

Article

A Capability-Based Perspective on the Relationship Between Interorganizational Trust and Organizational Outcomes: Evidence from the Indonesian Futures Brokerage Industry

Stephanus Paulus Lumintang *, Noermijati Noermijati, Fatchur Rohman and Sri Palupi Prabandari

Faculty of Economics and Business, University of Brawijaya, Malang 65145, Indonesia

* Correspondence: spl888@student.ub.ac.id

Abstract

Interorganizational trust constitutes a foundational pillar of relational governance that facilitates coordination and enhances organizational performance. However, recent scholarly debate suggests that an overreliance on trusted interorganizational relationships may engender unintended counterproductive consequences. Integrating Social Exchange Theory (SET) and the Knowledge-Based View (KBV) through a capability-based perspective, this study examines a capability-based mechanism through which interorganizational trust influences firm performance via the mediating role of problem-solving capability (PSC). Based on a census dataset of all 48 licensed futures brokerage firms operating under the Jakarta Futures Exchange (JFX), primary survey data gathered from Chief Executive Officers were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The empirical evidence indicates that interorganizational trust is negatively associated with both problem-solving capability and firm performance. In contrast, problem-solving capability is positively related to firm performance and likely to significantly mediate the relationship between interorganizational trust and firm performance. These findings suggest that the organizational implications of relational trust are better understood by examining the internal adaptive capabilities that transform relational resources into firm performance. From this capability-based standpoint, problem-solving capability serves as a critical internal mechanism linking external relational conditions to organizational performance. Meanwhile, the concept of capability erosion offers a plausible theoretical explanation for how excessive reliance on relational support may reduce organizations' incentives to sustain internal problem-solving capability. Overall, this paper contributes to the relational governance literature by providing a capability-based perspective on the dark side of interorganizational trust, offering practical insights for industry executives and market regulators on balancing relational governance with internal capability development.



Academic Editor: Thanasis Stengos

Received: 11 June 2026

Revised: 26 July 2026

Accepted: 27 July 2026

Published: 3 August 2026

Copyright: © 2026 by the authors.

Licensee MDPI, Basel, Switzerland.

This article is an open access article distributed under the terms and conditions of the [Creative Commons Attribution \(CC BY\)](https://creativecommons.org/licenses/by/4.0/) license.

Keywords: interorganizational trust; problem-solving capability; relational governance; Knowledge-Based View; organizational performance

1. Introduction

The institutional framework of contemporary financial services has experienced significant structural changes, increasing systemic complexity and operational uncertainty for market participants (Haldane & May, 2011). In such volatile environments, interorganizational trust is widely recognized as a vital relational asset that diminishes transaction costs, reduces information asymmetries, and supports coordinated organizational efforts (Dyer

& Chu, 2003; Zaheer et al., 1998). In derivative and futures markets—where transactional integrity, clearing guarantees, and compliance measures are crucial—the reliance on relational governance becomes especially important. In these ecosystems, licensed brokerage firms do not merely interact with futures exchanges as transactional platforms; they rely on them as regulatory authorities, infrastructure providers, and market facilitators. Therefore, interorganizational trust plays a fundamental role in relational governance, influencing how brokerage firms coordinate with exchanges to accomplish their organizational objectives.

Although the conventional academic consensus underscores the performance-enhancing benefits of interorganizational trust, the recent literature has begun to question this perspective. Emerging studies suggest that relational governance may also produce unintended organizational consequences, often referred to as the dark side of trust. While trust provides a foundation for operational stability, excessive reliance on institutional partners can undermine organizational vigilance, hinder critical evaluation, and lead to an over-dependence on external safeguards (Gargiulo & Ertug, 2006; Villena et al., 2011). These unintended impacts are particularly pronounced in highly dynamic financial environments, where organizational resilience depends not only on stable external relationships but also on the ongoing development of internal adaptive capabilities. Consequently, the concept of the dark side of trust has gained importance by emphasizing that interorganizational trust does not invariably translate into improved firm performance. This underscores the need for capability-based explanations of such phenomena. Despite increasing conceptual interest, the organizational processes through which these adverse outcomes arise remain insufficiently understood, especially within institutionally dependent financial contexts.

Existing studies have documented the dark side of trust and begun to explain why these unintended organizational consequences arise. A prominent line of reasoning suggests that excessive reliance on trusted interorganizational relationships may gradually weaken internally developed adaptive capabilities by reducing incentives for independent learning, proactive diagnosis, and continuous capability development—a condition commonly referred to as capability erosion (Gargiulo & Ertug, 2006; Villena et al., 2011). This perspective aligns with the broader organizational capability literature, which contends that firms sustain long-term competitiveness through the continuous development, renewal, and deployment of internal capabilities that enable effective responses to changing environmental conditions (Helfat & Peteraf, 2003; D. J. Teece et al., 1997). Although the notion of capability erosion offers a compelling theoretical explanation for the unintended consequences of interorganizational trust, empirical evidence remains limited regarding how changes in internally developed adaptive capabilities shape the relationship between interorganizational trust and organizational performance. As a result, the capability-related mechanisms through which interorganizational trust influences organizational performance remain an open empirical question.

To address these capability-related processes, it is useful to adopt a theoretical perspective that places organizational capabilities at the center of value creation. The Knowledge-Based View (KBV) asserts that organizational capabilities serve as the fundamental mechanisms through which firms integrate, develop, and utilize knowledge to attain a sustainable competitive advantage (Grant, 1996). From this perspective, variations in organizational performance reflect not only differences in the quality of external relationships but also differences in how organizations develop and deploy internally developed adaptive capabilities (D. J. Teece, 2007). Adopting a capability-based perspective provides a complementary approach to understanding how interorganizational trust influences firm performance beyond the relational governance mechanisms emphasized in previous studies. Within this broader framework, problem-solving capability (PSC) represents a particularly critical organizational capability, enabling firms to recognize emerging anomalies, interpret com-

plex market signals, evaluate strategic alternatives, and implement timely organizational responses (Cummings & Nickerson, 2024; Nickerson & Zenger, 2004).

Building on these theoretical tensions, further empirical investigation is needed to examine how organizational capabilities shape the nexus between interorganizational trust and firm performance. While the notion of capability erosion offers a compelling theoretical rationale for why excessive reliance on trusted interorganizational relationships may undermine internally developed adaptive capabilities, empirical evidence on how this process unfolds remains scarce. Addressing this theoretical gap, this study adopts a capability-based perspective to examine the relationship between interorganizational trust and firm performance, positioning problem-solving capability (PSC) as an empirically observable adaptive capability through which this mechanism can be comprehensively understood. In doing so, this study responds to calls for a deeper understanding of the organizational processes underlying the dark side of trust (Schoorman et al., 2007) and extends the literature by providing empirical insights that complement the capability erosion argument in institutionally dependent settings.

The Indonesian derivatives ecosystem provides a highly relevant empirical setting for examining these theoretical arguments due to the heavy structural dependence of brokerage firms on the futures exchange. As the nation's primary futures trading authority, the Jakarta Futures Exchange (JFX) operates within a regulatory environment marked by stringent compliance requirements, evolving investor participation, and high informational dynamism (BAPPEBTI, 2023). Indonesian futures brokerage firms rely extensively on the exchange for transaction execution, regulatory oversight, market infrastructure, and institutional legitimacy. Operating within this highly centralized governance structure while facing continuous market uncertainty renders the Indonesian derivatives ecosystem exceptionally suitable for investigating how interorganizational trust influences organizational performance through organizational capabilities. Accordingly, this study investigates the interrelationships among interorganizational trust, problem-solving capability, and firm performance within the Indonesian derivatives ecosystem from a capability-based lens.

This study contributes to the literature in several important ways. First, although prior research increasingly recognizes that interorganizational trust can yield unintended consequences—often termed the dark side of trust (Gargiulo & Ertug, 2006; Villena et al., 2011)—few studies explicitly examine the underlying organizational mechanisms through which trust translates into firm performance. Most existing studies focus on the direct link between trust and performance (Cao & Lumineau, 2015; Zaheer et al., 1998), implicitly assuming uniform relational outcomes. By conceptualizing problem-solving capability as an internally developed adaptive mechanism, this study expands the dark side of the trust literature, demonstrating how adverse organizational outcomes arise when relational reliance undermines internal capability development.

