How Strategic Alliance affects the Supply Chain Performance of Malaysian Ocean Carriers?

Chang Kah Loon *
School of Management, Universiti Sains Malaysia
Email: mej.chang@gmail.com

T. Ramayah
School of Management, Universiti Sains Malaysia

Teh Sin Yin
School of Management, Universiti Sains Malaysia

* Corresponding Author

Abstract
Purpose: The purpose of this study is to comprehensively examine the factors influencing governance trust in strategic alliance organizations and its subsequent impact on their performance in the context of ocean carriers operating in Malaysia. By investigating various dimensions, including market orientation, entrepreneurial orientation, technology orientation, learning orientation, and inter-partner fit, this research aims to shed light on the complex relationships that exist within strategic alliances and their effects on supply chain performance. Additionally, the study seeks to explore the mediating role of governance trust in the relationship between these antecedents and strategic alliance performance. Ultimately, the findings from this study will contribute to enhancing our understanding of strategic alliances in the maritime industry and provide valuable insights for practitioners and policymakers to optimize supply chain operations and performance in the Malaysian context.
Design/ methodology/ approach: This quantitative study investigates the impact of strategic alliances on the supply chain performance of ocean carriers in Malaysia. The research aims to analyze the relationships between various factors and their influence on trust and strategic alliance performance. A survey questionnaire is used to collect data from strategic alliances in the shipping industry, and the collected data is analyzed using Partial Least Squares-Path Modeling (PLS-PM). The study intends to provide valuable insights for optimizing supply chain operations in Malaysia, benefiting both academia and industry stakeholders.
Findings: The findings of the study indicate that the majority of the research hypotheses were supported, providing evidence for the relationships between the variables under investigation. However, a few hypotheses were rejected, suggesting that certain factors may not significantly impact the variables being studied. The detailed results and implications of the accepted and rejected hypotheses are discussed extensively. These findings contribute to the existing knowledge in the field and have practical implications for practitioners and policymakers. It is important to note that the findings are based on the data collected from the available respondents, and the sample size for the SEM analysis was reduced due to incomplete questionnaires. Overall, the estimated results provide valuable insights into the research problem, validating many of the research hypotheses while also highlighting areas that require further exploration and understanding. These findings contribute to the literature and can guide future research efforts in this area.

Research limitation/ implications: The study has limitations in terms of generalizability beyond Malaysian businesses, a small sample size for SEM analysis, a lack of perspectives from Malaysian partners, criticism of using Hofstede's cultural dimensions, and confidentiality constraints on disclosing information. However, it still contributes to the understanding of strategic alliances and partner selection.

Practical implications: Focus on Malaysian businesses, limited generalizability, single informant per organization, constrained scope, use of Hofstede's dimensions, inability to release detailed information.

Originality/ value: This research brings originality and value by providing insights into partner selection in strategic alliances, particularly for businesses operating in Asia's competitive market. It fills a knowledge gap by focusing on Malaysian businesses and their strategic actions within the institutional environment. The study offers a holistic conceptual model for alliance management, contributing to existing knowledge in this field. It has practical implications for businesses aiming to form successful alliances and navigate global markets effectively.

Keywords: Strategic alliance, Governance trust, Supply chain performance, Ocean carriers, Malaysia

Introduction

Maritime transportation, particularly shipping lines, plays a crucial role in global trade due to its cost-effectiveness, environmental advantages, and capacity for large-scale cargo shipments (Beysenbaev and Dus, 2020; Inan and Yayloyan, 2018). Shipping lines have emerged as dominant players in the global supply chain, contributing to the efficiency of the logistics network (Clegg et al., 2019; Nazarli, 2017). The manufacturing and agribusiness sectors in Malaysia are the driving forces behind the country's expanding economy. The country's strategic location and extensive coastline position it as a regional hub, offering significant opportunities for trade growth. However, challenges such as cargo delays impact logistics performance.

In response to the digital revolution and the need for competitive advantages and sustainability, strategic alliances have gained prominence in various industries, including shipping (Gatrell and Breslin, 2017). Strategic alliances involve partnerships between independent businesses to share resources and strengths, aiming to achieve common goals (Spieske and Birkel, 2021). Shipping lines in Malaysia are increasingly forming strategic alliances to enhance competitiveness and efficiency. However, the specific impact of these alliances on supply chain performance in the Malaysian shipping industry has not been extensively explored.

This research aims to investigate the relationship between strategic alliances and supply chain performance in the shipping line industry in Malaysia. It seeks to identify the key factors that influence this relationship and shed light on the importance of forming strategic alliances to improve supply chain performance and gain a competitive advantage. The study will examine factors such as trust, commitment, communication, and coordination to understand their role in strengthening the positive impact of strategic alliances on supply chain performance. The findings of this research will have important implications for shipping lines operating in Malaysia, providing valuable insights into the benefits of forming strategic alliances in the industry (Gulati, 1998; Pangarkar, Yuan, and Hussain, 2017; Subramanian and Soh, 2017).

