The Impact of Customer Relationship Management (CRM) on Logistics Service Quality in Road Transport Companies in Hanoi, Vietnam

Khoa Dinh Vu¹, Kim Anh Thi Le², Thuc Anh Hoang³, Hoa Minh Chu⁴, Hoa Thi Pham⁵, Mai Anh Thi Nguyen⁶

1.2.3.4.5.6 Faculty of Digital Economics, School of Economics, Hanoi University of Industry, Hanoi, Vietnam

Corresponding Author: Mai Anh Thi Nguyen

DOI: https://doi.org/10.52403/ijrr.20250552

ABSTRACT

Purpose: This study evaluates the impact of Customer Relationship Management (CRM) implementation on service quality in road freight logistics companies in Hanoi, Vietnam.

Design/Methodology/Approach: A mixedmethods approach was implemented, combining quantitative data from surveys of 142 road transport enterprises and analyzed using SPSS software. CRM practices were analyzed across three dimensions: Customer Relationship Management (CRM), logistics service, service quality.

Findings: The findings reveal that CRM adoption significantly improves logistics service quality, with customer support and personalization showing the strongest positive effects. However, many firms still rely on traditional methods, highlighting a gap between CRM's potential and current practices. The study contributes to the theoretical understanding of CRM in logistics and provides actionable recommendations for enhancing operational efficiency and customer satisfaction in Vietnam's growing logistics sector.

Research limitations/ Implications: The study is restricted to Hanoi and might not be representative of all Vietnamese industrial companies. The dataset should be expanded

across industries and geographies in future studies.

Originality/value: This study contributes both theoretically and practically to the field of Logistics. Theoretically, it proposes a specific evaluation model to assess the impact of CRM on Logistics service quality, providing a theoretical foundation for future research, particularly in the Vietnamese Practically, context. the study offers optimization solutions for CRM implementation to enhance service quality in road transport companies, tailored to Vietnam's specific conditions. Additionally, it provides actionable recommendations to help businesses effectively adopt CRM, thereby improving competitiveness and better meeting customer demands.

Keywords: CRM, customer relationship management, logistics service quality, road freight transport, Hanoi Vietnam.

INTRODUCTION

Vietnam's logistics sector has witnessed rapid growth over the past decade, with an estimated market value of USD 50–60 billion and a sustained annual growth rate of 14 -16% [1]. The industry contributes approximately 5–6% of national GDP, yet continues to be constrained by high logistics costs accounting for 16.8-17% of GDP significantly higher than the global average

[2]. Hanoi, as the logistics hub of Northern Vietnam, processes nearly 40% of the region's road freight, positioning road transport firms at the center of growing service demands and competitive pressures. Within this dynamic environment, Customer Management Relationship (CRM) has emerged as a critical strategic tool for logistics service providers seeking to operational enhance service quality, efficiency, and customer satisfaction. Globally, CRM implementation has been associated with a 70% increase in customer satisfaction [3] and significant improvements client retention and service in responsiveness. However, in Vietnam's logistics context, CRM adoption remains limited. Only 30% of road transport firms in Vietnam have adopted professional CRM systems, with most relying on ad-hoc or manual approaches that limit scalability and service differentiation [4].

Existing research CRM on has predominantly focused on sectors such as retail and banking [5] [6], offering limited empirical insights into its role in logistics services. Moreover, logistics studies often emphasize financial or operational performance metrics, neglecting service quality indicators centered on customer experience and satisfaction. This highlights a critical research gap in understanding how CRM practices influence service quality in emerging-market logistics, particularly among road freight providers.

Theoretically, this study is grounded in the Resource-Based View (RBV), which posits that sustainable competitive advantage arises from firm-specific capabilities that are rare, inimitable, valuable, and nonsubstitutable [7]. CRM when treated as an integrated organizational resource comprising technology, knowledge, customer-centricity, and structure can be a strategic asset that enhances service delivery and customer relationships in ways that are difficult for competitors to replicate.

This research also draws on the Service-Dominant Logic (SDL) framework, which views value as co-created between firms and customers through interaction, relationship building, and responsiveness [8]. From this perspective, CRM facilitates value cocreation by aligning internal processes with customer needs, fostering real-time responsiveness and trust.

To address the literature gap, this study aims to empirically assess the impact of CRM on logistics service quality in road transport firms operating in Hanoi. Specifically, it investigates four core CRM dimensions Customer Focus on key clients, Knowledge Management of customer data, CRM Organizational Structure, and Technology-Based CRM and examines their effects on quality dimensions including service responsiveness, reliability, and tangibility. Using a structured survey distributed to 150 logistics firms and analyzed through multivariate regression, the research seeks to (1) expand the theoretical understanding of CRM's role in logistics performance, and (2) offer evidence-based managerial insights for firms seeking to leverage CRM as a driver of competitive advantage in Vietnam's logistics landscape. By contextualizing CRM in a transitional market setting, the study contributes both to academic discourse and practical strategy formulation in servicebased industries.