Furthermore, while the Knowledge-Based View emphasizes organizational capabilities as the foundation for knowledge integration and sustainable competitive advantage (Grant, 1996; D. J. Teece, 2007), limited attention has been paid to how these capabilities interface with external relational governance. Existing studies predominantly treat capabilities as internally oriented strategic assets (Nickerson & Zenger, 2004; D. J. Teece, 2007). This study extends KBV by demonstrating how an internal adaptive capability translates external relational conditions into firm performance, broadening the theory's application in institutionally dependent governance contexts.

In addition, although capability erosion has been proposed as a plausible explanation for why excessive trust may weaken internal capabilities (Gargiulo & Ertug, 2006; Ritter & Walter, 2012; Villena et al., 2011), empirical validation remains limited. Utilizing population-wide census data from Chief Executive Officers of all licensed Indonesian futures brokerage

firms and employing Partial Least Squares Structural Equation Modeling (PLS-SEM) for analysis, our findings indicate that interorganizational trust is negatively related with both problem-solving capability and firm performance. Conversely, problem-solving capability is positively associated with firm performance and mediates the relationship between trust and performance. These empirical results suggest that the unintended consequences of trust stem partly from diminished problem-solving capabilities, offering empirical alignment with the capability erosion perspective and establishing a baseline for future longitudinal inquiries.

Finally, prior research on interorganizational trust has concentrated primarily on interfirm buyer–supplier settings, strategic alliances, and supply chain networks (Cao & Lumineau, 2015; Dyer & Chu, 2003; Dyer & Singh, 1998). Institutionally dependent financial ecosystems in emerging economies remain under-researched, despite being shaped by centralized governance, regulatory oversight, and institutional dependence. By examining these relationships within the Indonesian derivative ecosystem, this study extends the contextual boundaries of relational governance literature to highly regulated, institutionally dependent financial settings.

We organize the remainder of this paper as follows. Section 2 reviews the theoretical background and develops the testable hypotheses. Section 3 outlines the research design, census methodology, and construct operationalization. Section 4 presents the empirical findings and structural model evaluations. Section 5 discusses the theoretical and practical implications, and Section 6 concludes the paper.

2. Hypotheses Development

2.1. Interorganizational Trust and Firm Performance

Within the landscape of relational governance, interorganizational trust operates as a foundational informal mechanism that facilitates strategic cooperation, operational coordination, and collective value creation among corporate partners (Dyer & Singh, 1998; Zaheer et al., 1998). In this context, trust reflects the expectation that a partner organization will conduct its operations in a reliable, predictable, honest, and non-opportunistic manner (Mayer et al., 1995). These shared expectations effectively reduce localized environmental uncertainty and foster confidence within interorganizational exchanges (Zaheer et al., 1998). As organizations increasingly depend on external relationships to access complementary resources, coordinate interdependent activities, and respond to dynamic market conditions, interorganizational trust emerges as a critical relational governance mechanism. Such trust enables more effective collaboration and lowers the costs of interorganizational exchanges, thereby contributing to superior firm performance (Dyer & Singh, 1998; Zhong et al., 2017).

This positive paradigm within the interorganizational trust–firm performance relationship is conceptually grounded in Social Exchange Theory (SET), which frames interfirm dynamics as a series of evolving, iterative exchanges governed by norms of reciprocity, mutual obligation, and long-term cooperative expectations (Blau, 1964). According to the core tenets of SET, higher levels of mutual trust minimize transaction-specific concerns regarding opportunistic behavior, thereby enhancing managerial confidence in exchange partners and encouraging firms to embed themselves in mutually beneficial cooperative routines. Within high-trust partnerships, participating firms exhibit a greater willingness to share proprietary information, commit relationship-specific capital, and synchronize operational workflows. This operational fluidity occurs because decision-makers perceive lower relational hazards and anticipate greater predictability from their counterparties (Zaheer et al., 1998). Drawing on Social Exchange Theory, interorganizational trust establishes a stable relational environment that enables firms to reallocate managerial attention and organizational resources from intensive monitoring activities to value-creating initiatives.

This reallocation, in turn, creates conditions that facilitate superior firm performance (Dyer & Chu, 2003).

In practice, interorganizational trust supports organizational performance through several complementary operational pathways. As an efficient substitute for formal governance, trust curtails the necessity for exhaustive contractual specifications and dense legal monitoring, thereby reducing transaction and governance costs (Aulakh et al., 1996; Dyer & Chu, 2003). These governance efficiencies foster a more collaborative operating environment by promoting open communication, joint strategic planning, and coordinated problem-solving among exchange partners (Cao & Lumineau, 2015; Zaheer et al., 1998). In turn, such collaboration facilitates more extensive knowledge transfer and more effective resource integration, as firms become increasingly willing to share valuable knowledge assets and specialized resources when concerns about opportunistic appropriation are alleviated (Hernández-Espallardo et al., 2010; Inkpen & Tsang, 2005). Collectively, these relational processes enhance organizational learning, improve strategic agility, and ultimately contribute to superior firm performance (Zhong et al., 2017).

This performance-enhancing paradigm has accumulated substantial empirical support across multiple research domains. In their foundational study, Zaheer et al. (1998) demonstrated that interorganizational trust reduces negotiation friction and interfirm conflict while concurrently maximizing overall exchange performance. This positive association extends to cross-border environments, where Aulakh et al. (1996) provided evidence that trust directly underpins superior market performance within international partnerships. More recently, meta-analytic evidence has reinforced the robustness of these findings, indicating that interorganizational trust is consistently associated with more effective collaborative relationships and improved performance outcomes across diverse organizational settings (Li et al., 2025; Zhong et al., 2017). Taken together, the prevailing consensus establishes that interorganizational trust operates as a pivotal relational catalyst that fosters superior firm performance by optimizing transaction costs, tightening operational coordination, and facilitating collaborative knowledge networks.

The relevance of these relational governance mechanisms becomes particularly salient in futures market environments. In these settings, licensed brokerage firms operate within a centralized, interdependent institutional matrix comprising clearinghouses, regulatory bodies, and exchanges. Orderly and efficient derivative market operations depend heavily on near-instantaneous information transmission, synchronized clearing adjustments, and systematic compliance with evolving mandates (Pirrong, 1999, 2011). Within this structure, trust between brokerage firms and the futures exchange facilitates fluid communication, reduces operational friction, expands access to macro market intelligence, and stabilizes systemic coordination (Gulati & Nickerson, 2008; Zaheer et al., 1998). Through these channels, interorganizational trust enhances operational efficiency and strengthens firms' responsiveness to changing market conditions (D. J. Teece, 2007).

Collectively, Social Exchange Theory and the accumulated empirical literature establish that interorganizational trust constitutes a vital relational asset that yields superior firm performance by strengthening coordination, reducing uncertainty, and enabling collaborative value creation. Accordingly, we formulate the baseline hypothesis as follows:

Hypothesis 1 (H1). *Interorganizational trust is positively associated with firm performance in the futures brokerage sector.*

2.2. Interorganizational Trust and Problem-Solving Capability

Although interorganizational trust is widely recognized as a critical relational governance mechanism that creates favorable conditions for superior organizational performance

(Aulakh et al., 1996; Dyer & Chu, 2003; Zaheer et al., 1998), emerging studies increasingly suggest that trust also influences organizational performance through mechanisms that extend beyond relational governance. Such nuance indicates that the relationship between trust and performance is far more complex than previously understood. These insights highlight the imperative of adopting a capability-based perspective. Grounded in the Knowledge-Based View, this perspective posits that sustained organizational performance depends not only on the quality of interorganizational relationships but also on an organization's incentives to cultivate internally developed adaptive capabilities (Grant, 1996). Within this broader framework, the literature on the dark side of trust provides a critical conceptual lens, establishing that excessive reliance on trusted interorganizational relationships can weaken an organization's incentives to cultivate such capabilities (Gargiulo & Ertug, 2006; Villena et al., 2011).

