 2002; Liao *et al*., 2018; Baah *et al*., 2021).

Accordingly, this study addresses three research questions: (1) How do stakeholder-oriented CSR dimensions influence the FP of freight forwarding firms?; (2) How do GHRM and IC mediate, AC and SCC support, the CSR–FP value creation mechanism?; (3) Which CSR dimensions and organizational capabilities should be strategically prioritized to maximize FP?

Using survey data from 603 freight forwarding firms in Ho Chi Minh City and employing CB-SEM, this study contributes to the literature by: (i) conceptualizing CSR as a multidimensional, stakeholder oriented construct; (ii) integrating RBV, dynamic capabilities and GHRM as a micro foundation within a unified analytical framework; (iii) providing robust empirical evidence from the logistics sector in a developing economy.

2 LITERATURE REVIEW

2.1 Multidimensional corporate social responsibility and firm performance

CSR is often considered an intangible asset that can enhance FP by improving corporate reputation, organizational legitimacy, and stakeholder support, while also mitigating operational risks (Barney, 1991; Freeman *et al*., 1984). Empirical research in developing and emerging economies frequently demonstrates a positive relationship between CSR engagement and both financial and non financial performance metrics (Bahta *et al*., 2021). Likewise, in the Vietnamese context, prior research has underscored CSR's role in fostering FP, corporate image, and customer satisfaction and trust (Hoang & Vo, 2023; Ngo & Le, 2023; Nguyen & Ho, 2025).

Conversely, existing research consistently highlights a crucial point: the immediate ability of CSR to create value is not definitively established. The extent and nature of the connection between CSR and FP depend on how CSR is defined, the specific industry, and the internal structure of the organization (Lu *et al*., 2020; Nazri *et al*., 2020). Specifically, some aspects of CSR, like legal compliance or charitable activities, have shown no statistical significance in certain studies (Nazri *et al*., 2020; Lu *et al*., 2020). In Vietnam, certain service sectors have demonstrated that CSRE does not exert a direct influence on FP (Nguyen & Ho, 2025). These observations imply that conceptualizing CSR as a unified construct could potentially mask the varied impacts on diverse stakeholders, thereby obscuring the mechanisms through which value is generated (Ikram *et al*., 2019; Lu *et al*., 2020; Nazri *et al*., 2020).

This study examines CSR as comprising four components: CSRSS, CSRC, CSRE, and CSRG. This approach is consistent with recent research showing that CSR dimensions, specific to different stakeholders, have different effects on how organizations behave and their FP (Yang, 2018; Nguyen & Ho, 2025). This holistic viewpoint is especially pertinent in the domains of logistics and freight forwarding. FP is significantly shaped by several critical factors: (1) the quality of service provision and the effectiveness of customer relationship management, (2) the skills of employees who engage with clients, and (3) compliance with regulatory standards and environmental protocols. These

aspects are closely aligned with CSRC, CSRE, CSRG, and the societal dimension of CSRSS, as demonstrated by Hoang & Vo (2023) and Ikram *et al*. (2019).

Based on these ideas, this study will empirically examine the direct effects of each CSR dimension on FP and will test the following hypotheses:

H1a: CSRSS has a positive direct effect on FP.

H1b: CSRC has a positive direct effect on FP.

H1c: CSRE has a positive direct effect on FP.

H1d: CSRG has a positive direct effect on FP.

2.2 Corporate social responsibility and green human resource management

From the perspective of RBV and stakeholder theory, CSR transcends simple external obligations and significantly influences the structure and operation of a company's internal management systems. Institutionalizing CSR requires the embedding of social and environmental factors within organizational policies and human resource management practices. This integration subsequently enables GHRM, which serves as a means of converting intangible resources into organizational capabilities (Barney, 1991; Freeman *et al*., 1984; García *et al*., 2021; Tanveer *et al*., 2023).

GHRM includes HR practices like hiring, training, performance evaluation, and pay, all designed to support sustainability goals. This approach helps turn CSR commitments into employees' skills, motivations, and actions. Research suggests that companies with strong CSR values tend to use GHRM practices more often, especially in service industries with lots of employees and significant regulatory and stakeholder pressures, such as logistics and freight forwarding (Singh *et al*., 2020; García *et al*., 2021).

A stakeholder focused approach to CSR offers a more comprehensive view of this concept. CSRE directly supports GHRM by allocating resources to employee well being, training programs, and workplace conditions. CSR activities targeting CSRC and CSRG create compliance requirements concerning service benchmarks, environmental regulations, and legal mandates, which subsequently pressure organizations to integrate these demands into their human resource policies and operational practices. Simultaneously, CSR efforts directed at societal and wider stakeholder groups (CSRSS) bolster organizational legitimacy and normative alignment, thus fostering the

institutionalization of sustainable human resource practices (Ikram *et al*., 2019; Yang, 2018; Tanveer *et al*., 2023).