LITERATURE REVIEW

Related theories

The theoretical foundation of this study draws from multiple perspectives, including the Resource-Based View (RBV), Service-(SDL), Dominant Logic Relationship Marketing Theory, and Organizational Innovation Theory. The RBV asserts that strategic resources such as CRM-when valuable. rare. inimitable. and wellintegrated competitive can enhance advantage through superior service delivery [9][10]. SDL emphasizes co-creation of value through customer interaction. positioning CRM as a platform to align firm capabilities with customer needs [11][12]. CRM itself is rooted in Relationship Marketing Theory, promoting long-term engagement over transactional exchanges

[13][14], and is considered a form of organizational innovation requiring new processes and technologies [15][16]. CRM is conceptualized in this study through four dimensions: key customer focus, knowledge CRM management. organization. and technology-based CRM [17][18]. Meanwhile, service quality is measured through the SERVQUAL model, which tangibles, includes reliability, responsiveness, assurance, and empathy [19], and is adapted in logistics contexts to include operational accuracy and responsiveness [20][21]. Prior research affirms that CRM practices positively influence logistics service quality by enhancing responsiveness, customization, and relational continuity [22][23], forming the basis for this study's conceptual framework.

Construct

Customer Relationship Management (CRM)

Customer Relationship Management (CRM) is a multidimensional concept that has evolved into a core strategic tool for enhancing business competitiveness. CRM is "a business strategy that integrates processes, technologies, and people to optimize interactions with customers, thereby driving sales growth and customer loyalty [24]." This strategic perspective treats CRM not merely as software but as a comprehensive philosophy centered on customer value.

Another common perspective sees CRM primarily as a technological tool. CRM is a system that manages all of a company's relationships and interactions with current and potential customers, aimed at improving business relationships [25]. In this view, CRM involves modern software platforms that enable data tracking, automated workflows, and analytics to support customer engagement.

A third view emphasizes CRM as an organizational capability, particularly in managing sales and post-sales processes. In the Vietnamese context, CRM as a standardized selling process involving four

key stages: approach – consult – close – after-sales care [26]. These interpretations reflect CRM as a practical management process that strengthens customer retention.

These complementary perspectives strategic, technological, and organizational provide a comprehensive foundation for analyzing how CRM implementation can enhance logistics service delivery.

Customer Relationship Management (CRM) is understood as a strategic approach that integrates people, processes, and technology to manage a company's interactions with current and potential customers. CRM goes beyond software it is a customer-centered philosophy aiming to build long-term relationships, increase satisfaction, and enhance business performance [27] [28]. Based on these theoretical and practical

Based on these theoretical and practical foundations, this study conceptualizes CRM as a strategic system comprising four core dimensions:

- 1. **Key Customer Focus**: The capability of identifying and prioritizing high-value customers to deliver tailored services and support. This dimension reflects the firm's ability to understand, segment, and serve strategic customers [29] [30].
- 2. **Knowledge Management**: The ability to systematically collect, store, analyze, and use customer data to enhance service personalization and improve decision-making [31].
- 3. **CRM Organization**: The establishment of a formal CRM structure with clear roles, standardized processes, and crossfunctional coordination to implement customer relationship strategies effectively [32] [33].
- 4. **Technology-Based CRM**: The use of digital platforms, including CRM software, AI, data analytics, and automation tools, to support customer interactions and service delivery [34] [35].

Thus, in this study, CRM is defined as an integrated strategic system that combines people, technology, and processes through four components mentioned above, aiming to

enhance logistics service quality in road transport companies.

Logistics service quality (LSQ)

Logistics service quality (LSQ) is increasingly recognized as a key factor in achieving customer satisfaction, enhancing competitive advantage, and maintaining long-term relationships in the supply chain. It refers to the overall ability of logistics service providers to meet customer expectations through efficient, reliable, and value-adding service processes [36]. While early definitions of LSQ focused on operational metrics such as delivery speed and order accuracy [37], recent studies have emphasized the importance of customer perceptions. including responsiveness, flexibility, and communication effectiveness [38].

In emerging markets such as Vietnam, where logistics infrastructure and management practices are still developing, LSQ is a key differentiator for firms, especially in road transport services. Providing consistent and reliable logistics services is essential to retain customers and build trust [39]. Furthermore, higher logistics service quality is associated with improved customer loyalty, reduced operational risk, and better firm performance in both B2B and B2C contexts [40] [41].

In the scope of this study, Logistics service quality is defined as the extent to which the Logistics services provided by the enterprise meet the needs and satisfy customers, including intangible factors such as service attitude, problem handling ability, etc., and tangible factors such as: facilities, management processes, business operations, delivery time, etc.

Logistics Service in Road Transport Companies

In the context of road transport enterprises, logistics services primarily involve the planning, coordination, and execution of freight movement from origin to destination. Logistics encompasses the strategic management of procurement, transportation, and storage to achieve cost-effective and timely delivery [42]. This definition is particularly relevant to road freight firms, which often act as second-party logistics (2PL) providers—offering transportation services without full integration into clients' supply chains [43] [44].