The Knowledge-Based View (KBV) asserts that sustained competitive advantage is rooted in an organization's capacity to develop, integrate, and apply knowledge through internally developed adaptive capabilities (Grant, 1996). From this viewpoint, organizational capabilities are not static assets but dynamic routines that enable firms to interpret environmental signals, integrate dispersed knowledge, and continuously adapt strategic responses to changing competitive conditions (Grant, 1996; D. J. Teece, 2007). Although interorganizational relationships provide valuable external knowledge and resources, the ultimate strategic value of these relationships hinges on an organization's internal capacity to absorb, refine, and transform external knowledge into capabilities that support independent learning and adaptation. Accordingly, organizations that systematically cultivate internally developed adaptive capabilities are better equipped to preserve strategic flexibility and sustain superior performance within dynamic market environments.

While the Knowledge-Based View underscores the strategic imperative of cultivating adaptive capabilities, the dark side of trust literature offers a compelling conceptual explanation for why organizations may become less motivated to do so, even when maintaining robust interorganizational partnerships. In this sense, excessive reliance on trusted partners gradually redirects organizational attention away from independent evaluation and internal capability development, fostering an over-dependence on established relational arrangements (Gargiulo & Ertug, 2006; Villena et al., 2011). Instead of actively questioning underlying assumptions, seeking alternative information sources, and strengthening internal learning routines, organizations increasingly rely on relational assurances to interpret environmental conditions and guide strategic decisions (Langfred, 2004; Villena et al., 2011). This tendency is further reinforced by structural overembeddedness, whereby dense and enduring interorganizational ties narrow an organization's informational search horizons, reduce exposure to diverse perspectives, and suppress independent critical inquiry (Gargiulo & Benassi, 2000; Schilke et al., 2021; Uzzi, 1997). Consequently, excessive reliance on interorganizational trust attenuates an organization's incentives to cultivate the adaptive capabilities necessary to sustain independent learning and long-term strategic adaptation.

Among the various adaptive capabilities highlighted by the Knowledge-Based View, this study focuses on Problem-Solving Capability (PSC) as a pivotal organizational capability that enables firms to respond effectively to environmental uncertainty. PSC reflects an organization's capacity to identify emerging operational anomalies, interpret complex or ambiguous information, generate alternative strategic responses, and implement timely solutions in rapidly changing environments (Grant, 1996; Nickerson & Zenger, 2004). Instead of serving merely as a routine administrative function, PSC functions as a higher-order organizational mechanism that integrates knowledge, supports strategic learning, and facilitates adaptation through continuous problem identification, evaluation, and resolution (Crossan et al., 1999; Shu, 2019; D. J. Teece, 2007). Accordingly, organizations possessing

robust problem-solving capabilities are better equipped to detect environmental shocks, independently evaluate strategic alternatives, and formulate adaptive responses that protect long-term performance.

These theoretical arguments are particularly salient in futures brokerage markets, where firms operate amidst high price volatility, rapid information flows, and evolving regulatory mandates. In such environments, brokerage firms must continuously interpret emerging market signals, independently reassess changing risk exposures, and formulate timely strategic responses to sustain competitive standing. Although close relationships with futures exchanges and institutional partners provide critical market intelligence and governance support, these external relationships are most effective when complementing—rather than substituting for—internally developed problem-solving capabilities. Excessive reliance on trusted institutional partners weakens a brokerage firm's incentives to cultivate these internal capabilities, thereby eroding its capacity to independently diagnose emerging challenges and adapt to shifting market conditions. Consequently, while interorganizational trust provides significant relational and governance advantages, excessive reliance on trusted institutional relationships impairs problem-solving capability, constraining long-term organizational adaptability within the futures brokerage sector. Based on these theoretical considerations, we formulate the hypothesis as follows:

Hypothesis 2 (H2). *Interorganizational trust is negatively associated with problem-solving capability in the futures brokerage sector.*

2.3. Problem-Solving Capability and Firm Performance

The Knowledge-Based View (KBV) posits that sustained organizational performance depends on an organization's capacity to develop, integrate, and deploy internally developed adaptive capabilities (Grant, 1996). Within this theoretical perspective, differences in organizational performance are attributed not merely to raw access to valuable knowledge, but to an organization's capacity to translate that knowledge into effective organizational action. Among the various internally developed adaptive capabilities that enable this translation, Problem-Solving Capability (PSC) represents a particularly critical organizational asset because it enables firms to interpret complex information, integrate dispersed knowledge, evaluate strategic alternatives, and formulate adaptive responses to environmental uncertainty (Grant, 1996; Nickerson & Zenger, 2004).

Problem-solving capability enables organizations to convert knowledge into effective organizational action by supporting the ongoing interpretation of rapidly changing environmental information, the assessment of strategic alternatives, and the execution of timely organizational responses (Nickerson & Zenger, 2004). Instead of relying solely on accumulated static knowledge, organizations with strong problem-solving capabilities continually process new information, re-evaluate existing assumptions, and adjust their decisions in response to shifting environmental conditions. This capability is especially vital in dynamic business environments, where organizations must address non-routine problems, emerging risks, and shifting competitive conditions both rapidly and accurately (D. Teece et al., 2016). Consequently, firms with stronger problem-solving capabilities are better equipped to identify emerging challenges and design appropriate strategic responses, thereby creating organizational conditions that support superior firm performance in dynamic environments (Cummings & Nickerson, 2024; D. J. Teece, 2018).

The organizational value of problem-solving capability extends beyond facilitating effective decision-making to underpinning sustained organizational performance. By systematically interpreting environmental information, assessing strategic alternatives, and implementing suitable organizational responses, firms allocate resources more

efficiently, respond proactively to emerging challenges, and exploit evolving market opportunities (Cummings & Nickerson, 2024; Nickerson & Zenger, 2004). These processes reinforce strategic learning, enhance decision quality, and improve adaptive responsiveness, enabling organizations to preserve operational effectiveness amid growing environmental complexity (D. J. Teece, 2007; D. Teece et al., 2016). Accordingly, organizations with stronger problem-solving capabilities maintain superior firm performance, as they consistently translate knowledge into effective strategic actions that underpin long-term organizational competitiveness.

The capability-based perspective adopted in this study has received growing empirical support across the strategic management literature. Consistent with the Knowledge-Based View, this body of research demonstrates that organizational performance is driven not only by access to external knowledge assets but also by an organization's internal capacity to deploy adaptive routines. For instance, Helfat and Peteraf (2015) show that systematic problem-solving processes enhance organizational resilience and decision quality under conditions of high environmental uncertainty and informational complexity. Similarly, Cummings and Nickerson (2024) conceptualize firms as dynamic problem-solving systems, demonstrating that superior problem-solving capability enables organizations to generate effective solutions to complex transactional challenges. In line with these theoretical arguments, empirical research further establishes that stronger problem-solving capability improves both operational and financial performance (Carmeli et al., 2013) while reinforcing strategic flexibility and competitive advantage in turbulent environments (Shu, 2019). Taken together, this body of evidence provides robust support for the view that problem-solving capability functions as a critical internally developed adaptive capability through which organizations achieve and sustain superior firm performance.

These implications are especially pronounced in futures brokerage markets, where organizations operate amidst high environmental uncertainty, rapid information flows, and evolving regulatory frameworks. In such conditions, brokerage firms must constantly interpret complex market signals, reassess evolving risk exposures, and devise timely strategic responses to maintain organizational performance. Although futures exchanges and institutional partners offer valuable market information, governance support, and regulatory guidance, these external resources are insufficient on their own to secure superior firm performance. Instead, brokerage firms require robust, internally developed problem-solving capabilities that enable them to critically evaluate available information, respond effectively to non-routine challenges, and translate market knowledge into appropriate strategic actions. Consequently, firms with stronger problem-solving capabilities are better equipped to exploit emerging market opportunities, mitigate evolving risks, and sustain superior performance within the highly dynamic futures brokerage sector. Based on these theoretical considerations, we formulate the hypothesis as follows:

Hypothesis 3 (H3). *Problem-solving capability is positively associated with firm performance in the futures brokerage sector.*

2.4. The Mediating Role of Problem-Solving Capability

Although interorganizational trust is widely acknowledged as a crucial relational asset that facilitates cooperation, lowers transaction costs, and enhances organizational performance, clarifying how these benefits actually arise remains a significant theoretical challenge (Schoorman et al., 2007; Zaheer et al., 1998). Existing research has largely accounted for the relationship between interorganizational trust and firm performance through direct-effect models, arguing that trust improves outcomes by strengthening relational governance, enabling more effective information exchange, and supporting

collaborative coordination (Gulati & Nickerson, 2008; Zhong et al., 2017). While these explanations offer valuable insights into the relational advantages of trust, they provide only a limited understanding of the internal organizational processes through which external relational conditions are transformed into superior firm performance. Therefore, moving beyond direct-effect explanations to investigate the organizational mechanisms underlying this relationship represents an important step toward developing a more comprehensive understanding of how interorganizational trust ultimately shapes firm performance (Schoorman et al., 2007).