Empirical studies show that the impact of CSR on GHRM varies in both strength and significance. This depends on the specific CSR aspect, the industry, and the country. This variation suggests that the relationship between CSR and GHRM requires a detailed examination, rather than assuming a consistent effect. Therefore, separate analyses for each CSR component are needed (Maryam *et al*., 2023; Nguyen & Ho, 2025). Based on this, this research proposes the following hypotheses:

H2a: CSRSS has a positive direct effect on GHRM

H2b: CSRC has a positive direct effect on GHRM

H2c: CSRE has a positive direct effect on GHRM

H2d: CSRG has a positive direct effect on GHRM

2.3 GHRM and FP: direct effects and the mediating role of GHRM in the CSR–FP relationship

According to the Ability–Motivation–Opportunity (AMO) framework, human resource systems generate organizational outcomes when they simultaneously enhance employees' abilities, motivation, and opportunities to contribute. GHRM operationalizes this logic in the sustainability context by developing green related capabilities through training and skill standardization, designing motivation systems linked to environmental objectives (performance appraisal and green incentives) and expanding employees' opportunities to participate in service and process improvements (Singh *et al*., 2020; Acquah *et al*., 2020). Through these mechanisms, GHRM is expected to enhance FP by improving operational efficiency, service quality, and innovation outcomes (Tanveer *et al*., 2023).

Conversely, empirical findings from the logistics industry indicate that the direct impact of GHRM on FP might be dependent on specific contextual factors. Research within the express delivery sector, for instance, reveals that GHRM does not demonstrate a statistically significant direct effect on FP, a result corroborated by subsequent studies within the same industry (Muafi & Kusumawati, 2021a, 2021b). In contrast, other investigations suggest that GHRM generates value primarily through indirect

mechanisms, including green innovation, organizational learning, or supply chain-related outcomes (Maryam *et al*., 2023). The observed discrepancies in research findings suggest that a singular focus on the direct link between GHRM and FP might not completely clarify its contribution to value creation. Consequently, this study employs a dual methodological framework, assessing the direct impact of GHRM on FP as a context dependent relationship, while concurrently highlighting the mediating function of GHRM in converting CSR into FP. This methodology is consistent with the wider viewpoint that CSR generates value only when integrated into organizational capabilities and operational practices, rather than serving as a symbolic or externally focused commitment (García *et al*., 2021; Tanveer *et al*., 2023; Lu *et al*., 2020).

Although research has explored the connections between CSR and GHRM, as well as CSR and FP, empirical studies examining GHRM as a mediating factor are scarce and yield inconsistent results within the logistics industry, especially in developing and emerging economies. This deficiency is exacerbated when CSR is analyzed through individual stakeholder focused dimensions instead of as a consolidated construct (Maryam *et al*., 2023; Nguyen & Ho, 2025).

Therefore, this study proposes the following hypothesis to address the discovered gaps.

H3: GHRM has a positive direct effect on FP

H4a: CSRSS positively influences FP indirectly via GHRM

H4b: CSRC positively influences FP indirectly via GHRM

H4c: CSRE positively influences FP indirectly via GHRM

H4d: CSRG positively influences FP indirectly via GHRM

2.4 Absorptive capacity, innovation capability, and firm performance

In accordance with DCT, AC denotes a firm's capacity to recognize, procure, modify, and utilize external knowledge, thereby facilitating adaptation and performance improvement within fluctuating environments (Teece *et al*., 1997; Zahra & George, 2002). Within the logistics and freight forwarding industry a sector characterized by its reliance on knowledge and significantly influenced by digitalization, service benchmarks, and regulatory mandates concerning customs, environmental safeguards, and safety

protocols AC empowers firms to decipher market cues, integrate novel technologies, and augment operational efficiency (Ibarra-Cisneros *et al*., 2019; Nguyen *et al*., 2022). Several studies suggest that AC might improve FP by enhancing decision making, streamlining processes, and supporting strategic adjustments (Ibarra-Cisneros *et al*., 2019). However, research also shows that AC doesn't automatically create value unless it leads to specific organizational results, particularly innovations (Prakasa *et al*., 2022; Nguyen *et al*., 2022).

Consequently, IC is considered a crucial mechanism for value creation, given that knowledge generates economic value exclusively when it is transformed into innovations pertaining to services, processes, technologies, or business models (Imran *et al*., 2021). Within logistics and freight forwarding companies, innovation is largely focused on processes and services, thereby emphasizing the critical function of IC in improving FP (Imran *et al*., 2021). Furthermore, previous research increasingly indicates that AC affects FP mainly through indirect routes, with IC serving as a mediator. Conversely, empirical evidence concerning this mediation process presents a heterogeneous picture across various settings and sectors (Prakasa *et al*., 2022; Nguyen *et al*., 2022). To resolve this disparity, the current research investigates both the direct and indirect impacts of AC on FP concurrently, with the aim of elucidating the value creation process of AC specifically within the Vietnamese logistics industry.

Based on these arguments, the following hypotheses are proposed:

H5: AC has a positive direct effect on FP

H6: AC has a positive direct effect on IC

H7: AC positively influences FP indirectly via IC

H8: IC has a positive direct effect on FP

2.5 Supply chain collaboration, innovation capability, and firm performance

SCC indicates how much supply chain members share information, coordinate activities, and work together. From a Resource Based View perspective, SCC helps companies access resources and knowledge that they don't have within their own organizations. Additionally, from a Dynamic Capabilities perspective, SCC acts as an external mechanism for reconfiguration, allowing companies to adapt more quickly to

changes in demand, technology, and industry standards (Teece *et al*., 1997; Liao *et al*., 2018). In the logistics and freight forwarding sector, where service quality depends heavily on coordination among carriers, warehousing providers, customers, and regulatory bodies like customs, SCC can improve FP by increasing service reliability, operational stability, and coordination efficiency (Baah *et al*., 2021; Uddin, 2022).