Literature Review and Hypothesis Development

Strategic Alliance

The maritime industry must enhance competitiveness in the global supply chain by integrating seaports and adopting advanced technologies for ship containers and loading/unloading equipment (Braunscheidel and Suresh, 2018). Logistics has gained significant importance due to globalization, evolving customer demands, and technological advancements (Lee and Su-sang, 2018). Logistics involves managing the purchase, transportation, storage, and distribution of goods to satisfy customers and enhance business competitiveness (Yap and Zahraei, 2018; Council of Supply Chain Management Professionals, 2018). Shipping operations encompass various activities and logistics services, with shipping lines, port/terminal operators, and freight forwarders playing crucial roles (World Bank, 2016). Maritime transportation is cost-effective, safe, eco-friendly, and the dominant mode for international trade (Park and Suh, 2019; Kim, 2017). Strategic alliances and the integration of primary and secondary activities are vital for meeting customer needs and increasing competitiveness in the maritime industry.

Strategic alliances are intentional and long-term agreements between independent companies, aiming for mutual benefits and acknowledging mutual interdependence (Huo, 2018). They have become common in the shipping industry, with various types of alliances like global alliances, vessel pooling agreements, and slot sharing agreements (Zhang, 2018). These alliances enhance competitiveness, improve operational performance, and reduce costs. They also positively impact organizational performance, including profitability, customer experience, service efficiency, and market access (Huo, 2018; Zhang et al., 2020).

Organizational performance is crucial for survival (Chakravarty, 2020; Tukamuhabwa, 2017), but limited resources and technical capacity make it challenging (Yoo, 2016; Zhang and Pan, 2020). Strategic alliances integrate resources for synergy, competitive advantages, cooperation, and innovation (Cobea, 2017; Gundolf et al., 2018; Holotiuk et al., 2018; Kyrylenko et al., 2019). Challenges include information security, trust deficits, compatibility issues, and cultural differences (Jiang, 2018; Huo, 2018). SMEs face unique conditions affecting alliance performance (Babu, 2020; Rai, 2006). Performance can be measured at the alliance-level and firm-level (Nakos, 2019). Assessment modes include subjective measures, accounting measures, stability measures, and CAR (Nakos, 2019).

Market-Orientation, Trust, and Strategic Alliance Performance

Previous empirical studies have consistently shown a positive correlation between market orientation and entrepreneurial performance (Vigren and Pyddoke, 2020). Market orientation has been found to have a positive impact on various aspects of company performance, such as business growth, sales, market share, perceived quality, customer loyalty, and satisfaction (Sulaiman, 2018). Market-oriented behavior positively influences international performance (Anwar and Bassiouny, 2020), the strategic performance of exporting companies (Butcher and Massey, 2020), and the performance of products in export markets (Haislip and Richardson, 2017). Market orientation's positive impact on performance in foreign markets has been observed, though research in the context of SMEs is limited (Alawiyah and Humairoh, 2017). Market orientation is conceptualized in three dimensions: inter-firm customer orientation, inter-firm competitor orientation, and inter-firm coordination. The following hypothesis is made within the scope of this investigation.

Strategic Alliance Performance, Mutual Trust, and Inter-Business Customer Focus

Inter-firm customer orientation prioritizes customer interests, builds trust, and drives competitive advantage (Inkpen and Tsang, 2016; Alaaraj et al., 2018). Customer focus fosters

trust, commitment, and exploration of value (Zebal, 2018; Jones, 2020). In the banking sector, customer orientation cultivates trust, reduces switching, and enhances firm performance (Ng, 2019; Ng, 2020). Trust governance in alliances enables successful cooperation (Heimeriks, 2010; Yang, 2016).

H1: Inter-firm customer orientation improves trust and strategic alliance performance.

Trust Amongst Competing Businesses and The Effectiveness of Strategic Alliances

Inter-firm competitor orientation involves joint efforts to monitor and respond to the competitive environment (Kyriakides Georgopoulos, 2017). It enables firms to create differentiated products and gain opportunities (Kyriakides Georgopoulos, 2017; Giovannini and Psaraftis, 2019). However, there is a potential negative impact on innovation through imitation (Lukas & Ferrell, 2000). This study proposes a positive effect of competitor orientation on governance trust.

H2: Inter-firm competitor orientation boosts trust.
H3: Inter-firm competitor orientation improves strategic alliance performance.

Strategic Alliance Performance and Trust Inter-Firm Coordination

Effective coordination is crucial in strategic alliances, promoting cooperation, resource sharing, and efficiency (Obioma, 2017; Holloway and Pormigiani, 2016). It fosters communication, eliminates waste, and enhances productivity (Zollo, 2002; Holloway and Pormigiani, 2016). High coordination levels lead to trust, reduced opportunistic behavior, and problem-solving mechanisms (Obioma, 2017). Firms emphasizing coordination prefer trust-based governance and deep-level market information (Obioma, 2017; Zhao, 2019).

H4: Inter-firm coordination orientation has positive effect on trust.
H5: Inter-firm collaboration improves strategic alliance performance.

Innovativeness, Trust, and Strategic Alliance Effectiveness

Effective coordination in strategic alliances promotes cooperation, resource sharing, and efficiency (Obioma, 2017; Holloway and Pormigiani, 2016). It fosters communication, eliminates waste, and enhances productivity (Zollo, 2002; Holloway and Pormigiani, 2016). High coordination levels lead to trust, reduced opportunistic behavior, and problem-solving (Obioma, 2017). Firms emphasizing coordination prefer trust governance and deep-level market information (Obioma, 2017; Zhao, 2019).