The capability-based perspective adopted in this study offers a robust theoretical framework for explaining how interorganizational trust influences firm performance through specific organizational mechanisms. Drawing on the Knowledge-Based View (KBV), this perspective contends that sustainable organizational performance depends not only on firms' access to valuable external knowledge and relational resources but also on their capacity to develop and deploy internally developed adaptive capabilities (Grant, 1996). Within this theoretical perspective, external relational conditions enhance organizational performance only as long as they strengthen the internal capabilities through which organizations interpret information, assess strategic alternatives, and design effective organizational responses (Nickerson & Zenger, 2004; D. Teece et al., 2016). Among these internally developed adaptive capabilities, Problem-Solving Capability (PSC) is particularly critical because it enables firms to translate externally sourced knowledge into effective strategic actions amid environmental uncertainty (Cummings & Nickerson, 2024; Nickerson & Zenger, 2004). From this standpoint, explaining how interorganizational trust shapes firm performance requires examining its influence on the development and deployment of internal problem-solving capability, rather than presuming that relational benefits automatically lead to superior organizational outcomes.

This capability-based perspective also offers a valuable basis for understanding why the organizational benefits of interorganizational trust may not always be sustained over time. Instead of presuming that relational resources consistently reinforce internally developed adaptive capabilities, the more recent literature indicates that excessive dependence on trusted external relationships gradually diminishes an organization's motivation to preserve independent analytical routines, ongoing environmental scanning, and critical problem-solving activities (Gargiulo & Benassi, 2000; Gargiulo & Ertug, 2006; Villena et al., 2011). From this vantage point, the notion of capability erosion, as articulated by Ritter and Walter (2012), provides a crucial theoretical lens for explaining how excessive dependence on external relational support can gradually weaken the internal capabilities that organizations employ to interpret information, assess strategic alternatives, and formulate adaptive organizational responses. As organizations increasingly depend on external relational safeguards and institutional protections, managerial attention progressively shifts away from exploratory learning, independent problem diagnosis, and iterative capability development, thereby undermining the continuous cultivation of critical problem-solving activities (Cummings & Nickerson, 2024; D. Teece et al., 2016).

Since problem-solving capability constitutes an internally developed adaptive capability through which organizations convert external knowledge into effective strategic actions, any slowdown in its continuous development inevitably weakens an organization's capacity to transform relational resources into superior performance outcomes. When problem-solving activities become less systematic and autonomous, organizations find it more difficult to interpret complex environmental signals, rigorously assess strategic alternatives, and formulate timely responses to emerging operational challenges (Cummings & Nickerson, 2024; D. Teece et al., 2016). As a result, the benefits derived from interorganizational trust increasingly depend on a firm's ability to maintain a strong problem-solving

capability, rather than arising automatically from relational exchanges. From a capability-based perspective, problem-solving capability therefore serves as the central organizational mechanism through which the positive and negative effects of interorganizational trust are ultimately translated into firm performance.

This capability-mediated mechanism is especially pertinent to the futures brokerage industry, where firms operate amid pronounced market volatility, continuous information flows, and evolving regulatory frameworks. In such an environment, brokerage firms must persistently interpret rapidly shifting market conditions, assess emerging trading risks, and devise timely strategic responses under significant time pressure. Although exchanges and regulatory bodies offer extensive market data, governance support, and institutional safeguards, these external resources cannot replace the internally developed problem-solving capability required to interpret, evaluate, and act on market information effectively. In such settings, firms that become overly reliant on external relational support gradually erode the independent analytical activities that underpin a robust problem-solving capability. This gradual erosion, in turn, diminishes their capacity to respond effectively to localized operational challenges and ultimately constrains organizational performance. Accordingly, the futures brokerage sector constitutes a highly suitable organizational setting in which the mediating role of problem-solving capability can be meaningfully conceptualized and empirically investigated.

Taken together, these theoretical arguments establish that the organizational implications of interorganizational trust are better understood by accounting for the internal capabilities that convert relational resources into organizational performance. From a capability-based perspective, problem-solving capability functions as the core organizational mechanism linking external relational conditions to firm performance, whereas capability erosion explains how excessive reliance on external relational support can gradually undermine this mechanism over time. Accordingly, the effect of interorganizational trust on firm performance operates, at least in part, through its impact on problem-solving capability. Based on these integrated theoretical considerations, we formulate the hypothesis as follows:

Hypothesis 4 (H4). *Problem-solving capability mediates the relationship between interorganizational trust and firm performance within the futures brokerage sector.*

Figure 1 illustrates the conceptual framework that underpins the proposed relationships among interorganizational trust, problem-solving capability, and firm performance.

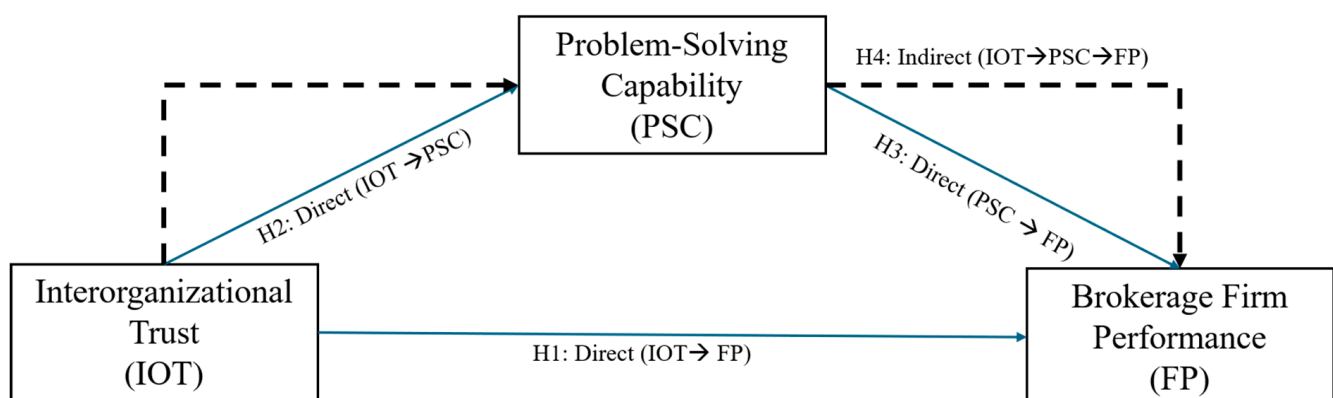


Figure 1. Conceptual framework.

3. Methodology

3.1. Study Design

This study adopts a quantitative explanatory research design to examine how interorganizational trust influences firm performance through the mediating role of organizational problem-solving capability (PSC) within the context of Indonesia's futures market. Primary data were gathered through a structured survey distributed to all licensed futures brokerage firms regulated by the Jakarta Futures Exchange (JFX). To evaluate the structural relationships proposed in the conceptual framework, we employ Partial Least Squares Structural Equation Modeling (PLS-SEM) using SMART PLS 4. PLS-SEM is especially well-suited for predictive research and theory development involving complex latent variable structures and mediation mechanisms, providing robust parameter estimates even with smaller sample sizes (Hair et al., 2021; Sarstedt et al., 2021).

Rather than relying on probabilistic sampling, this study utilizes a census approach targeting the entire population of 48 licensed futures brokerage firms operating under the JFX. This population-wide sampling strategy ensures complete coverage of this specialized institutional sector, eliminating sampling error associated with partial selection. Although the absolute number of firms is relatively small, the dataset encompasses the complete target population of licensed brokers in Indonesia's futures market. This census design aligns with the established strengths of PLS-SEM, which yields reliable statistical estimates for small, well-defined, and complete target populations (Sarstedt et al., 2021).