Road transport logistics services are characterized by their operational flexibility, last-mile connectivity, and responsiveness to diverse delivery requirements [45]. In Vietnam, road freight plays a dominant role in domestic logistics, especially in urban hubs like Hanoi, where over 35% of Northern freight activities are concentrated [46]. However, these firms often operate independently from other logistics functions such as warehousing, customs, and inventory control, which are more typical of third-party logistics (3PL) providers.

Given this context, logistics service quality (LSQ) in road transport companies hinges on factors such as delivery timeliness, cargo condition, driver communication, and vehicle reliability [47][48]. These attributes align with the SERVQUAL dimensions particularly responsiveness and reliability and highlight the importance of CRM as a strategic tool to enhance client satisfaction and service consistency in fragmented service environments [49].

Hypothesis development

In today's competitive and customeroriented business environment, Customer Relationship Management (CRM) is increasingly recognized as a key strategic lever for enhancing service quality and long-term customer fostering lovalty. According to the Resource-Based View (RBV), internal capabilities such as CRM if they are valuable, rare, inimitable, and nonsubstitutable can serve as sources of sustainable competitive advantage [50]. Meanwhile, the Service-Dominant Logic (SDL) posits that value is co-created between the firm and the customer through active engagement and reciprocal service processes [51].

Building upon these theoretical underpinnings and empirical insights from

prior research, the following hypotheses are proposed to examine the relationship between CRM dimensions and logistics service quality in the context of road transport companies.

CRM Key Customer Focused and Logistics Service Quality

CRM key Customer Focused reflects a firm's commitment to identifying and prioritizing high-value clients and tailoring services to meet their specific needs. Customer segmentation and customized service delivery enhance customer satisfaction and retention [52]. In service-intensive industries such as logistics, focusing on key clients enables more accurate, consistent, and efficient service fulfillment [53].

Effective customer prioritization is crucial for managing customer life cycles and aligning resource allocation [54]. This practice improves customer responsiveness and reliability core components of logistics service quality. From the synthesis of theoretical and empirical evidence, this study proposes the hypothesis:

H1: CRM Key Customer Focused has a positive impact on logistics service quality.

CRM Knowledge Management and Logistics Service Quality

CRM Knowledge Management involves the systematic collection, analysis, and utilization of customer information to enhance service effectiveness. The importance of knowledge as a strategic asset, particularly in dynamic service environments [55].

Customer knowledge management as a pillar of successful CRM implementation [56]. By understanding customer behavior. preferences, and feedback, firms can develop more personalized and responsive services. Effective knowledge management significantly improves service responsiveness, reliability, and customer satisfaction in the hospitality sector [57]. On this basis, the study proposes the hypothesis: H2: CRM Knowledge Management has a positive impact on logistics service gality.

CRM Organization and Logistics Service Quality

CRM Organization refers to the internal structure, roles, and coordination mechanisms established to implement CRM strategies. Well-structured CRM teams and processes foster operational consistency, communication efficiency, and better customer experiences [58].

While some studies caution that rigid structures may reduce flexibility [59], others suggest that appropriately designed CRM organizations enhance service reliability, coordination, and response time [60]. In logistics, where time and accuracy are paramount, an efficient CRM organization contributes to smoother service delivery and issue resolution. Relational capital and internal organizational alignment have also shown to significantly been impact collaborative innovation and service delivery effectiveness [61]. From the above arguments, the study proposes the hypothesis:

H3: CRM Organization has a positive impact on logistics service quality.

CRM based Technology and Logistics Service Quality

CRM based Technology encompasses the use of digital platforms, CRM software, data analytics, and automation tools to support customer interaction and service management. Technology enables real-time communication, efficient data tracking, and service consistency [62].

Technology adoption in CRM enhances transparency, service personalization, and operational efficiency [63][64]. In logistics, advanced CRM systems facilitate route optimization, order tracking, and prompt customer feedback, thus strengthening key dimensions of service quality such as responsiveness, reliability, and tangibility. Therefore, the study proposes the hypothesis: *H4: CRM based Technology has a positive impact on logistics service quality*.

Based on these Hypotheses, we propose the theoretical model as shown in Figure.1



MATERIALS & METHODS Measurement model

All observed variables in this study were measured using a 5-point Likert scale, with response levels ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). The measurement scales were developed based on relevant theoretical foundations and prior studies, and subsequently refined through qualitative research and expert consultation. The independent variables include four constructs: CRM Focus on Kev Customers (KCF), measured by 5 items; CRM Knowledge Management (KLM), measured by 4 items; CRM Organization (ORG), measured by 5 items; and CRM Based Technology (CBT), measured by 4 items. These measurement items were adopted from the studies [65] [66] [67].