Conversely, akin to the relationship between AC and FP, the impact of SCC on FP is not invariably direct or absolute. A burgeoning body of literature indicates that SCC's value generation is optimized when it fosters service and process innovation via IC, which is facilitated by collaborative problem solving, the sharing of operational expertise, and experimentation with novel service configurations and delivery models (Liao *et al*., 2018; Uddin, 2022). Notwithstanding these theoretical perspectives, empirical findings concerning the mediating function of IC within the SCC–FP nexus are inconsistent and contingent upon specific contexts. These discrepancies are especially evident within the logistics sector of developing and emerging economies, where rigorous empirical investigations are still scarce (Baah *et al*., 2021; Uddin, 2022).

Accordingly, this study simultaneously examines both the direct and indirect effects of SCC on FP in order to clarify the mechanisms through which SCC contributes to value creation in the context of freight forwarding firms in Ho Chi Minh City. Based on the foregoing arguments, the following hypotheses are proposed:

H9: SCC has a positive direct effect on FP

H10: SCC has a positive direct effect on IC

H11: SCC positively influences FP indirectly via IC

2.6 Green human resource management and innovation capability

According to the AMO framework, GHRM generates organizational value only when it simultaneously enhances employees' abilities, motivation, and opportunities to contribute. In the sustainability context, GHRM operationalizes this logic by developing green related competencies, stimulating innovation oriented motivation, and creating opportunities for employees to propose, experiment with, and implement improvements in service delivery and operational processes (Singh *et al*., 2020; Acquah *et al*., 2020).

Empirical research increasingly suggests that GHRM can augment IC by fostering organizational learning, facilitating knowledge transfer, and encouraging employee innovation (Lin *et al*., 2024). The importance of GHRM is particularly evident within the logistics and freight forwarding sector, where innovation predominantly occurs in process and service improvements; this is because many advancements originate from the operational perspectives and grassroots efforts of frontline employees (Imran *et al*., 2021).

Conversely, previous research has yielded inconsistent results. Certain studies suggest that GHRM does not invariably foster innovation across all circumstances, especially when green initiatives are adopted superficially or ceremonially, or when they lack adequate incentive and assessment mechanisms (Muafi & Kusumawati, 2021a). These observations suggest that the GHRM–IC connection is contingent upon the specific context and the extent of GHRM integration. Consequently, empirical examination of this relationship is still required within the logistics industry of developing and emerging economies. In light of these factors, the subsequent hypothesis is presented:

H12: GHRM has a positive direct effect on IC

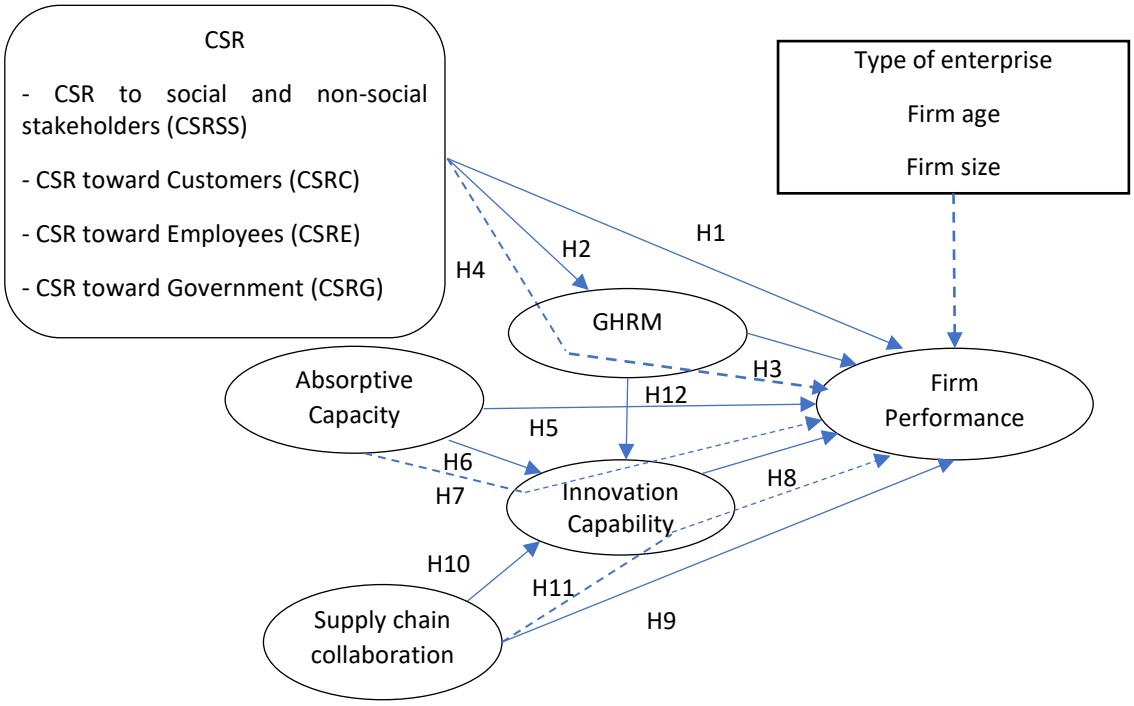
In summary, this study seeks to construct a unified theoretical framework, conceptualizing multidimensional CSR as an intangible strategic asset. Anchored in the RBV, this asset is directly influenced by Stakeholder Theory, which highlights the varied needs of essential stakeholder groups. Within this structure, CSR is translated into FP through internal organizational processes, specifically through GHRM, and is further enhanced by Dynamic Capabilities, including AC, SCC and IC. Considering the existing literature, which presents both supportive and conflicting empirical findings, the research formulates a series of hypotheses (H1–H12) to empirically assess the research model within the context of freight forwarding companies situated in Ho Chi Minh City.