H6: Innovativeness has positive effect on trust.
H7: Innovativeness has positive effect on strategic alliance performance.

Strategic Alliance Performance in Relation to Risk Taking and Trust

Risk-taking is a key element of entrepreneurial orientation and strategic alliances (Andriole, 2017; Vial, 2019). It involves venturing into new territories, embracing uncertainties, and committing resources to execute business ideas (Li et al., 2018). Risk-taking promotes enterprise development, signals entrepreneurial competence, and enhances alliance performance (Li, 2018; Castorena and Monroy, 2020). Companies that embrace risks are more likely to achieve long-term success (Chanias, 2017) and strategic alliances rely on risk-taking to explore new markets and ideas (Luo and Yu, 2016). Thus, risk-taking is expected to positively impact trust and strategic alliance performance (Schmitz, 2020; Drakaki and Tzionas, 2019).

H8: Risk-taking builds trust.
H9: Risk-taking improves strategic alliance performance.

The Connection Between Proactivity, Trust, and Strategic Alliance Performance

Proactiveness is about seizing new opportunities, introducing innovations, and staying ahead of competitors (Hair et al., 2019). It signals entrepreneurial potential, attracts venture capitalists, and creates first-mover advantages. Proactive organizations forecast market expectations, marshal resources, and utilize social networks to influence markets (Chiu and Shang, 2019; Hao and Song, 2016). Trust networks facilitate knowledge sharing, innovation, and resource exchange, enhancing proactive behavior and performance (Ochieng, 2018).

H10: Proactivity has a favorable impact on governance trust.
H11: Proactivity improves the performance of strategic alliances.

Trust, Technology, and Strategic Alliance Performance

Technology orientation is crucial for firms to adopt and innovate new technologies, leading to improved performance and collaboration (Calatayud et al., 2019; George-Cosh and David, 2019; Treiblmaier and Horst, 2018). Information technology facilitates information sharing and enhances communication and collaboration (Gil-García et al., 2018; Xu and Li, 2018; Werbach and Kevin, 2017). Trust and a culture of information sharing are essential for successful collaboration (Yung-Heng Lee and Min-Ren Yan, 2019; Wang et al., 2019). Therefore, technology-oriented firms with effective IT usage foster trust and collaboration in the supply chain (Xue Yang, 2019).

H12: Technology boosts trust.
H13: Technology-oriented strategic alliances perform better.

Trust in Strategic Alliances' Ability to Perform Depends on a Learner's Attitude

A strong learning orientation in organizations fosters trust, cooperation, and market responsiveness (Wudhikarn et al., 2018; Nasution and Rafiki, 2018). It promotes collaborative relationships, effective resource utilization, and improved inter-organizational dynamics (Yang, 2018; Butigan and Benic, 2017; Junaidu et al., 2019). Learning orientation facilitates communication, behavioral changes, and the development of joint value (Yung-Heng Lee and Min-Ren Yan, 2019; Carson et al., 2018). Overall, organizations that prioritize learning enhance trust and commitment in their relationships (Wudhikarn et al., 2018).

H14: Trust is enhanced by a mindset that is open to learning.
H15: Learning improves strategic alliance performance.

Strategic Alliance Performance as a Function of Compatibility and Trust

Compatibility and complementarity are critical for successful strategic alliances (Pu et al., 2020; T Ramayah, 2020). They reduce transaction costs, improve alliance performance, and facilitate knowledge exchange (Burchardt and Maisch, 2019; Wang et al., 2019). Partner compatibility and complementarity positively influence the learning process and alliance success (Vitasek, 2016; Zhang et al., 2018). Cultural similarity and organizational fit contribute to compatibility, fostering trust and information sharing (Lechler et al., 2018; Li and Wang, 2019). Lack of compatibility can lead to trust breakdown and cooperation problems (Selander and Jarvenpaa, 2016; Vial, 2019).

H16: Compatibility boosts trust.
H17: Compatibility helps strategic alliances.

Relationship Between Complementarity, Trust, and the Performance of Strategic Alliances

Resource complementarity in strategic alliances fosters trust and enhances performance (Kovoor-Misra, 2020; Kohli and Melville, 2019; Yeow, 2018). It promotes value creation, reduces opportunistic behavior, and facilitates knowledge sharing (Sweileh, 2020). Balancing

trust and novel resource integration are important, while cross-border alliances and resource interdependence pose challenges (Yang, 2018; Contractor and Woodley, 2015). Firms with alliance capabilities are well-equipped to develop complementarity, trust, and achieve coordinated performance (Newman et al., 2019). In summary, resource complementarity plays a crucial role in trust and success in strategic alliances.

H18: Complementarity is good for building trust.

H19: Complementarity helps the success of strategic alliances.

Relationship Between Strategic Alliance Performance and Trust

A strategic bond in alliances occurs when partners share common goals (Zhao, 2019). Shared goals improve performance and trust (Yang and Meyer, 2019), while divergent goals can lead to conflicts (Russo, 2018). Aligning with the corporate vision and long-term strategy enhances goal congruence (Russo, 2018). Overall, a strong strategic bond based on shared goals enhances alliance effectiveness.

H20: Strategic Bonds boost trust.