Finally, Logistics Service Quality (LSQ) is the dependent variable, consisting of 5 items adapted from the SERVQUAL model developed by [68] and modified to fit the logistics context by [69]. Similarly, empirical studies conducted in Southeast Asia have shown that cognitive proximity and supplier collaboration can enhance service effectiveness and innovation through improved knowledge sharing [70] [71]

Data

Primary data were obtained via a structured questionnaire distributed to 150 road transport logistics firms operating in Hanoi, with 142 valid responses used for analysis. Firms were selected based on their active CRM deployment, with over 55% having implemented CRM strategies for more than three years. The respondent firms were mainly SMEs with fewer than 200 employees, consistent with Vietnam's logistics industry structure.

The survey instrument, designed in Vietnamese, was piloted with industry professionals for clarity and relevance. All items used a five-point Likert scale (1 = strongly disagree to 5 = strongly agree). Confidentiality and voluntary participation were ensured throughout the data collection process. The demographic profile and implementation maturity of the sample enhance the validity and generalizability of the results.

RESULT

| Criteria | Frequency | Percentage | | |
|---------------------------|-----------|------------|--|--|
| | Frequency | (%) | | |
| Years of Operation | | | | |
| Under 3 years | 11 | 7.7 | | |
| 3 to under 5 years | 61 | 43.0 | | |
| 5 to under 10 years | 55 | 38.7 | | |
| 10 years or more | 15 | 10.6 | | |
| Number of Employe | es | | | |
| Under 50 | 49 | 34.5 | | |
| 50 to under 100 | 50 | 35.2 | | |
| 100 to under 200 | 36 | 25.4 | | |
| 200 or more | 7 | 4.9 | | |
| CRM Implementation Period | | | | |
| Under 1 year | 18 | 12.7 | | |
| 1 to under 3 years | 45 | 31.7 | | |
| 3 years or more | 79 | 55.6 | | |

 Table I: Characteristics of Respondent Firms

The descriptive statistics (Table I) offer a contextual overview of the 142 road logistics firms in Hanoi surveyed in this study. A majority (81.7%) had operated for more than 3 years, with 10.6% exceeding 10 years of experience, indicating a relatively mature sector. In terms of human resources, 69.9% employed between 50 and 200 staff, reflecting the dominance of small to midsized enterprises. Importantly, 55.6% of firms had adopted CRM for over three years, suggesting a meaningful level of integration of CRM practices.

Statistic result

These statistics confirm that the sample comprises firms with sufficient operational and CRM experience to provide meaningful insights on CRM's impact. Table I presents descriptive statistical results.

Measurement model testing Cronbach's Alpha

According to the analysis results (Table II), all measurement scales of the constructs had Cronbach's Alpha values greater than 0.8, which indicates a high level of internal consistency. The corrected item-total correlation coefficients for all observed variables were greater than 0.3. Additionally, the Cronbach's Alpha values for each scale did not increase when any observed variable was removed. Therefore, all observed variables in the model meet the reliability requirements, and the measurement scales accurately reflect the meanings of the respective constructs.

| Construct & Items | Cronbach's | Corrected Item-Total | Alpha if Item Deleted |
|----------------------------------|------------|----------------------|-----------------------|
| | Alpha | Correlation | |
| Scale: CRM Focus on Key | 0.928 | | |
| Customers (KCF) | | | |
| KCF1 | | 0.775 | 0.920 |
| KCF2 | | 0.814 | 0.912 |
| KCF3 | | 0.847 | 0.906 |
| KCF4 | | 0.807 | 0.913 |
| KCF5 | | 0.822 | 0.910 |
| Scale: CRM Knowledge | 0.924 | | |
| Management (KLM) | | | |
| KLM1 | | 0.821 | 0.902 |
| KLM2 | | 0.839 | 0.895 |
| KLM3 | | 0.813 | 0.904 |
| KLM4 | | 0.823 | 0.902 |
| Scale: CRM Organization (ORG) | 0.934 | | |
| ORG1 | | 0.825 | 0.919 |
| ORG2 | | 0.838 | 0.917 |
| ORG3 | | 0.872 | 0.910 |
| ORG4 | | 0.812 | 0.921 |
| ORG5 | | 0.782 | 0.927 |
| Scale: Technology-Based CRM | 0.926 | | |
| (CBT) | | | |
| CBT1 | | 0.818 | 0.907 |
| CBT2 | | 0.863 | 0.893 |
| CBT3 | | 0.807 | 0.911 |
| CBT4 | | 0.834 | 0.903 |
| Scale: Logistics Service Quality | 0.910 | | |
| (LSQ) | | | |
| LSQ1 | | 0.756 | 0.894 |
| LSQ1 | | 0.844 | 0.875 |
| LSQ1 | | 0.801 | 0.884 |
| LSQ1 | | 0.700 | 0.904 |
| LSQ1 | | 0.768 | 0.891 |

|--|

Exploratory factor analysis

The results of the EFA for the group of independent variables show that the KMO coefficient reached 0.883 and Bartlett's Test of Sphericity had a significance level of 0.000, indicating that the data is highly suitable for factor analysis (Table III). For the dependent variable group, the KMO coefficient was 0.880, with a significance level of 0.000, and the total variance explained was 73.711%. Five observed variables converged into a single factor

representing logistics service quality (LSQ) (Tables III and IV).