2.7 Research model

Applying RBV, DCT, stakeholder theory, and synthesizing previous studies, the author proposes the following research model:

Figure 1

Suggested research model



3 RESEARCH METHODOLOGY

3.1 Sample and data collection

Data were collected through a questionnaire survey of freight forwarding firms operating in Ho Chi Minh City, Vietnam. Senior managers were selected as the key informants due to their comprehensive knowledge and direct involvement in the formulation and implementation of CSR, GHRM, AC, SCC, IC, as well as in evaluating overall Firm Performance. The sampling frame was constructed based on the official lists of firms provided by the Vietnam Logistics Services Enterprises Association and the Ho Chi Minh City Logistics Association.

The survey was conducted between October 2025 and January 2026 using a convenience sampling approach. A total of 638 questionnaires were distributed, and 603 valid responses were retained for analysis (valid response rate = 94.5%). This sample size is adequate for covariance-based SEM given the complexity of the model and the number of observed indicators.

The questionnaire was finalized through a rigorous process involving expert review and pilot quantitative testing. In addition, both procedural and statistical remedies were employed to assess potential common method bias, and the results indicate that no serious common method variance was present.

3.2 Measurement scales

All constructs were measured using multi-item scales adapted from prior validated studies and contextualized to freight forwarding firms in Vietnam. CSR was specified as a stakeholder-oriented construct consisting of four dimensions: CSRSS, CSRC, CSRE, CSRG following Turker (2009). Measures of GHRM, AC, SCC, IC and FP were adapted from Hassanein *et al*. (2024), Çelik *et al*. (2025), Issah *et al*. (2025), Hurtado-Palomino *et al*. (2022), and Ho (2025).

To establish content validity, the questionnaire was evaluated by academic experts and industry practitioners and then pilot tested, leading to minor wording refinements. All items were assessed using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The complete set of measurement items and sources is reported in Appendix A.

3.3 Data analysis method

This study employs covariance based structural equation modeling (CB-SEM) to simultaneously test the measurement model and the structural model, which is appropriate for theory testing and for assessing the overall model fit. Data analyses were conducted using AMOS, with parameters estimated via the Maximum Likelihood (ML) method.

The study's methodology had three main parts: (1) Confirmatory factor analysis (CFA) was used to confirm the measurement model's reliability. Cronbach’s alpha and composite reliability (CR) were the main metrics used for this purpose; (2) Convergent validity was evaluated through the average variance extracted (AVE), whereas discriminant validity was determined using the Fornell–Larcker criterion and maximum shared variance (MSV). The structural model's fit was assessed by analyzing global fit indices, specifically the chi-square to degrees of freedom ratio (CMIN/df), comparative

fit index (CFI), Tucker–Lewis index (TLI), goodness-of-fit index (GFI), and root mean square error of approximation (RMSEA), in conjunction with the standardized path coefficients; (3) The presence of mediating effects was examined employing the bootstrapping method, which entailed 1,600 resamples and the utilization of bias-corrected 95% confidence intervals to ascertain the statistical significance of indirect effects; an indirect effect was deemed significant if its confidence interval excluded zero.

4 RESEARCH RESULTS

4.1 Measurement model assessment

Following the preliminary examination of the measurement scales using exploratory factor analysis (EFA), confirmatory factor analysis (CFA) was conducted to assess the adequacy of the measurement model prior to testing the structural relationships. The CFA results were estimated using unstandardized parameters to evaluate overall model fit, unidimensionality, and convergent validity of the latent constructs.