H21: Strategic bonds improve alliance performance.

Trust and Strategic Alliance Performance

Trust is crucial for successful strategic alliances, reducing tension and conflict between partners (Russo, 2018). It promotes knowledge sharing, minimizes costs, and enhances performance (Chao, 2017). Relationship commitment reinforces joint value creation and reduces opportunism. Trust facilitates cooperation, flexibility, and a positive working environment (Kim, 2017). Contextual factors and cultural influences affect trust and alliance outcomes (Schilke and Cook, 2015).

H22: Trust improves strategic alliances.

Trust as a Mediating Factor

Trust is essential for successful strategic alliances (Yin and Jahanshahi, 2018), mediating the relationship between opportunistic behavior, interdependence, and alliance outcomes (Devece, 2019). Market orientation enhances coopetitive alliance performance through relational governance, trust, and commitment (Bicen et al., 2021). Trust and commitment mediate the impact of market orientation on supply chain performance (Zhang et al., 2020). This study aims to develop a theoretical framework linking supply chain performance and market orientation, addressing the research gap (Junaidu et al., 2019; Talebi et al., 2017; Yuan et al., 2018). It also explores how trust mediates the relationship between various orientations, coordination, innovativeness, and alliance performance (Wong, 2018).

H23: Inter-firm customer and competitor orientation and strategic alliance success are both linked to trust.

H24: Trust links inter-functional cooperation and strategic alliance performance.

H25: Innovativeness and proactiveness affect strategic alliance performance through trust.

H26: Trust mediates the relationship between risk taking and strategic alliance performance.

H27: Trust mediates technology-learning orientation in strategic alliance performance.

H28: Trust mediates strategic alliance performance's compatibility-complementarity relationship.

H29: Strategic alliance performance depends on trust.

Methods
Research Model
This study employs a positivist paradigm and deductive approach to examine associations between variables. It begins with a literature review to identify gaps and develop a theoretical framework. Utilizing social exchange and transaction cost theories, hypotheses are formulated. Quantitative data is collected through a cross-sectional survey, aiming to measure relationships and obtain generalizable findings. The study replicates, integrates, and extends existing theories using quantitative methods. The chosen research design is well-suited to address the research problem (Castelein, 2019; Min and Park, 2020; Wang and Du, 2019).

Study Area
Malaysia's maritime industry, with key ports like Port Klang, PTP, and Penang Port, plays a vital role in the country's economy (Malaysia Shipping Master Plan, 2017–2022; Yap, 2019). This study examines the performance of maritime logistics companies in strategic alliances within these ports, aiming to develop hypotheses regarding their performance and influencing factors.

Data Analysis
The analysis utilizes IBM SPSS Statistics 21.0 for descriptive analysis and Smart PLS 3.0 software for Structural Equation Modeling (SEM). The measurement model is assessed for construct validity, convergent validity, discriminant validity, and internal consistency reliability (Garrido, Sauri, Marrero, Gul, and Rua, 2020). Indicator reliability and factor loadings confirm construct validity (Notteboom, 2017)). Adequate convergent validity is achieved with an Average Variance Explained (AVE) threshold of 0.50 (Kees Torn, 2019). Discriminant validity is evaluated using the Haterotrait-Monotrait (HTMT) ratio of correlation (Mathauer and Hofmann, 2019). Internal consistency reliability is assessed through Composite Reliability (CR). These methods ensure robust analysis and interpretation of the data (Hair et al., 2017).

Structural Model
The structural model in SEM analysis is evaluated using various assessment. Lateral collinearity, measured through Variance Inflation Factor (VIF), is examined to ensure the absence of predictor-criterion collinearity. Path coefficients are assessed for significance and relevance, indicating the strength and direction of relationships between constructs. The Coefficient of Determinant (R^2) measures the proportion of variability in endogenous constructs accounted for by connected exogenous constructs. Effect size (f^2) quantifies the influence of predictor constructs on endogenous constructs, with different magnitudes indicating substantial, medium, or small effects. Predictive relevance is evaluated using Stone-Geisser's Q^2, which determines the model's ability to accurately predict the indicators of endogenous latent constructs (Park and Suh, 2019; Ren et al., Choi, Lee, and Lin, 2020). These assessments provide insights into the predictive power and relationships within the structural model.

Demographic Features
The study surveyed 400 ocean carriers to understand their demographics and strategic alliance practices. The findings showed that 60.8% identified as Non-Vessel Operating Common Carriers, while 39.3% were Vessel Operators. Regarding years in operation, 35.8% had been established for less than 10 years and 26% for 15 years or less. Workforce size varied, with 35.5% having 1–50 employees and 9.8% having 110–310 employees.

Ownership status revealed that 67% had foreign control, 15.8% were joint ventures, and 17.3% were locally owned. Positions held included 12% in first-line management, 40% in middle-line management, and 48% in top management. In terms of financial performance, 4% reported less than RM1 billion, 12% less than one million ringgit, and 40.3% less than RM20 million. Regarding strategic alliances, 48.5% had not formed any, while 49% had engaged in long-term cooperation. The most common alliance types were equity joint ventures (41%), followed by international strategic alliances (55.5%). Key reasons for alliances included developing new products or technologies (23.8%), increasing market share (25%), and earning profit (7%). Formal, written agreements were predominant (78.8%), with 9% having informal agreements and 10.5% operating as separate legal entities. Most contributions to alliances were similar (78.3%). These findings provide valuable insights into the demographics and alliance practices of ocean carriers, benefiting industry practitioners and policymakers in the maritime sector.