The unit of analysis is the brokerage firm, with the Chief Executive Officer (CEO) serving as the key organizational informant for each institution. CEOs were selected because they hold primary executive responsibility for managing external institutional relationships with the exchange while directing internal strategic capabilities. Given their executive oversight of interorganizational governance, problem-solving routines, and strategic decisions, CEOs represent the most appropriate informants for evaluating interorganizational trust, problem-solving capability, and firm performance at the organizational level.

Because data for all operational constructs were collected from a single informant per firm, procedural remedies were implemented during the data collection process to mitigate potential common method variance (CMV), following Podsakoff et al. (2003). Specifically, respondents were assured of complete confidentiality, anonymity, and voluntary participation. Informants were explicitly informed that data would be processed exclusively in aggregate form, thereby minimizing evaluation apprehension and social desirability bias. Structured survey packages were administered directly to the executive offices of all 48 licensed brokerage firms, and all completed questionnaires were retained for subsequent empirical analysis.

3.2. Measurement Model Specification

All latent constructs within the operational model were specified as reflective measurement models. This specification aligns with the conceptualization of interorganizational trust, problem-solving capability (PSC), and firm performance as underlying organizational phenomena that are directly reflected by their respective operational indicators. Under a reflective model specification, variations in the latent construct manifest as corresponding changes in observed indicators, producing high indicator covariance and internal consistency (Hair et al., 2021).

To empirically validate this reflective specification, we conducted Confirmatory Tetrad Analysis (CTA-PLS). CTA-PLS examines whether the covariance structure among indicators is consistent with a reflective measurement specification by testing whether the associated model tetrads are statistically indistinguishable from zero (Gudergan et al., 2008; Hair et al., 2021). Non-significant tetrads provide empirical support for a reflective model,

whereas statistically significant tetrads suggest that a formative specification would be more appropriate.

The empirical results from the CTA-PLS evaluation strongly support the reflective model specification across constructs. For interorganizational trust, both evaluated tetrads yielded non-significant results ($p = 0.689$ and $p = 0.953$). Similarly, all tetrads evaluated for problem-solving capability were statistically non-significant, with p -values ranging from 0.082 to 0.836, and Bonferroni-adjusted confidence intervals containing zero. These statistical diagnostics confirm the appropriateness of operationalizing both interorganizational trust and problem-solving capability as reflective constructs.

Regarding firm performance, one of the two evaluated tetrads was statistically significant ($p = 0.025$), while the other was non-significant ($p = 0.147$). However, as emphasized by [Hair et al. \(2021\)](#), CTA-PLS diagnostics should not be used in isolation to dictate model specification, but must be evaluated alongside theoretical foundations and psychometric quality criteria. In line with this approach, the firm performance construct demonstrated high indicator reliability, internal consistency, convergent validity, and discriminant validity in subsequent measurement evaluations. Furthermore, firm performance is conceptually established as an organizational outcome reflected through multiple operational and financial metrics, rather than a formative aggregate of independent dimensions ([Richard et al., 2009](#)). Taken together, theoretical grounds and empirical diagnostics support retaining all constructs as reflective in the PLS-SEM analysis.

3.3. Measurement Items

To preserve content validity and ensure conceptual consistency, all latent constructs were operationalized using measurement scales adapted from established, psychometrically validated studies, following the recommendations of [MacKenzie et al. \(2011\)](#). The survey instrument utilized a standardized five-point Likert scale ranging from 1 ("strongly disagree") to 5 ("strongly agree") to record executive perceptions. Employing a uniform response format across constructs ensures measurement consistency and minimizes cognitive load on executive respondents ([Revilla et al., 2014](#)).

Interorganizational trust was conceptualized as the brokerage firm's institutional confidence in the exchange's competence, operational reliability, fairness, and structural commitment to fulfilling its responsibilities ([Mayer et al., 1995](#); [Schoorman et al., 2007](#)). Measurement items for this construct were adapted from relational governance scales developed by [Chua et al. \(2008\)](#) and [Dong et al. \(2020\)](#), capturing the perceived trust quality between brokerage firms and the central futures exchange. Furthermore, Problem-Solving Capability (PSC) was defined as an organization's capacity to identify operational anomalies, generate appropriate solutions, and execute them effectively in response to environmental and market challenges ([Nickerson & Zenger, 2004](#); [D. Teece et al., 2016](#)). The measurement items for PSC were adapted from [Giampaoli et al. \(2017\)](#), [Nickerson et al. \(2017\)](#), and [Shu \(2019\)](#), capturing the firm's capability to integrate and deploy organizational knowledge to resolve complex operational challenges.

Finally, firm performance was assessed using subjective perceptual metrics reflecting key financial and operational outcomes ([Rezaei & Ortt, 2018](#); [Ur Rehman et al., 2019](#)). Executive respondents evaluated their institution's performance relative to internal strategic goals and industry competitors over the preceding three years. Perceptual performance measures are widely validated in organizational research when objective financial data are restricted or unavailable due to regulatory confidentiality ([Dess & Robinson, 1984](#); [Richard et al., 2009](#)). Prior empirical research confirms that perceptual performance measures correlate strongly with objective firm performance indicators ([Wall et al., 2004](#)). Following data collection, the psychometric properties of the reflective measurement models were

evaluated using indicator loadings, internal consistency reliability (Cronbach's alpha, ρ_A , and composite reliability), convergent validity (average variance extracted), and collinearity diagnostics (outer VIF), adhering strictly to the guidelines established by Hair et al. (2021).

3.4. Reliability and Validity Assessment

Prior to evaluating the structural relationships, the reflective measurement model was systematically assessed to establish internal consistency reliability, indicator reliability, and convergent validity, in accordance with the guidelines of Hair et al. (2021) and Sarstedt et al. (2021). Internal consistency reliability was evaluated using Cronbach's alpha (α) and composite reliability (CR).

As presented in Table 1, Cronbach's alpha values ranged from 0.914 to 0.941, while composite reliability values ranged from 0.950 to 0.958. These results consistently exceeded the recommended threshold of 0.70, indicating satisfactory internal consistency across all latent constructs. Convergent validity was evaluated through standardized indicator outer loadings and the Average Variance Extracted (AVE). All standardized outer loadings exceeded the recommended benchmark of 0.70, ranging from 0.829 to 0.940, thereby demonstrating adequate indicator reliability (Hair et al., 2021; Sarstedt et al., 2021).

Table 1. Factor loadings, reliability, and validity.

Constructs	Loadings	VIF
Interorganizational Trust ($\alpha = 0.941$, CR = 0.958, AVE = 0.850)		
IOT1—We believe in the professionalism of JFX.	0.940	4.803
IOT2—We believe JFX prioritizes the industry's interests.	0.902	3.337
IOT3—We believe in JFX's competence.	0.926	4.025
IOT4—We are confident that JFX will fulfill its obligations.	0.920	3.697
Problem-Solving Capability ($\alpha = 0.937$, CR = 0.950, AVE = 0.759)		
PSC1—Our firm can effectively formulate new knowledge to solve problems.	0.878	3.287
PSC2—Our firm can formulate solutions to problems.	0.853	2.867
PSC3—Our firm can implement solutions for every problem.	0.886	3.525
PSC4—Our firm quickly finds information to solve problems.	0.862	3.749
PSC5—Our firm quickly finds solutions to problems.	0.859	4.060
PSC6—Our firm quickly implements solutions to problems.	0.889	3.889
Brokerage Firm Performance ($\alpha = 0.914$, CR = 0.958, AVE = 0.796)		
FP1—Our firm has shown revenue increase over the past three years.	0.829	2.775
FP2—Our firm has shown increasing returns on investment in the last three years.	0.922	4.112
FP3—Our firm has shown growth in transaction volume in the last three years.	0.897	3.758
FP4—Our firm has shown market share growth in the last three years.	0.917	3.886

Note: $N = 48$. This table presents the psychometric properties of the reflective measurement framework. α = Cronbach's alpha; CR = Composite Reliability; AVE = Average Variance Extracted; VIF = Variance Inflation Factor. The recommended empirical thresholds for model validation are: indicator outer loadings ≥ 0.70 , $\alpha \geq 0.70$, CR ≥ 0.70 , AVE ≥ 0.50 , and outer VIF < 5.0 (Hair et al., 2021).