| Tab | le III: | EFA | Results - | Indepen | dent | Variable |
|-----|---------|-----|-----------|---------|------|----------|
| | | | | | | |

| Measure | Value |
|--------------------------------------|-------|
| Independent Variables | |
| KMO Measure | 0.883 |
| Bartlett's Test of Sphericity (Sig.) | 0.000 |
| Dependent Variable | |
| KMO Measure | 0.880 |
| Bartlett's Test of Sphericity (Sig.) | 0.000 |

 Table IV: Factor Extraction – Dependent

 Variable (LSQ)

| Variable | Factor Loading |
|------------------------------|----------------|
| LSQ2 | 0.906 |
| LSQ3 | 0.879 |
| LSQ5 | 0.854 |
| LSQ1 | 0.846 |
| LSQ4 | 0.804 |
| Eigenvalue | 3.868 |
| Total Variance Explained (%) | 73.711 |

Pearson Correlation Coefficients

All Pearson correlation coefficients between the dependent variable (CLDV) and the independent variables had a significance level of 0.000, indicating statistically significant positive correlations. Specifically, the correlation coefficient between LSQ and KCF was 0.440; with KLM was 0.578; with ORG was 0.594; and with CBT was 0.559. The independent variables were also correlated with one another; however, this is not sufficient to conclude the existence of multicollinearity, and this was further verified using VIF values in the regression analysis. (Table V)

Table V: Pearson Correlation Coefficients

| | LSQ | KCF | KLM | ORG | CBT |
|-----|-------|-------|-------|-------|-------|
| LSQ | 1 | 0.440 | 0.578 | 0.594 | 0.559 |
| KCF | 0.440 | 1 | 0.297 | 0.272 | 0.250 |
| KLM | 0.578 | 0.297 | 1 | 0.362 | 0.366 |
| ORG | 0.594 | 0.272 | 0.362 | 1 | 0.446 |
| CBT | 0.559 | 0.250 | 0.366 | 0.446 | 1 |

(All correlations significant at Sig. = 0.000)

Confirmatory Factor Analysis

The results of Cronbach's alpha, Composite Multiple linear regression was employed to test the four research hypotheses (H1–H4) regarding the relationship between CRM constructs and logistics service quality. The results of the analysis indicate that the model is statistically significant, with the F-test significance level at 0.000 and an adjusted R-squared value of 0.585, demonstrating that the CRM variables explained 58.5% of the variance in service quality (Table VI).

| able VI: OLS Regression Summary | | | | |
|---------------------------------|-------|--|--|--|
| Indicator | Value | | | |
| Sig. of F-test (ANOVA) | 0.000 | | | |
| Adjusted R-squared | 0.585 | | | |
| Durbin-Watson | 1.941 | | | |

Table VI: OLS Regression Summary

According to the results (Table VII), all four independent variables were statistically significant at the 5% level. Specifically, the CRM construct focusing on key customers (KCF) had a standardized regression coefficient $\beta = 0.199$ with Sig. = 0.001; the knowledge management construct (KLM) had $\beta = 0.312$ with Sig. = 0.000; the CRM organization construct (ORGL) had β = 0.313 with Sig. = 0.000; and the technologybased CRM construct (CBT) had $\beta = 0.256$ with Sig. = 0.000. Furthermore, the variance inflation factors (VIFs) for all four variables were below 2 (ranging from 1.147 to 1.349), indicating that multicollinearity was not present in the model.

Based on the standardized regression coefficients, the level of influence of the factors is ranked in descending order as follows: CRM organization (ORG) had the strongest impact with $\beta = 0.313$, followed by CRM knowledge management (KLM) with β = 0.312, then technology-based CRM (CBT) with $\beta = 0.256$, and finally CRM focus on key customers (KCF) with $\beta = 0.199$. All coefficients were positive, indicating that the CRM factors had a direct positive effect on logistics service quality.

Therefore, all four research hypotheses were accepted at the 5% significance level, confirming that the components of CRM strategy contribute positively to enhancing the logistics service quality of road transport enterprises in Hanoi.

| Independent Variable | Standardized Beta | Sig. | VIF | Impact Direction | Impact Level | Decision |
|-------------------------|----------------------|-------|-------|---------------------|-----------------|----------|
| KCF | 0.199 | 0.001 | 1.147 | + | IV | Accepted |
| KLM | 0.312 | 0.000 | 1.272 | + | II | Accepted |
| ORG | 0.313 | 0.000 | 1.349 | + | Ι | Accepted |
| CBT | 0.256 | 0.000 | 1.342 | + | III | Accepted |

 Table VII: Regression Results and Impact of CRM Factors on Logistics Service Quality

DISCUSSION

Discussion of Findings

This study provides empirical insights into the influence of Customer Relationship Management (CRM) on logistics service quality in the context of road transport enterprises in Hanoi. Based on the results of multiple linear regression analysis, all four components—CRM organization, CRM knowledge management, technology utilization, and key customer focus-were found to exert a significant and positive impact on logistics service quality. Among these, CRM organization ($\beta = 0.313$) and knowledge management ($\beta = 0.312$) emerged as the most influential factors, underscoring the central role of organizational structure and knowledge capability in driving service performance improvements.