Table 1

Results of confirmatory factor analysis (unstandardized estimates)

			Estimate	S.E.	C.R.	P	Label
CSRG2	<---	CSRG	1.000				
CSRG3	<---	CSRG	.953	.042	22.650	***	
CSRG1	<---	CSRG	.975	.044	21.971	***	
CSRG4	<---	CSRG	.837	.046	18.338	***	
KQKD3	<---	KQKD	1.000				
KQKD4	<---	KQKD	1.001	.034	29.535	***	
KQKD1	<---	KQKD	.922	.033	28.042	***	
KQKD2	<---	KQKD	.900	.032	28.470	***	
AC2	<---	AC	1.000				
AC3	<---	AC	.931	.059	15.857	***	
AC4	<---	AC	.941	.058	16.325	***	
AC1	<---	AC	.870	.057	15.381	***	
CSRSS1	<---	CSRSS	1.000				
CSRSS2	<---	CSRSS	.873	.045	19.352	***	
CSRSS3	<---	CSRSS	.767	.046	16.677	***	
CSRSS4	<---	CSRSS	.770	.047	16.427	***	
SCC2	<---	SCC	1.000				
SCC3	<---	SCC	.977	.056	17.287	***	
SCC4	<---	SCC	.983	.059	16.621	***	

			Estimate	S.E.	C.R.	P	Label
SCC1	<---	SCC	.925	.057	16.146	***	
GHRM2	<---	GHRM	1.000				
GHRM3	<---	GHRM	1.109	.064	17.449	***	
GHRM4	<---	GHRM	1.019	.063	16.303	***	
GHRM1	<---	GHRM	.892	.062	14.420	***	
IC2	<---	IC	1.000				
IC3	<---	IC	.958	.061	15.773	***	
IC4	<---	IC	.912	.060	15.231	***	
IC1	<---	IC	.964	.064	15.084	***	
CSRC2	<---	CSRC	1.000				
CSRC1	<---	CSRC	1.091	.071	15.271	***	
CSRC4	<---	CSRC	.871	.060	14.485	***	
CSRE2	<---	CSRE	1.000				
CSRE4	<---	CSRE	1.042	.078	13.362	***	
CSRE3	<---	CSRE	1.000	.075	13.261	***	

Note: Unstandardized estimates are reported.

As reported in Table 4.1, the measurement model demonstrates a good fit with the empirical data. All goodness-of-fit indices meet or exceed the recommended threshold values (CMIN/df = 1.771; CFI = 0.958; TLI = 0.952; GFI = 0.921; RMSEA = 0.036), indicating a satisfactory correspondence between the proposed measurement model and the observed data.

Table 2

Values of CR, AVE, and MSV parameters

	CR	AVE	MSV	SQRTAVE	MaxR(H)	CSRG	FP	AC	CSRSS	SCC	GHRM	IC	CSRC	CSRE
CSRG	0.87	0.626	0.222	0.791	0.879	**0.791**								
FP	0.919	0.738	0.185	0.859	0.924	0.360***	**0.859**							
AC	0.814	0.523	0.153	0.723	0.818	0.267***	0.349***	**0.723**						
CSRSS	0.833	0.557	0.077	0.746	0.851	0.207***	0.278***	0.164***	**0.746**					
SCC	0.829	0.549	0.15	0.741	0.831	0.309***	0.342***	0.301***	0.216***	**0.741**				
GHRM	0.817	0.529	0.214	0.728	0.825	0.355***	0.430***	0.391***	0.263***	0.334***	**0.728**			

IC	0.803	0.506	0.222	0.711	0.807	0.471***	0.371***	0.336***	0.176***	0.388***	0.407***	**0.711**		
CSRC	0.787	0.553	0.117	0.743	0.793	0.331***	0.325***	0.265***	0.210***	0.217***	0.342***	0.150**	**0.743**	
CSRE	0.752	0.502	0.214	0.709	0.752	0.324***	0.378***	0.331***	0.182***	0.285***	0.463***	0.365***	0.337***	**0.709**

Additional evidence for measurement reliability and validity is presented in Table 4.2. The CR values range from 0.752 to 0.919, exceeding the recommended threshold of 0.70, while the AVE values range from 0.502 to 0.738, satisfying the minimum criterion of 0.50 (Hair *et al*., 2018). Discriminant validity is further supported as the square roots of AVE for each construct exceed the corresponding inter-construct correlations, and AVE values are greater than the maximum shared variance (MSV). Collectively, these results confirm that the measurement model exhibits satisfactory reliability and validity, thereby providing a robust foundation for subsequent structural equation modeling.

4.2 Structural model results

The structural equation model was estimated using maximum likelihood (ML) estimation in AMOS with a sample size of 603. The results indicate a satisfactory overall model fit (CMIN/df = 1.898; CFI = 0.951; TLI = 0.944; GFI = 0.916; RMSEA = 0.039). The model explains 32.7% of the variance in GHRM, 26.5% of IC, and 31.7% of FP, as summarized in Table 4.3.

Table 3

Table of results for standardized regression coefficient analysis and explanatory power (R2)

Hypothesis	**Relationship**	**Standardized coefficient (β)**	**Order of impact**
Factors affecting GHRM	Level of explanation (R^2 = 32.7%)		
H2c	CSRE → GHRM	0.357	1
H2d	CSRG → GHRM	0.186	2
H2a	CSRSS → GHRM	0.136	3
H2b	CSRC → GHRM	0.134	4
Factors affecting IC	Level of explanation (R^2 = 26.5%)		
H12	GHRM → IC	0.286	1

H10	SCC → IC	0.266	2
H6	AC → IC	0.168	3
Factors affecting FP	Level of explanation (R^2 = 31.7%)		
H3	GHRM → FP	0.157	1
H1a	CSRSS → FP	0.114	2
H1c	CSRE → FP	0.112	3
H1b	CSRC → FP	0.111	4
H5	AC → FP	0.111	4
H9	SCC → FP	0.108	5
H8	IC → FP	0.105	6
H1d	CSRG → FP	0.098	7

All hypothesized structural paths are positive and statistically significant, providing empirical support for the proposed theoretical relationships. Bootstrapping with 1,600 resamples further confirms the robustness of the estimated parameters, with negligible bias across all estimated paths.