Similarly, the calculated AVE values ranged from 0.759 to 0.850, well above the required threshold of 0.50. These findings confirm that each construct accounts for more than half of the variance in its respective indicators, supporting convergent validity. Potential indicator-level multicollinearity was assessed using the variance inflation factor (VIF). As detailed in Table 1, outer VIF values ranged from 2.775 to 4.803, remaining below the acceptable upper

threshold of 5.0 (Hair et al., 2021; Sarstedt et al., 2021). These diagnostics indicated that multicollinearity was not a material concern at the indicator level. Overall, the measurement model demonstrated satisfactory reliability and convergent validity, providing a sound empirical basis for evaluating the structural model.

3.5. Discriminant Validity Assessment

Discriminant validity was evaluated using both the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio of correlations (HTMT), following the analytical procedures of Hair et al. (2021) and Sarstedt et al. (2021). The Fornell–Larcker criterion examines whether each construct shares greater variance with its own indicators than with other constructs, whereas the HTMT ratio provides a complementary, highly sensitive evaluation of discriminant validity.

As shown in Table 2 (Panel A), the square roots of the Average Variance Extracted (AVE) for all constructs exceeded the corresponding inter-construct correlations, thereby satisfying the Fornell–Larcker criterion. This indicates that each latent construct shares greater variance with its reflective indicators than with other constructs in the model.

Table 2. Discriminant validity.

Panel A. Fornell–Larcker Criterion			
Header	FP	PSC	IOT
FP	0.892		
PSC	0.814	0.871	
IOT	−0.613	−0.557	0.922
Panel B. Heterotrait–Monotrait Ratio			
Header	FP	PSC	IOT
FP			
PSC	0.866		
IOT	0.664	0.576	

Note: $N = 48$. In Panel A, bold values along the main diagonal represent the square roots of the AVE; off-diagonal entries represent absolute inter-construct correlations (r). Panel B displays the calculated HTMT ratio values. The established psychometric benchmarks for discriminant validity are: construct correlations < diagonal square root of AVE (Fornell & Larcker, 1981), and HTMT values ≤ 0.85 for conservative environments or ≤ 0.90 for structurally related corporate constructs (Hair et al., 2021).

To further confirm discriminant validity, the HTMT criterion was applied. As reported in Table 2 (Panel B), HTMT values ranged from 0.576 to 0.866, all falling below the recommended threshold of 0.90 (Hair et al., 2021; Sarstedt et al., 2021). Although the HTMT ratio between problem-solving capability and firm performance (0.866) slightly exceeded the conservative threshold of 0.85, it remained below the recognized threshold of 0.90 for conceptually linked constructs (Hair et al., 2021). Overall, the results from both the Fornell–Larcker and HTMT assessments support the discriminant validity of the measurement model, indicating that interorganizational trust, problem-solving capability, and firm performance represent empirically distinct constructs.

3.6. Common Method Bias Assessment

Since data for all constructs were obtained from a single key informant within each brokerage firm, both procedural safeguards and statistical diagnostics were employed to address potential common method bias (CMB) (Podsakoff et al., 2003). Procedurally, executive respondents were assured of strict confidentiality, voluntary participation, and that responses would be processed solely in aggregate form. Furthermore, all survey items were adapted from validated instruments and pre-tested to ensure clarity and eliminate item ambiguity.

An initial statistical assessment was conducted using Harman's single-factor test via exploratory factor analysis (EFA) across all measurement items. The first unrotated factor accounted for 61.94% of the total variance. Although this value exceeded the conservative 50% threshold, Harman's single-factor test is widely recognized as an insufficient standalone diagnostic for detecting CMB (Podsakoff et al., 2003). Consequently, a more rigorous evaluation was conducted using the full collinearity assessment approach.

Following Kock (2015), inner variance inflation factors (VIFs) were examined to evaluate full collinearity. The resulting inner VIF values ranged from 1.000 to 1.449, well below the conservative threshold of 3.3. These empirical findings suggested that common method bias and full collinearity were unlikely to distort the structural relationships among the constructs under investigation. Overall, the combination of procedural controls and statistical diagnostics indicated that common method bias did not pose a material threat to the validity of the empirical findings.

4. Results

4.1. Structural Model Assessment

Following the validation of the measurement model, the structural model was evaluated to assess its explanatory power, effect sizes, predictive relevance, and overall model fit, adhering to the guidelines established by Hair et al. (2021) and Sarstedt et al. (2021).

The explanatory power of the structural model was evaluated using the coefficient of determination (R^2). As presented in Table 3 (Panel A), interorganizational trust accounted for 31.0% of the variance in problem-solving capability ($R^2 = 0.310$). Furthermore, interorganizational trust and problem-solving capability jointly explained 70.0% of the variance in brokerage firm performance ($R^2 = 0.700$). According to Cohen's (1992) classification, these results indicated moderate explanatory power for problem-solving capability and substantial explanatory power for brokerage firm performance.

Table 3. Structural model assessment results.

Panel A. R-Square (R^2) and Q-Square Results (Q^2)		
Construct	R^2	Q^2
PSC	0.310	0.220
FP	0.700	0.540
Panel B. F-Square Results (f^2)		
Predictor	FP	PSC
PSC	1.078	
IOT	0.124	0.449

Note: $N = 48$. R^2 benchmarks: ≥ 0.26 is substantial (Cohen, 1992); f^2 effect sizes: ≥ 0.02 is small, ≥ 0.15 is medium, ≥ 0.35 is large (Cohen, 1992); Q^2 thresholds: ≥ 0 indicates predictive relevance (Hair et al., 2021).

The effect size (f^2) of each predictor was examined to evaluate its relative contribution to the endogenous constructs. As detailed in Table 3 (Panel B), interorganizational trust exhibited a large effect size on problem-solving capability ($f^2 = 0.449$), while problem-solving capability demonstrated a substantial effect size on brokerage firm performance ($f^2 = 1.078$). Conversely, the direct effect size of interorganizational trust on brokerage firm performance appeared comparatively modest ($f^2 = 0.124$).

Predictive relevance was evaluated using Stone–Geisser's Q^2 , obtained via the blind-folding procedure. The resulting Q^2 values were 0.220 for problem-solving capability and 0.540 for brokerage firm performance, both well above the threshold of zero. These findings suggested that the structural model possesses satisfactory predictive relevance for both endogenous constructs.

Finally, the overall model fit was evaluated using the standardized root mean square residual (SRMR) and the normed fit index (NFI). The model yielded an SRMR value of 0.078, which fell below the recommended cutoff threshold of 0.08 (Henseler et al., 2016; Hu & Bentler, 1999). The NFI generated a value of 0.830, signaling an acceptable model fit (Hair et al., 2021). Overall, these diagnostic results indicated that the structural model provides a robust foundation for hypothesis testing.

4.2. Hypothesis Testing

The structural relationships were evaluated using the non-parametric bootstrapping procedure in SmartPLS 4 with 10,000 resamples. Table 4 presents the standardized path coefficients (β), t -statistics, p -values, and hypothesis decisions, while Figure 2 illustrates the estimated structural model. The 95% bias-corrected and accelerated (BCa) confidence intervals for all statistically significant structural paths excluded zero, providing further evidence regarding the robustness of the estimated parameter relationships.

Table 4. Path analysis results.

Path	Coefficient	t -Statistics	SE	p	95% BCa CI	Decision
IOT $\rightarrow$ FP	−0.232	2.793	0.082	0.009	[−0.400; −0.048]	Not Supported
IOT $\rightarrow$ PSC	−0.557	5.295	0.102	<0.001	[−0.740; −0.341]	Supported
PSC $\rightarrow$ FP	0.685	8.751	0.089	<0.001	[0.519; 0.843]	Supported
IOT $\rightarrow$ PSC $\rightarrow$ FP	−0.381	4.463	0.086	<0.001	[−0.552; −0.215]	Supported

Note: $N = 48$. IOT denotes Interorganizational Trust, PSC denotes Problem-Solving Capability, and FP denotes Brokerage Firm Performance. A sign inversion indicates that the estimated relationship is statistically significant but opposite to the hypothesized direction. The total effect of IOT on FP is $\beta = -0.613$ ($t = 7.189$, $p < 0.001$).