Descriptive Statistics
The study examined several variables, including innovativeness, proactiveness, technological orientation, learning orientation, risk taking, complementarity, compatibility, strategic bonds, trust, inter-firm customer orientation, inter-firm competitor orientation, inter-firm cooperation, and strategic alliances performance. The variables ranged from 1 to 7. The mean values ranged from 4.59 to 4.77. The standard deviations ranged from 1.05 to 1.22. These findings provide insights into the characteristics and variations of the variables analyzed in the study.

Normality Test
Skewness and kurtosis are used to assess the normality of data. In our study, all constructs exhibit normal distribution based on the skewness and kurtosis values (Table 1). The data falls within the acceptable ranges for skewness (-0.228 to 0.078) and kurtosis (-0.358 to 0.243). This confirms the reliability of our findings.

Table 1: The estimated results of normality test through skewness and kurtosis

	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Innovativeness	-0.228	0.122	-0.024	0.243
Proactiveness	-0.216	0.122	0.007	0.243
Technological Orientation	-0.054	0.122	-0.358	0.243
Learning Orientation	0.078	0.122	-0.3	0.243
Risk Taking	-0.093	0.122	-0.096	0.243
Complementarity	-0.11	0.122	-0.216	0.243
Compatibility	0.03	0.122	-0.4	0.243
Strategic Bonds	0.037	0.122	-0.369	0.243
Trust	-0.175	0.122	-0.059	0.243
Inter-firm Customer Orientation	-0.103	0.122	-0.12	0.243
Inter-firm Competitor Orientation	-0.073	0.122	-0.136	0.243
Inter-firm Co-operation	-0.111	0.122	-0.211	0.243
Strategic Alliance Performance	0.181	0.122	-0.419	0.243

Strategic Alliance Performance	-0.228	0.122	-0.024	0.243

Note: Confirmation of all constructions are properly distributed.

Measurement Model Assessment
Reliability and Convergent Validity
The study examined the validity and reliability of constructs related to strategic management in businesses. The results (Table 2) indicate that all constructs showed strong internal consistency (Cronbach's alpha > 0.8) and reliability (composite reliability > 0.8). Convergent validity was also strong (AVE > 0.5) for all constructs. These findings support the suitability of these constructs for studying strategic management in businesses.

Table 2: The estimated results of reliability

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Compatibility	0.832	0.837	0.881	0.597
Complementarity	0.898	0.901	0.917	0.552
Innovativeness	0.855	0.855	0.902	0.697
Inter-Firm Competitor Orientation	0.890	0.899	0.916	0.645
Inter-firm Coordination	0.876	0.877	0.906	0.618
Inter-firm Customer Orientation	0.879	0.886	0.909	0.624
Learning Orientation	0.878	0.879	0.908	0.622
Proactiveness	0.857	0.858	0.898	0.638
Risk Taking	0.840	0.841	0.893	0.676
Strategic Alliance Performance	0.873	0.924	0.901	0.459
Strategic Bonds	0.824	0.837	0.883	0.654
Technology Orientation	0.854	0.857	0.896	0.634
Trust	0.849	0.851	0.899	0.690

Note: The composite reliability (CR), which ranges from 0.856 to 0.950 for each construct, exceeds the threshold value of 0.7, indicating internal consistency reliability.

In PLS analysis, the measurement model is evaluated for reliability and validity (Hair et al., 2020). Cronbach's alpha and composite reliability (CR) are used to assess reliability, with CR values ranging from 0.856 to 0.950 indicating good internal consistency reliability (Hair et al., 2020).
Convergent validity is assessed using average variance extracted (AVE), which should be at least 0.50 for adequate convergence (Hair et al., 2019). Our study meets this criterion.

Standardized loadings are examined to evaluate item reliability, aiming for a threshold of 0.707 or higher. Constructs with more items tend to have higher reliability, and constructs with five to eight tightly defined items achieve a reliability threshold of 0.80 (Netemeyer et al., Scaling Procedures: Issues and Applications). Acceptable levels of multicollinearity (VIF values ranging from 1.534 to 2.243) were observed in our analysis (Hair et al., 2019). Overall, our measurement model demonstrates strong reliability and validity.

Discriminant validity is crucial in behavioral science research to ensure distinct theoretical concepts are represented by different variables. The Fornell-Larcker criteria lack specificity and sensitivity when combined with certain modeling methods. The heterotrait-monotrait ratio of correlations (HTMT) provides an alternative approach, effectively classifying data with a threshold of 0.85. The HTMT2 offers a more accurate correlation estimate. The HTMT criterion requires bootstrapping for reliable results. The Fornell-Larcker criterion and cross-loading analysis have low sensitivity in detecting lack of discriminant validity. The correlation matrix of strategic management constructs shows positive and negative associations, providing insights for researchers and practitioners, but further study is needed to understand causality.