The impact of CRM organization reflects the importance of clearly defined internal enhanced cross-departmental processes. communication, and prompt customer response mechanisms. Knowledge management, on the other hand, serves as the foundation for collecting, storing, and leveraging customer data to personalize services and enhance customer experiences. While the role of technology ($\beta = 0.256$) is somewhat less prominent, it remains essential in enabling CRM systems to automate and process information The customer-centric CRM efficiently. component ($\beta = 0.199$) affirms that prioritizing strategic customer segments enhances service customization and longterm loyalty.

These findings confirm that CRM practices, when effectively deployed, significantly contribute to service responsiveness, reliability, and overall customer satisfaction—key metrics of logistics service quality. The evidence aligns with prior studies asserting the performance-enhancing role of CRM in emerging economies, particularly within sectors experiencing digital and service transformation.

Theoretical Implications

Theoretically, this research contributes to extending the Resource-Based View (RBV) the logistics service context in bv conceptualizing CRM as a composite of valuable. rare. inimitable. and nonsubstitutable organizational resources. The study reinforces the argument that strategic deployment of CRM enables firms to develop dynamic capabilities-especially in organizing knowledge and responding effectively to customer demands-that enhance service quality.

Moreover, the findings refine existing CRMservice quality models by emphasizing the need to differentiate between the operational and strategic roles of CRM elements. In particular, while technology and information systems are critical enablers, it is the knowledge-driven organizational and dimensions of CRM that yield the most substantial effects on service performance. These distinctions are particularly relevant in the context of emerging markets, where constraints and resource institutional variability may affect CRM adoption and implementation differently than in developed economies. This aligns with recent findings in supply chain literature emphasizing the importance of supply chain integration and innovation speed in achieving superior performance under uncertainty [72].

Managerial Implications

From a managerial standpoint, the results of this study offer practical guidance for logistics enterprises aiming to enhance their service quality through CRM initiatives.

Business leaders should prioritize the development of structured CRM organizations with clearly defined roles, responsibilities, and workflows to improve internal alignment and customer responsiveness. Furthermore, cultivating a culture of knowledge management is essential for capturing customer insights, sharing best practices, and facilitating realtime service customization.

Investments in CRM technologies should be strategically aligned with organizational capabilities to support automation, data integration, and customer interaction. However, firms should avoid an overreliance on technological solutions alone. Instead, managerial focus should be directed toward building customer-centric strategies that recognize and respond to the preferences and needs of high-value customer segments.

In sum, a balanced CRM implementation that integrates people, processes, and technologies is key to achieving consistent service excellence in logistics operations.

Limitations and Future Research Directions

Despite its contributions, this study has several limitations. First, the sample is geographically limited to road transport firms in Hanoi, which may constrain the generalizability of the findings to other logistics modalities or regions. Future research should broaden the scope to include a more diverse sample of logistics providers, including maritime, rail, and warehouse services.

Second, the study focuses exclusively on four CRM components. Additional dimensions such as employee engagement, customer feedback mechanisms, or CRM analytics capabilities could further enrich the analytical framework.

Finally, the study does not examine mediating or moderating variables, such as customer satisfaction, loyalty, or digital readiness. Future studies should explore these mechanisms to better understand the pathways through which CRM drives service performance.

CONCLUSION

This study highlights the strategic role of Customer Relationship Management (CRM) in improving logistics service quality, with a focus on road transport companies in Hanoi. By examining CRM through four key dimensions-key customer focus, customer knowledge management, CRM organization, and technology-based CRM-the findings that a comprehensive CRM confirm approach positively influences critical of service aspects quality, including reliability, responsiveness, and empathy. Grounded in the Resource-Based View and Service-Dominant Logic, the results position CRM as a strategic capability that enables firms to co-create value with customers and adapt to evolving service expectations. In the Vietnamese logistics sector, this study fills a theoretical gap and offers practical insights for firms seeking to enhance customer satisfaction and performance. Managers are encouraged to invest in CRM systems and align internal processes with relationshipbuilding strategies. Future research could explore CRM's long-term impact or extend its application across broader logistics and supply chain contexts. Overall, this study reinforces the essential role of CRM in enhancing logistics service quality for businesses in general and road transport companies in particular.

Declaration by Authors Acknowledgement: None Source of Funding: None

Conflict of Interest: No conflicts of interest declared.