4.3 Hypothesis testing results

The results of hypothesis testing are summarized in Table 4.5. All proposed direct effect hypotheses are supported, as indicated by statistically significant standardized regression coefficients (β) with p-values below the 0.05 threshold. In addition, all proposed indirect effect hypotheses are supported based on the bootstrapping analysis, with statistically significant indirect effects ($p < 0.05$).

Table 4

Summary of Hypothesis Testing Results

Hypothesis	Relationship	Unstandardized regression coefficient (B)	S.E.	C.R. (t-value)	P-value	Standardized regression coefficient (β)	Conclusions Based on SEM and Bootstrapping Analysis
H1a	CSRSS → FP	0.138	0.051	2.673	0.008	0.114	Supported
H1b	CSRC → FP	0.149	0.064	2.317	0.020	0.111	Supported
H1c	CSRE → FP	0.164	0.082	2.003	0.045	0.112	Supported
H1d	CSRG → FP	0.133	0.063	2.113	0.035	0.098	Supported
H2a	CSRSS → GHRM	0.106	0.035	3.011	0.003	0.136	Supported
H2b	CSRC → GHRM	0.116	0.044	2.607	0.009	0.134	Supported
H2c	CSRE → GHRM	0.337	0.053	6.395	***	0.357	Supported
H2d	CSRG → GHRM	0.163	0.042	3.857	***	0.186	Supported
H3	GHRM → FP	0.243	0.086	2.832	0.005	0.157	Supported
H5	AC → FP	0.161	0.069	2.343	0.019	0.111	Supported
H6	AC → IC	0.166	0.049	3.353	***	0.168	Supported

Hypothesis	Relationship	Unstandardized regression coefficient (B)	S.E.	C.R. (t-value)	P-value	Standardized regression coefficient (β)	Conclusions Based on SEM and Bootstrapping Analysis
H8	IC → FP	0.153	0.073	2.098	0.036	0.105	Supported
H9	SCC → FP	0.158	0.071	2.230	0.026	0.108	Supported
H10	SCC → IC	0.267	0.051	5.257	***	0.266	Supported
H12	GHRM → IC	0.302	0.053	5.721	***	0.286	Supported
H4a	CSRSS → GHRM → FP	-	-	-	< 0.05 (1)	0.025	Supported
H4b	CSRC→GHRM→ FP	-	-	-	< 0.05 (1)	0.025	Supported
H4c	CSRE → GHRM → FP	-	-	-	< 0.05 (1)	0.067	Supported
H4d	CSRG → GHRM → FP	-	-	-	< 0.05 (1)	0.035	Supported
H7	AC → IC → FP	-	-	-	< 0.05 (1)	0.018	Supported
H11	SCC → IC → FP	-	-	-	< 0.05 (1)	0.028	Supported

Note: *** P < 0.001.

5 DISCUSSION OF RESEARCH RESULTS

5.1 Discussion of the measurement model

The CFA results show that the measurement model fits well (CMIN/df = 1.771; TLI = 0.952; CFI = 0.958; GFI = 0.921; RMSEA = 0.036), and the scales meet the requirements for reliability, convergent validity, and discriminant validity according to SEM standards. The separation of CSR into four stakeholder groups (CSRSS, CSRC, CSRE, CSRG) is confirmed as distinct, implying that an overall CSR approach could obscure the different value creation mechanisms among stakeholder groups. The GHRM, AC, SCC, and IC structures also show clear differentiation, supporting the integrated RBV and dynamic capabilities approach when considering them as distinct but functionally linked capabilities in the process of transforming CSR into FP.

5.2 Discussion of research results

Rather than focusing on individual effect sizes, this study adopts a mechanism-based perspective to explain how CSR contributes to FP in freight forwarding firms. The

findings indicate that CSR does not enhance performance solely through direct effects; instead, its value emerges when CSR is embedded within internal organizational processes and coordinated with dynamic capabilities that enable firms to operationalize social and environmental commitments. Accordingly, the primary contribution of this study lies in clarifying how CSR is transformed into performance relevant outcomes through a sequence of interrelated organizational mechanisms.

The analysis confirms that multidimensional CSR is positively associated with FP; however, the magnitude of these direct relationships remains moderate ($\beta \approx 0.098–0.114$). This pattern is consistent with arguments advanced by the RBV and Stakeholder Theory, which conceptualize CSR as an intangible asset that enhances legitimacy, stakeholder trust, and risk management. Importantly, these benefits do not automatically materialize as performance improvements unless CSR is supported by appropriate internal arrangements. This tendency is particularly evident in the freight forwarding sector, where service outcomes depend on human expertise, coordination across organizational boundaries and the effective internalization of external expectations.