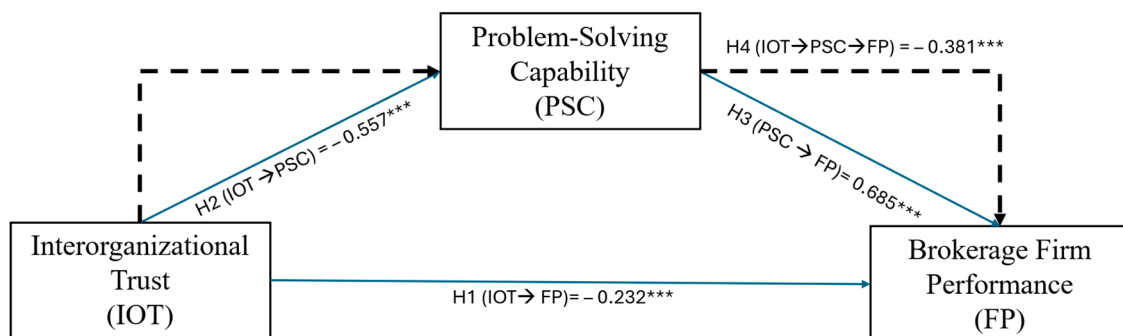


Figure 2. Structural model results. Note: *** indicates statistical significance at the $p < 0.001$ level (two-tailed test). Total Effect: $\beta = -0.613$ ($t = 7.189$, $p < 0.001$).

As detailed in Table 4, interorganizational trust exhibited a statistically significant negative association with brokerage firm performance ($\beta = -0.232$, $t = 2.793$, $p = 0.009$). Although this relationship was statistically significant, its negative direction contrasted with the positive relationship predicted in Hypothesis 1; accordingly, Hypothesis 1 was not supported. Consistent with Hypothesis 2, interorganizational trust appeared to be negatively associated with problem-solving capability ($\beta = -0.557$, $t = 5.295$, $p < 0.001$). In addition, problem-solving capability demonstrated a strong positive association with brokerage firm performance ($\beta = 0.685$, $t = 8.751$, $p < 0.001$), supporting Hypothesis 3. To test the proposed mediation framework, the indirect effect of interorganizational trust on brokerage firm performance through problem-solving capability was evaluated via bootstrapping. The resulting indirect effect was negative and statistically significant ($\beta = -0.381$, $t = 4.463$, $p < 0.001$), supporting Hypothesis 4.

Following the mediation classification guidelines of Zhao et al. (2010), the direct and indirect effects were examined simultaneously to determine the underlying pattern of mediation. The direct relationship between interorganizational trust and brokerage firm performance remained statistically significant after incorporating problem-solving capability into the structural model ($\beta = -0.232$, $p = 0.009$), while the indirect pathway through problem-solving capability also maintained statistical significance ($\beta = -0.381$, $p < 0.001$). Because both the direct and indirect path coefficients were statistically significant and pointed in the same negative direction, the empirical evidence suggests a complementary partial mediation pattern. Furthermore, the total effect of interorganizational trust on brokerage firm performance was negative and statistically significant ($\beta = -0.613$, $t = 7.189$, $p < 0.001$).

Overall, the empirical evaluation of the structural model indicates that interorganizational trust is negatively associated with both problem-solving capability and brokerage firm performance. Conversely, problem-solving capability is positively associated with brokerage firm performance and mediates the relationship between interorganizational trust and firm performance. Collectively, these empirical findings provide robust support for the proposed structural framework, establishing the foundation for the theoretical discussion in the subsequent section.

5. Discussion

Contrary to conventional expectations grounded in Social Exchange Theory, our empirical evidence indicates that interorganizational trust is negatively associated with firm performance in the Indonesian futures brokerage industry ($\beta = -0.232$, $p < 0.01$). At first glance, this finding appears to conflict with the dominant relational governance literature, which has consistently characterized interorganizational trust as a vital relational asset that enhances firm performance by fostering cooperation, reducing transaction costs, and tightening interorganizational coordination (Aulakh et al., 1996; Dyer & Chu, 2003; Zaheer et al., 1998). Instead of directly refuting these well-established theoretical arguments, our empirical results prompt a more fundamental question: why does interorganizational trust fail to yield superior firm performance within this specific institutional environment?

A plausible explanation is that the traditional relational governance perspective clarifies how trust promotes interorganizational cooperation, but offers only limited insight into how these relational advantages translate into superior organizational performance. Although trust-based relationships undoubtedly facilitate information exchange, operational coordination, and strategic collaboration (Dyer & Singh, 1998; Gulati & Nickerson, 2008; Zaheer et al., 1998), these relational benefits do not automatically guarantee improved performance outcomes. Relational advantages are more likely to yield superior firm performance when organizations possess the requisite internally developed adaptive capabilities needed to interpret external information, assess strategic options, and execute effective organizational responses (Grant, 1996; Nickerson & Zenger, 2004; D. J. Teece, 2007). Accordingly, our findings indicate that relational governance alone provides an incomplete account of the trust–performance relationship. In this regard, a complementary capability-based perspective is imperative to elucidate the internal organizational mechanisms through which relational resources are converted into firm performance.

Our empirical findings address this question by demonstrating that problem-solving capability functions as a critical organizational mechanism linking interorganizational trust to firm performance. Specifically, interorganizational trust is negatively related to problem-solving capability ($\beta = -0.557$, $p < 0.01$), whereas problem-solving capability is positively associated with firm performance ($\beta = 0.685$, $p < 0.01$). Taken together, these results suggest that the organizational consequences of interorganizational trust cannot be

fully captured by evaluating only the quality of external relational governance. Instead, they also hinge on whether firms continuously cultivate and maintain internally grounded adaptive capabilities that enable them to interpret external information, assess strategic alternatives, and design effective organizational responses.

This interpretation directly aligns with the capability-based perspective adopted in this study. From the standpoint of the Knowledge-Based View, organizational performance is driven not only by a firm's access to valuable relational resources but also by its capacity to convert these resources into effective strategic actions through internally developed adaptive capabilities (Grant, 1996). Within this theoretical framework, problem-solving capability represents a pivotal organizational routine, enabling firms to critically interpret environmental signals, synthesize dispersed knowledge, and formulate timely strategic responses under high uncertainty (Nickerson & Zenger, 2004; D. J. Teece, 2007). Although interorganizational trust provides substantial relational and governance advantages, its ultimate contribution to firm performance appears to depend on whether these advantages augment, rather than replace, an organization's internally developed adaptive capabilities.

The mediation analysis further substantiates this interpretation by establishing that problem-solving capability operates not merely as a direct driver of firm performance, but as the underlying organizational mechanism through which interorganizational trust affects performance. The indirect pathway linking interorganizational trust to firm performance via problem-solving capability is statistically significant ($\beta = -0.381$, $p < 0.001$), indicating that the negative relationship between trust and firm performance is conveyed, at least in part, through its detrimental influence on a firm's problem-solving capability. Overall, the combination of direct and indirect path estimates suggests that the organizational implications of interorganizational trust extend beyond the relational governance benefits emphasized in conventional paradigms, highlighting internal capability development as a crucial transmission mechanism.

More importantly, the observed mediation pattern situates our empirical findings within the broader literature on the interface between relational governance and organizational capability. Prior studies have typically examined these perspectives in isolation, focusing either on the governance benefits of interorganizational trust (Dyer & Singh, 1998; Gulati & Nickerson, 2008; Zaheer et al., 1998) or on the strategic importance of internal capabilities (Grant, 1996; Nickerson & Zenger, 2004; D. J. Teece, 2007). Our findings indicate that these theoretical perspectives represent complementary elements of a unified capability-based process. Specifically, interorganizational trust supplies external relational inputs, whereas problem-solving capability dictates the degree to which these relational inputs translate into superior firm performance. Accordingly, the observed mediation pattern provides empirical support for conceptualizing organizational capability as the vital bridge linking external relational conditions to organizational outcomes.