REFERENCE

- 1. Vietnam Ministry of Industry and Trade. (2023). Vietnam Logistics Report 2023. Hanoi: Vietnam Industry Publishing House. [In Vietnamese]
- Vietnam Ministry of Industry and Trade. (2023). Vietnam Logistics Report 2023. Hanoi: Vietnam Industry Publishing House. [In Vietnamese]
- 3. Deloitte. (2022). Global CRM Trends Report. Deloitte Insights

- 4. National Economics University. (2023). Survey on CRM adoption in Vietnam logistics sector. Hanoi: NEU Logistics Research Center. [Internal report]
- 5. Huong, V. T. T. (2021). Application of CRM in the Vietnamese banking sector. Hanoi Open University Journal of Science.
- 6. Dung, L. V. (2020). CRM solutions to enhance customer experience in retail. Labour Publishing House.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120
- Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. Journal of Marketing, 68(1), 1– 17.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120
- Kim, J., Suh, E., & Hwang, H. (2004). Effects of CRM on customer satisfaction and loyalty in service sectors. Journal of Business Research, 57(6), 579–590.
- Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. Journal of Marketing, 68(1), 1– 17.
- 12. Payne, A., & Frow, P. (2005). A strategic framework for customer relationship management. Journal of Marketing, 69(4), 167–176
- Sin, L. Y. M., Tse, A. C. B., & Yim, F. H. K. (2005). CRM: Conceptualization and scale development. European Journal of Marketing, 39(11/12), 1264–1290
- Alshourah, S., Al-Sayyed, R., & Hussein, N. (2018). The impact of customer relationship management on service quality in the Jordanian telecommunication sector. International Journal of Academic Research in Business and Social Sciences, 8(5), 197– 209.
- 15. Salesforce. (2013). What is CRM?. Retrieved from https://www.salesforce.com/crm/what-iscrm/
- Pham, M. D. (2019). CRM textbook. Hanoi: Labour and Social Publishing House. [In Vietnamese].
- Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.

- Kim, J., Suh, E., & Hwang, H. (2004). Effects of CRM on customer satisfaction and loyalty in service sectors. Journal of Business Research, 57(6), 579–590.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. Journal of Retailing, 64(1), 12–40.
- Stamenkov, G., & Dika, Z. (2015). A sustainable e-service quality model. Procedia Computer Science, 100, 491–497.
- Stock, J. R., & Lambert, D. M. (1987). Strategic logistics management (3rd ed.). McGraw-Hill/Irwin.
- 22. Kim, J., Suh, E., & Hwang, H. (2004). Effects of CRM on customer satisfaction and loyalty in service sectors. Journal of Business Research, 57(6), 579–590.
- Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.
- 24. Gartner. (2023). Customer Relationship Management (CRM). Retrieved from https://www.gartner.com/en/informationtechnology/glossary/crm-customerrelationship-management
- 25. Salesforce. (2013). What is CRM?. Retrieved from https://www.salesforce.com/crm/what-iscrm/
- Nguyen, T. L. D. (2018). Customer relationship management in small and medium-sized enterprises in Vietnam. Journal of Economics and Forecasting, (12), 71–75.
- 27. Gartner. (2023). Customer Relationship Management (CRM). Retrieved from https://www.gartner.com/en/informationtechnology/glossary/crm-customerrelationship-management
- 28. Kotler, P., & Keller, K. L. (2016). Marketing management (15th ed.). Pearson Education.
- Sin, L. Y. M., Tse, A. C. B., & Yim, F. H. K. (2005). CRM: Conceptualization and scale development. European Journal of Marketing, 39(11/12), 1264–1290.
- Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.

- Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.
- 32. Kim, J., Suh, E., & Hwang, H. (2004). Effects of CRM on customer satisfaction and loyalty in service sectors. Journal of Business Research, 57(6), 579–590.
- Alshourah, S., Al-Sayyed, R., & Hussein, N. (2018). The impact of customer relationship management on service quality in the Jordanian telecommunication sector. International Journal of Academic Research in Business and Social Sciences, 8(5), 197– 209.
- 34. Kim, J., Suh, E., & Hwang, H. (2004). Effects of CRM on customer satisfaction and loyalty in service sectors. Journal of Business Research, 57(6), 579–590.
- 35. Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.
- Mentzer, J. T., Flint, D. J., & Kent, J. L. (1999). Developing a logistics service quality scale. Journal of Business Logistics, 20(1), 9–32.
- Perreault, W. D., & Russ, F. A. (1976). Physical distribution service in industrial purchase decisions. Journal of Marketing, 40(2), 3–10.
- Stank, T. P., Goldsby, T. J., Vickery, S. K., & Savitskie, K. (2003). Logistics service performance: Estimating its influence on market share. Journal of Business Logistics, 24(1), 27–55.
- Stock, J. R., & Lambert, D. M. (1987). Strategic logistics management (3rd ed.). McGraw-Hill/Irwin.
- Daugherty, P. J., Stank, T. P., & Ellinger, A. E. (1998). Leveraging logistics/distribution capabilities: The effect on service performance and shareholder value. Journal of Business Logistics, 19(2), 35–51.
- Lambert, D. M., Garcia-Dastugue, S. J., & Croxton, K. L. (2005). An evaluation of process-oriented supply chain management frameworks. Journal of Business Logistics, 26(1), 25–51.
- 42. Christopher, M. (1998). Logistics and Supply Chain Management: Strategies for Reducing Cost and Improving Service. Pearson Education