A more nuanced picture emerges when CSR is examined across stakeholder specific dimensions. From a direct performance perspective, CSR initiatives toward social and CSRSS exhibit the strongest association with FP, suggesting a role in strengthening market reputation and relational capital. In contrast, CSRG shows a comparatively weaker effect, reflecting its primary function in compliance and risk mitigation. However, this ranking changes when attention shifts to internal transformation processes. CSRE stands out as the most influential driver of GHRM ($\beta = 0.357$), indicating that employee focused CSR plays a decisive role in converting CSR intentions into operational practices within service oriented firms.

GHRM subsequently emerges as the central micro-level mechanism in the CSR transformation process. Acting both as a key mediator (CSR → GHRM → FP) and as the strongest direct predictor of FP among the examined paths ($\beta = 0.157$), GHRM illustrates how CSR related expectations are translated into employee behavior and operational discipline. While CSR provides direction at the strategic level, it is the configuration of recruitment, training, evaluation, and incentive systems around environmental and social objectives that ultimately shapes service quality and efficiency in logistics operations.

IC represents the primary realization channel through which dynamic capabilities contribute to performance outcomes. The findings show that AC and SCC enhance FP mainly when they are transformed into innovation related activities (AC → IC → FP; SCC → IC → FP). Notably, GHRM is the strongest antecedent of IC (β = 0.286), suggesting that innovation in freight forwarding firms depends less on access to knowledge or networks alone and more on organizational conditions that allow employees to absorb, test, and institutionalize new ideas within service processes.

Finally, the multi group analysis indicates that the proposed value creation mechanism remains stable across different business models, while its effectiveness varies with firm age and organizational size. This result implies that similar CSR and capability configurations may yield different performance outcomes depending on organizational maturity and resource availability. Such contextual sensitivity offers a plausible explanation for the mixed evidence reported in prior studies on CSR and GHRM across industries and national settings.

6 CONCLUSION AND MANAGEMENT IMPLICATIONS

Drawing on the results of structural equation modeling, bootstrapping, and multi-group analysis, this study derives managerial implications by emphasizing impact intensity, value transformation mechanisms, and contextual sensitivity within freight forwarding firms.

6.1 Strategic priorities based on impact intensity and value creation mechanisms

The findings identify GHRM as a central strategic priority. GHRM exhibits a meaningful direct effect on FP (β = 0.157) and serves as the strongest antecedent of IC (β = 0.286), highlighting its pivotal role in transforming CSR initiatives into operational and performance outcomes.

Accordingly, freight forwarding firms should move beyond symbolic CSR adoption and embed CSR principles into core HRM practices, including recruitment, training, performance evaluation, and incentive systems aligned with environmental and

social objectives. Such integration enables CSR to influence employee behavior and service discipline, which are critical in service oriented logistics operations.

IC functions as a complementary realization channel. Although its direct effect on performance is moderate (β = 0.105), IC mediates the effects of AC and SCC on performance. This suggests that learning and collaboration yield performance benefits only when translated into structured innovation activities that improve operational efficiency and environmental performance.

6.2 Strategic prioritization of CSR dimensions

Rather than treating CSR as a homogeneous construct, this study identifies stakeholder specific strategic priorities. CSRE emerges as the most critical dimension, exerting both the strongest influence on GHRM (β = 0.357) and the largest indirect effect on performance (indirect β = 0.067). This underscores the central role of employee focused CSR in activating internal value creation mechanisms.

CSRG represents the next priority, contributing to performance indirectly through GHRM (indirect β = 0.035) and reinforcing firms' capacity to comply with environmental regulations and participate in green supply chains. CSRSS demonstrates the strongest direct association with performance, but its long term value depends on effective internalization through organizational processes. CSRC, while positive, shows a comparatively weaker effect, indicating the need for consistent operational implementation to align CSR commitments with customer service experiences.

6.3 Contextualized managerial implications

Multi-group analysis indicates that the proposed value creation mechanisms are structurally stable across firms but vary in effectiveness depending on firm age and size. Younger firms are advised to prioritize foundational GHRM practices to achieve early performance gains, while larger firms should integrate GHRM with formal innovation and SCC mechanisms to sustain long term performance improvements.

7 RESEARCH LIMITATIONS

Despite providing robust empirical evidence, this study is subject to several limitations that should be acknowledged: (1) The use of a cross-sectional research design restricts the ability to fully capture the dynamic and time lagged effects of CSR, GHRM and dynamic capabilities on FP; (2) The data were collected exclusively from freight forwarding firms operating in Ho Chi Minh City, which may limit the generalizability of the findings to other logistics hubs characterized by different institutional environments, regulatory frameworks, and infrastructure conditions; (3) Although common methodological biases were addressed, the study relies on self reported survey data, which may still be subject to respondents' cognitive and perceptual biases. This issue is particularly relevant for normative constructs such as CSR, where social desirability bias may influence responses; (4) The proposed model does not incorporate several potentially relevant factors, such as digital transformation, innovation oriented organizational culture, or green leadership styles. In addition, the study does not directly examine the relationship between CSR and IC, which may represent an important omission in understanding the full value creation process.