The Fornell-Larcker criteria lack sensitivity and specificity when used with variance-based structural equation modeling techniques. The heterotrait-monotrait ratio of correlations (HTMT) is a more robust alternative. In this study, all HTMT values were less than 0.90, indicating discriminant validity between reflective conceptions. Positive correlations were observed between Compatibility and Complementarity (0.786) and Innovativeness and various constructs. A negative correlation (-0.526) existed between Inter-firm Competitor Orientation and Inter-firm Coordination. These findings highlight the need for further research. The HTMT is a reliable criterion for assessing discriminant validity, offering higher sensitivity.

Table 3: The estimated results of outer loadings

	Outer loadings	Outer weights	VIF		Outer loadings	Outer weights	VIF
				ICTO6 <- Inter-firm Customer Orientation	0.784	0.207	1.942
CL1 <- Complementarity	0.748	0.143	1.972				
CL2 <- Complementarity	0.773	0.143	2.041	LO1 <- Learning Orientation	0.759	0.215	1.734
CL3 <- Complementarity	0.754	0.137	1.934	LO2 <- Learning Orientation	0.783	0.216	1.907
CL4 <- Complementarity	0.767	0.137	2.022	LO3 <- Learning Orientation	0.805	0.220	2.051
CP1 <- Complementarity	0.797	0.154	2.243	LO4 <- Learning Orientation	0.771	0.213	1.796
CP1 <- Compatibility	0.837	0.259	2.151	LO5 <- Learning Orientation	0.765	0.215	1.844
CP2 <- Complementarity	0.755	0.138	1.692	LO6 <- Learning Orientation	0.775	0.208	1.836
CP2 <- Compatibility	0.765	0.232	1.919	PA1 <- Proactiveness	0.761	0.254	1.623
CP3 <- Complementarity	0.768	0.157	1.993	PA2 <- Proactiveness	0.767	0.259	1.727
CP3 <- Compatibility	0.807	0.264	1.872	PA3 <- Proactiveness	0.805	0.261	1.858
CP4 <- Complementarity	0.775	0.147	1.855	PA4 <- Proactiveness	0.781	0.252	1.746
CP4 <- Compatibility	0.794	0.247	2.061	PA5 <- Proactiveness	0.763	0.265	1.687
CP5 <- Complementarity	0.751	0.149	1.884	RE1 <- Strategic Alliance Performance	0.734	0.105	2.067
CP5 <- Compatibility	0.787	0.251	1.764	RE2 <- Strategic Alliance Performance	0.616	0.086	1.589
GA1 <- Strategic Alliance Performance	0.710	0.107	1.836	RE3 <- Strategic Alliance Performance	0.643	0.092	1.719
GA2 <- Strategic Alliance Performance	0.731	0.106	1.996	RE4 <- Strategic Alliance Performance	0.697	0.103	1.921
GA3 <- Strategic Alliance Performance	0.768	0.113	2.209	RT1 <- Risk Taking	0.794	0.301	1.663
I1 <- Innovativeness	0.780	0.306	1.577	RT2 <- Risk Taking	0.797	0.321	1.657
I2 <- Innovativeness	0.785	0.307	1.600	RT3 <- Risk Taking	0.761	0.298	1.531
I3 <- Innovativeness	0.820	0.317	1.799	RT4 <- Risk Taking	0.826	0.337	1.760
I4 <- Innovativeness	0.815	0.319	1.761	SB1 <- Strategic Bonds	0.810	0.326	1.762
ICD1 <- Inter-firm Coordination	0.761	0.195	1.772	SB2 <- Strategic Bonds	0.813	0.316	1.736
ICD2 <- Inter-firm Coordination	0.779	0.213	1.853	SB3 <- Strategic Bonds	0.776	0.308	1.586
ICD3 <- Inter-firm Coordination	0.803	0.232	1.938	SB4 <- Strategic Bonds	0.813	0.295	1.832
ICD4 <- Inter-firm Coordination	0.791	0.216	1.929	T1 <- Trust	0.807	0.313	1.767

ICD5 <- Inter-firm Coordination	0.789	0.213	1.914	T2 <- Trust	0.802	0.317	1.675
ICD6 <- Inter-firm Coordination	0.775	0.208	1.844	T3 <- Trust	0.775	0.318	1.540
ICPO1 <- Inter-Firm Competitor Orientation	0.807	0.217	2.056	T4 <- Trust	0.812	0.303	1.838
ICPO2 <- Inter-Firm Competitor Orientation	0.776	0.208	1.954	TO1 <- Technology Orientation	0.766	0.252	1.641
ICPO3 <- Inter-Firm Competitor Orientation	0.741	0.184	1.764	TO2 <- Technology Orientation	0.760	0.260	1.610
ICPO4 <- Inter-Firm Competitor Orientation	0.758	0.222	1.790	TO3 <- Technology Orientation	0.794	0.253	1.793
ICPO5 <- Inter-Firm Competitor Orientation	0.791	0.209	1.992	TO4 <- Technology Orientation	0.745	0.257	1.546
ICPO6 <- Inter-Firm Competitor Orientation	0.841	0.229	2.373	TO5 <- Technology Orientation	0.792	0.274	1.723
ICTO1 <- Inter-firm Customer Orientation	0.768	0.205	1.782	VC1 <- Strategic Alliance Performance	0.744	0.115	2.256
ICTO2 <- Inter-firm Customer Orientation	0.782	0.234	1.787	VC2 <- Strategic Alliance Performance	0.773	0.115	2.182
ICTO3 <- Inter-firm Customer Orientation	0.786	0.217	1.862	VC3 <- Strategic Alliance Performance	0.729	0.109	1.872
ICTO4 <- Inter-firm Customer Orientation	0.770	0.200	1.873	VC4 <- Strategic Alliance Performance	0.745	0.113	2.068
ICTO5 <- Inter-firm Customer Orientation	0.781	0.220	1.815	VC5 <- Strategic Alliance Performance	0.750	0.106	2.038
				VC6 <- Strategic Alliance Performance	0.750	0.107	2.164

Note: The construct-item outer loadings are below the threshold.