- 43. Vitasek, K. (2011). What Is Second Party Logistics (2PL)? A Simple Introduction. Vector. Link
- 44. Vân, N. T. (2006). Assessing the National Logistics System of Vietnam. ScienceDirect.
- 45. Wikipedia. (2024). Last mile (transportation).
- 46. Vietnam Ministry of Industry and Trade. (2023). Vietnam Logistics Report 2023. Hanoi: Vietnam Industry Publishing House. [In Vietnamese]
- Stock, J. R., & Lambert, D. M. (1987). Strategic logistics management (3rd ed.). McGraw-Hill/Irwin.
- Stamenkov, G., & Dika, Z. (2015). A sustainable e-service quality model. Procedia Computer Science, 100, 491–497
- 49. Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.
- 50. Barney, J. B. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99–120.
- 51. Vargo, S. L., & Lusch, R. F. (2004). Evolving to a new dominant logic for marketing. Journal of Marketing, 68(1), 1– 17.
- 52. Sin, L. Y. M., Tse, A. C. B., & Yim, F. H. K. (2005). CRM: Conceptualization and scale development. European Journal of Marketing, 39(11/12), 1264–1290.
- Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.
- 54. Payne, A., & Frow, P. (2005). A strategic framework for customer relationship management. Journal of Marketing, 69(4), 167–176.
- 55. Davenport, T. H., & Prusak, L. (1998). Working knowledge: How organizations manage what they know. Harvard Business School Press.
- 56. Kim, J., Suh, E., & Hwang, H. (2004). Effects of CRM on customer satisfaction and loyalty in service sectors. Journal of Business Research, 57(6), 579–590.
- 57. Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.

- Kim, J., Suh, E., & Hwang, H. (2004). Effects of CRM on customer satisfaction and loyalty in service sectors. Journal of Business Research, 57(6), 579–590.
- Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.
- 60. Rahimi, R., & Kozak, M. (2017). CRM in tourism and hospitality: A practical guide to implementation. Channel View Publications.
- 61. N. T. MAI ANH, L. HUI, V. D. KHOA and S. MEHMOOD, "Relational capital and supply chain collaboration for radical and incremental innovation: an empirical study in China," Asia Pacific Journal of Marketing and Logistics, vol. 31, pp. 1076-1094, 2019.
- 62. Salesforce. (2013). What is CRM?. Retrieved from https://www.salesforce.com/crm/what-iscrm/
- Kim, J., Suh, E., & Hwang, H. (2004). Effects of CRM on customer satisfaction and loyalty in service sectors. Journal of Business Research, 57(6), 579–590.
- 64. Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.
- Sin, L. Y. M., Tse, A. C. B., & Yim, F. H. K. (2005). CRM: Conceptualization and scale development. European Journal of Marketing, 39(11/12), 1264–1290.
- Alshourah, S., Al-Sayyed, R., & Hussein, N. (2018). The impact of customer relationship management on service quality in the Jordanian telecommunication sector. International Journal of Academic Research in Business and Social Sciences, 8(5), 197–209.

- Al-Gasawneh, J. A., Anuar, M. M., Dacko-Pikiewicz, Z., & Saputra, J. (2021). The impact of customer relationship management dimensions on service quality. Polish Journal of Management Studies, 23(2), 24–31.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. Journal of Retailing, 64(1), 12–40.
- 69. Stamenkov, G., & Dika, Z. (2015). A sustainable e-service quality model. Procedia Computer Science, 100, 491–497.
- 70. N. T. MAI ANH, L. HUI and V. D. KHOA, "Emerging Economies of Southeast Asia: Achieving and increasing radical innovations through collaborating with buyers and suppliers by fostering trust: the Case of Viet Nam," Journal of Business To-Business Marketing, vol. 25, no. 4, pp. 357-372, 2018.
- 71. N. T. MAI ANH, L. HUI, V. D. KHOA and S. MEHMOOD, "Relational capital and supply chain collaboration for radical and incremental innovation: an empirical study in China," Asia Pacific Journal of Marketing and Logistics, vol. 31, pp. 1076-1094, 2019.
- 72. V. DINH KHOA and N. T. MAI ANH, "Examining the Relationship Between Supply Chain Integration, Innovation Speed and Supply Chain Performance Under Demand Uncertainty," Engineering Management Journal, p. 1–16, 2023.

How to cite this article: Khoa Dinh Vu, Kim Anh Thi Le, Thuc Anh Hoang, Hoa Minh Chu, Hoa Thi Pham, Mai Anh Thi Nguyen. The impact of customer relationship management (CRM) on logistics service quality in road transport companies in Hanoi, Vietnam. *International Journal of Research and Review*. 2025; 12(5): 504-516. DOI: *10.52403/ijrr.20250552*