7.2 Future research directions

Building on these limitations, several avenues for future research are suggested: (1) Future studies are encouraged to employ longitudinal research designs or panel data to better examine causal relationships and the temporal evolution of dynamic capabilities in the logistics sector: (2) Expanding the geographical scope of data collection and incorporating multi-source data would enhance measurement robustness and improve the external validity of the findings; (3) Subsequent research could directly investigate the effects of individual CSR dimensions on IC, thereby clarifying innovation oriented mediation mechanisms such as CSR–GHRM–IC–FP within logistics and supply chain contexts; (4) Future studies may integrate the digital transformation context and examine non-financial performance outcomes, in order to provide a more comprehensive understanding of value creation mechanisms in the logistics industry.

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APPENDIX

APPENDIX A. MEASUREMENT SCALES

All constructs were measured using multi-item scales adapted from prior studies and contextualized to freight forwarding firms in Vietnam. Items were rated on a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree)

Appendix A

Measurement Scales

No	Coded	Items	Sources
1	**CSRSS**	**CSR to social and non-social stakeholders**	
1.1	*CSRSS1*	My company engages in activities aimed at protecting and improving the quality of the natural environment	
1.2	*CSRSS2*	My company pursues sustainable growth and invests in future generations through social and environmental initiatives	Turker (2009)
1.3	*CSRSS3*	My company participates in community programs or social activities that support disadvantaged groups	
1.4	*CSRSS4*	My company regularly maintains and services transportation vehicles to reduce fuel consumption and minimize environmental emissions	
2	**CSRC**	**CSR toward Customers**	
2.1	*CSRC1*	My company clearly provides customers with information regarding insurance policies, compensation, and transportation conditions	
2.2	*CSRC2*	Customer satisfaction is a priority that my company places special emphasis on in all its operations	Turker (2009)
2.3	*CSRC3*	My company protects consumer rights beyond the minimum legal requirements	
2.4	*CSRC4*	My company ensures service quality and handles customer complaints in an appropriate and satisfactory manner	
3	**CSRE**	**CSR toward Employees**	
3.1	*CSRE1*	My company encourages employees to participate in voluntary activities for the community	
3.2	*CSRE2*	My company encourages and supports employees in developing their skills, learning, and career advancement	Turker (2009)
3.3	*CSRE3*	The company's leadership pays attention to employees' needs and expectations	

3.4	*CSRE4*	My company implements flexible policies that help employees balance work and personal life	
4	**CSRG**	**CSR toward Government**	Turker (2009)
4.1	*CSRG1*	My company fully and regularly fulfills its tax obligations in compliance with regulations	
4.2	*CSRG2*	My company fully and promptly complies with all legal regulations	
4.3	*CSRG3*	My company adheres to laws and management policies issued by central and local authorities	
4.4	*CSRG4*	My company complies with environmental standards and emission control requirements in line with the green logistics transition	
5	**GHRM**	**Green Human Resource Management**	Hassanein *et al*, (2024)
5.1	*GHRM1*	My company provides green-oriented training and development programs for different departments	
5.2	*GHRM2*	Employees are assigned goals and evaluated based on green performance criteria	
5.3	*GHRM3*	Managers reward employees for environmentally friendly behaviors	
5.4	*GHRM4*	Incentives and rewards are provided for green initiatives	
6	**AC**	**Absorptive Capacity**	Çelik *et al*, (2025)
6.1	*AC1*	My company acquires and applies new knowledge from customers, suppliers, and the logistics market	
6.2	*AC2*	My company uses new knowledge and ideas to improve operational efficiency	
6.3	*AC3*	My company is able to identify new and useful ideas	
6.4	*AC4*	My company encourages new and useful ideas	
7	**SCC**	**Supply Chain Collaboration**	Issah *et al*, (2025)
7.1	*SCC1*	My company has a detailed understanding of customers' needs and expectations	
7.2	*SCC2*	My company continuously listens to customer feedback to collect information and ensure that all issues and concerns are addressed effectively and promptly	
7.3	*SCC3*	My company collaborates with its suppliers to pool resources and improve service quality in order to better serve customers	
7.4	*SCC4*	My company collaborates with customers, suppliers, and partners to develop logistics services and improve logistics processes	
8	**IC**	**Innovation Capability**	Hurtado-Palomino *et al*, (2022)
8.1	*IC1*	My company effectively and rapidly uses knowledge and ideas from multiple sources (customers, suppliers, technology, and the market) to develop new services	

8.2	*IC2*	My company responds quickly to market changes by adjusting logistics services, operational processes, and customer service policies	
8.3	*IC3*	My company encourages employees to proactively propose ideas and participate in service, process, and technology improvement activities	
8.4	*IC4*	My company frequently improves logistics processes and applies new technologies to enhance operational efficiency and service quality	
9	**FP**	**Firm Performance**	
9.1	*FP1*	My company's profits have increased over the past three years	Ho, D.D. (2025)
9.2	*FP2*	Customer loyalty has remained high, and the customer base has expanded over the past three years	
9.3	*FP3*	My company's return on investment (ROI) has increased over the past three years	
9.4	*FP4*	My company's sales revenue has increased over the past three years	

Note: During the scale purification process, EFA and CFA were conducted to assess the psychometric properties of the measurement items. Items that exhibited low standardized factor loadings or failed to meet the recommended cutoff criteria were removed to improve construct reliability and validity. Accordingly, item CSRC3 was excluded from the final measurement model. All remaining items demonstrated satisfactory loadings and were retained for subsequent analyses.

Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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