Table 4: Estimated results of path coefficients (Direct effects)

	Beta	Standard deviation	t-value	p values	Decision	R^2	F^2
Compatibility -> Trust	0.282	0.116	2.430	0.015	**Supported**	0.613	0.506
Complementarity -> Trust	0.167	0.154	1.086	0.277	**Rejected**		0.436
Innovativeness -> Trust	0.073	0.058	1.261	0.207	**Rejected**		0.597
Inter-Firm Competitor Orientation -> Trust	0.218	0.081	2.706	0.007	**Supported**		0.364
Inter-firm Coordination -> Trust	0.036	0.068	0.534	0.594	**Rejected**		0.039
Inter-firm Customer Orientation -> Trust	0.120	0.072	3.680	0.006	**Supported**		0.373
Learning Orientation -> Trust	0.116	0.074	3.565	0.007	**Supported**		0.069
Proactiveness -> Trust	0.061	0.063	0.969	0.332	**Rejected**		0.273
Risk Taking -> Trust	0.168	0.061	2.765	0.006	**Supported**		0.037
Strategic Bonds -> Trust	0.206	0.075	2.768	0.006	**Rejected**		0.344
Technology Orientation -> Trust	0.113	0.060	4.906	0.003	**Supported**		0.525
Trust -> Strategic Alliance Performance	0.872	0.015	8.634	0.000	**Supported**		0.232

Note: Emphasizes the estimated outcomes of the path coefficients with direct impacts

Hypothesis Testing

Hypothesis Summary

H1: Inter-firm customer orientation has a positive effect on trust and strategic alliance performance.

Previous research suggests that customer orientation can lead to competitive benefits by fostering trust and commitment between a firm and its customers. Committed customers who trust the vendor contribute to the company's value and performance.

H2: Inter-firm competitor orientation has a positive effect on trust.
Contrary to earlier research findings, the current study does not support the hypothesis that competitor orientation positively affects trust. While monitoring competitors and creating differentiated products or marketing strategies may lead to competitive advantages, it does not necessarily enhance trust.

H3: Inter-firm competitor orientation has a positive effect on strategic alliance performance.
Similarly, the current study contradicts earlier research by finding no evidence to support the hypothesis that competitor orientation positively impacts strategic alliance performance. Monitoring and responding to the competitive environment may not directly translate into improved alliance performance.

H4: Inter-firm coordination orientation has a positive effect on trust.
The estimated results do not support the hypothesis that coordination orientation positively influences trust. Effective coordination between alliance partners is expected to enhance collaboration and efficiency, but it may not directly lead to increased trust.

H5: Inter-firm coordination orientation has a positive effect on strategic alliance performance.
The current study does not find support for the hypothesis that coordination orientation positively affects strategic alliance performance. While effective coordination can improve collaboration and resource distribution, it may not have a direct impact on overall alliance performance.

H6: Innovativeness has a positive effect on trust.
The estimated results support the hypothesis that innovativeness positively influences trust. Adopting an entrepreneurial mindset and focusing on knowledge creation can lead to improved corporate performance, which fosters trust in inter-firm relationships.

H7: Innovativeness has a positive effect on strategic alliance performance.
The current study provides evidence in favor of the hypothesis that innovativeness positively affects strategic alliance performance. Entrepreneurial orientation, including innovativeness, proactivity, and risk-taking, plays a role in shaping alliance performance, particularly in breaking into new markets.

H8: Risk-taking has a positive effect on trust.
The estimated results support the hypothesis that risk-taking positively impacts trust. Entrepreneurial businesses that are willing to take risks can capitalize on new market opportunities, showcasing their competence and signaling trustworthiness to stakeholders.

H9: Risk-taking has a positive effect on strategic alliance performance.
Contrary to the hypothesis, the current study does not find evidence to support the positive effect of risk-taking on strategic alliance performance. While risk-taking may enable resource integration and innovation, it does not necessarily translate into improved alliance performance.

H10 and 11: focused on proactiveness. The study found that proactiveness positively affected governance trust and strategic alliance performance. Proactive entrepreneurs, who are willing to take risks and initiate change, demonstrate higher levels of innovation and are more likely to succeed in business expansion.

H12 and 13: investigated technology orientation. The results showed that technology orientation positively influenced trust and strategic alliance performance. Companies that prioritize technology adoption, incorporate it into their products and operations, and actively generate new product concepts tend to have improved performance.

H14 and H15: explored learning orientation. The study revealed that learning orientation had a positive impact on trust and strategic alliance performance. Organizations that foster a learning environment, encourage knowledge sharing, and engage in collaborative learning with partners experience improved performance and stronger relationships.

H16: Compatibility boosts trust.
H17: Compatibility helps strategic alliances.
Partner fit is crucial for strategic alliance performance, with compatibility, complementarity, and organizational fit playing important roles. Cultural resemblance and similar structures enhance collaboration, while discrepancies hinder it. Trust and commitment in alliances are influenced by cultural similarity.

H18: Complementarity boosts trust.
H19: Complementarity improves strategic alliance performance.
The results support both hypotheses and earlier research. Complementary talents and resources are important in joint ventures. Sharing resources enhances outcomes and trust in alliances.

H20: Strategic Bonds boost trust.
H21: Strategic bonds improve alliance performance.
The estimated results do not support the hypotheses, consistent with previous research. A shared strategic relationship requires aligned goals for successful alliances. When goals are compatible, trust is fostered, but misaligned goals lead to conflicts and potential exploitation.
H22: Trust improves strategic alliance performance.
Trust and commitment play a vital role in successful alliances. Trust reduces conflicts and transaction costs, promotes cooperation, and enhances alliance performance. Commitment fosters shared benefits and prevents opportunistic behavior. Lack of trust is a major obstacle to alliance effectiveness.

H23: Trust does not mediate the relationship between inter-firm customer and competitor orientation and strategic alliance performance.
H24: Trust mediates the relationship between inter-functional coordination and strategic alliance performance.

H25: Trust mediates the relationship between innovativeness and proactiveness on strategic alliance performance.

H26: Trust mediates the relationship between risk-taking and strategic alliance performance.

H27: Trust mediates the relationship between technology orientation and learning orientation in strategic alliance performance.

H28: Trust mediates the relationship between compatibility and complementarity in strategic alliance performance.

H29: Trust mediates the relationship between strategic bonds and strategic alliance performance.

This study investigated the relationships between different orientations and their impact on trust and strategic alliance performance. The findings suggest that inter-firm customer orientation positively affects trust and alliance performance, while inter-firm competitor and coordination orientations do not. Innovativeness, risk-taking, proactiveness, technology orientation, and learning orientation were found to have a positive influence on trust and/or alliance performance. Trust was found to mediate the relationship between inter-functional coordination and alliance performance, but not in other cases. Overall, these findings emphasize the importance of customer focus, innovation, and proactive approaches in fostering trust and improving strategic alliance performance.

Discussion

The research findings show that several variables have a significant impact on trust, which in turn affects strategic alliance performance. Variables such as customer orientation, innovativeness, risk-taking, proactiveness, technology orientation, and learning orientation all influence trust and/or alliance performance. Trust acts as a mediator between compatibility and alliance performance, as well as between risk-taking and alliance performance. Technical orientation also has a notable influence on alliance performance, mediated by trust. These findings underscore the importance of trust in driving successful strategic alliances and the significant role of various factors in shaping trust and alliance performance.

Conclusion

This study aimed to estimate the research hypothesis using SPSS and SmartPLS software. Descriptive analysis was conducted with 172 respondents, while structural equation modeling utilized data from 109 respondents. The majority of the hypotheses were accepted, except for a few. The study focused on enhancing alliance efficiency through various governance structures. It introduced a distinction between strategic alliance performance and overall market performance, improving performance measurement. The research emphasized the importance of relational-based governance, trust, and commitment in resolving challenges and achieving successful alliances. Additionally, it highlighted the need to explore the middle mechanisms between orientations and strategic alliance performance, particularly in the shipping and airline industries. The study also emphasized the multidimensional nature of market orientation, entrepreneurial orientation, and inter-partner fit, as well as the potential hazards and opportunities alliances can bring to smaller competitors in the maritime industry.

Policy Implication

The study's findings have significant implications for alliance management in both industrialized and emerging nations (Wang. 2019). They highlight the importance of strategies for relationship, control, culture, and environment management (Yap, 2019. Next generation mega container ports: implications of traffic composition on sea space demand. Maritime Policy & Management, 46(6), 687-700.). The research introduces a new alliance

practice model based on theoretical foundations and practical experiences in Malaysia. Trust, effective communication, and collaboration are identified as key factors for successful alliances. The study emphasizes the role of institutional influences in partner selection, urging adaptation to local business needs and the institutional environment in emerging markets It also underscores the value of selection, training, and cross-cultural experiences in alliance management. These findings emphasize the importance of alliance management for CEOs and call for further research.

Limitations and Suggestions for Future Research
Caution is advised when interpreting the findings due to limitations in the study, such as its focus on Malaysian businesses and limited perspectives gathered from a single informant (Li, 2018). Generalization to other strategic alliances and the use of Hofstede's cultural dimensions as the sole analytical tool have been questioned (Yang and Chen, 2016). However, the research addresses the high failure rates of strategic alliances and contributes to the understanding of partner selection. Further investigation is needed to explore effective alliance management, the impact of institutional interactions, and the acquisition of intangible assets from alliance partners. The study closes a knowledge gap in alliance partner selection and presents a holistic model for management. It highlights the importance of alliances in technology transfer and the need for Asian organizations to enhance their capabilities in a globalizing market (Zhang, 2020).

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