At the same time, the observed mediation pattern raises an equally critical theoretical question: if problem-solving capability constitutes the mechanism through which relational resources enhance firm performance, why does stronger interorganizational trust undermine the development of this capability? Although this study does not trace this process longitudinally, the literature on capability erosion offers a compelling theoretical explanation (Ritter & Walter, 2012; Villena et al., 2011). From this viewpoint, organizations that become excessively reliant on trusted external partners gradually reduce their commitment to internal adaptive capabilities, allowing relational resources to substitute for—rather than reinforce—internal organizational learning and problem-solving routines. Interpreted through this theoretical lens, our findings provide an initial empirical foundation that aligns with the capability erosion argument, explaining why interorganizational trust does not invariably lead to superior firm performance.

Beyond establishing empirical alignment with the capability erosion perspective, our findings underscore the broader relevance of a capability-based framework for understanding the consequences of interorganizational trust within highly regulated financial ecosystems. Although prior research has predominantly applied capability-based explanations within manufacturing, technology, and supply chain settings (Cummings & Nickerson, 2024; Nickerson & Zenger, 2004; Shu, 2019; D. J. Teece, 2007), this study demonstrates that similar capability-based dynamics operate within the Indonesian futures brokerage sector, where firm activities are shaped by dense institutional coordination, stringent regulatory oversight, and heavy structural dependence on central governance bodies. These insights imply that the organizational implications of interorganizational trust cannot be fully explained by relational governance mechanisms alone, even within institutional environments characterized by formal governance and oversight arrangements.

Building on this contextual perspective, our results suggest that the identified capability-based mechanisms may extend beyond the specific context of the Indonesian futures brokerage sector. Although we do not assert that identical organizational outcomes necessarily emerge across all institutional settings, the observed mediation pattern provides a baseline for comparative research examining whether these capability-based processes operate across different industrial sectors, regulatory regimes, and national environments. From this vantage point, our empirical findings highlight the capability-based framework as a promising avenue for future comparative inquiries investigating how interorganizational trust shapes firm performance across diverse institutional contexts.

Taken together, these findings offer several key contributions to the literature on interorganizational trust and organizational capability. By demonstrating that the organizational consequences of interorganizational trust are better understood through a capability-based lens, this study extends the dominant relational governance perspective and offers a more refined explanation of why trust does not consistently yield superior firm performance. Furthermore, by identifying problem-solving capability as the core organizational mechanism connecting interorganizational trust to firm performance, this study integrates the relational governance and Knowledge-Based View literatures into a unified capability-based framework detailing how relational resources are converted into organizational outcomes. Finally, by providing an initial empirical foundation that aligns with the capability erosion argument within a highly regulated financial ecosystem, this study broadens the contextual scope of the existing literature and establishes a promising platform for future comparative research to investigate whether similar capability-based processes operate across diverse institutional, industrial, and national settings.

6. Conclusions, Implications, and Future Research Agenda

6.1. Conclusions

Why interorganizational trust does not consistently translate into superior firm performance remains a key unresolved question in the relational governance literature. On the one hand, conventional studies have repeatedly demonstrated that trust promotes cooperation, mitigates behavioral uncertainty, and enhances organizational outcomes. On the other hand, a growing body of literature indicates that these relational advantages do not invariably yield positive organizational performance across diverse institutional environments. Addressing this theoretical tension, the present study investigates the role of problem-solving capability within the Indonesian futures brokerage industry. This highly regulated, institutionally dependent financial ecosystem provides an ideal setting for examining the organizational mechanisms through which interorganizational trust shapes firm performance.

Our empirical findings suggest that the organizational consequences of interorganizational trust are better understood through a capability-based perspective than by relying on relational governance mechanisms alone. While interorganizational trust provides important relational and coordination benefits, these advantages are more likely to translate into superior firm performance when organizations systematically cultivate and sustain internally developed adaptive capabilities. These internal routines enable firms to interpret environmental signals, critically evaluate strategic alternatives, and execute effective organizational responses under uncertainty. Specifically, our results highlight problem-solving capability as the key organizational mechanism through which relational resources are converted into firm performance, underscoring the indispensable role of internal capability development in preserving and extracting the organizational value of trusted interorganizational relationships.

From a capability-based lens, the organizational implications of interorganizational trust function as an internally mediated process rather than a direct consequence of relational governance alone. Although this study does not trace capability erosion longitudinally, the observed mediation pattern provides an initial empirical foundation that aligns with the capability erosion perspective, offering a plausible theoretical explanation for why the organizational benefits of interorganizational trust may attenuate over time. Overall, this study demonstrates that the ultimate value of interorganizational trust depends not only on the quality of external relational governance but also on an organization's commitment to continuously developing and preserving the internal adaptive capabilities through which relational resources are converted into superior firm performance.

6.2. Theoretical Contribution

This study makes four interrelated theoretical contributions to the management and strategy literature. First, it advances research on relational governance by offering a capability-based explanation of how interorganizational trust is converted into firm performance. Whereas prior studies have largely accounted for the organizational consequences of interorganizational trust in terms of its direct relational benefits, this study demonstrates that such advantages do not automatically produce superior performance outcomes. Instead, their positive effects appear conditional on an organization's ability to continuously develop and preserve internally grounded adaptive capabilities. By identifying problem-solving capability as the core organizational mechanism through which relational resources are converted into firm performance, this study provides a more comprehensive explanation of why interorganizational trust does not consistently lead to superior firm performance.

Second, this study advances the Knowledge-Based View by illustrating how internally developed adaptive capabilities shape the organizational outcomes of interorganizational relationships. Prior capability-based research has predominantly highlighted the strategic importance of internal capabilities for knowledge integration, organizational learning, and competitive advantage (Grant, 1996; D. J. Teece, 2007). This study expands on this perspective by demonstrating that such capabilities also dictate the degree to which external relational resources translate into firm performance. In doing so, it bridges the literatures on relational governance and the Knowledge-Based View into a unified, capability-based framework detailing how relational resources are transformed into superior firm performance.

Third, this study advances the emerging literature on capability erosion by providing an initial empirical foundation that aligns with its core theoretical premises. Instead of conceptualizing capability erosion as an immediately observable longitudinal process, this study treats it as a plausible theoretical lens for understanding why interorganizational

trust does not invariably lead to superior organizational outcomes. The mediation pattern observed in our findings indicates that reduced problem-solving capability may constitute a key organizational pathway through which the dark side of interorganizational trust manifests. In this way, the study establishes a theoretically grounded foundation for future research to investigate the process of capability erosion more directly employing longitudinal and qualitative process-oriented research designs.

Finally, this study extends the contextual boundaries of capability-based models by demonstrating the relevance of these internal mechanisms within a highly regulated financial ecosystem. Whereas previous research has predominantly examined the trust–performance relationship in interfirm supply chain and alliance settings (Cao & Lumineau, 2015; Dyer & Chu, 2003), our findings demonstrate that the same underlying capability-based process operates within the Indonesian futures brokerage industry, where organizational relationships are shaped by centralized governance structures, intensive regulatory oversight, and institutional dependence. In doing so, this study broadens the contextual scope within which capability-based explanations of relational governance can be meaningfully applied, providing an empirical baseline for future comparative research investigating whether these capability-based mechanisms are similarly observed across diverse institutional, industrial, and national settings.

6.3. Practical Implication

The empirical findings of this study offer important practical and policy implications for corporate executives, market participants, and regulatory bodies operating within highly regulated financial ecosystems. First, executive decision-makers should not treat interorganizational trust as a substitute for internally developed adaptive capabilities. While trustworthy interorganizational relationships provide substantial coordination and governance advantages, these benefits are more likely to improve firm performance when they complement, rather than replace, continuous investment in problem-solving routines. Consequently, executives must manage relational governance and internal capability development as mutually reinforcing organizational assets that require simultaneous cultivation.

For executive management within brokerage firms, our findings indicate that sustaining long-term organizational performance depends on continuous investment in problem-solving capabilities rather than an increasing reliance on established institutional relationships. Accordingly, brokerage firms must systematically strengthen internal capacities that facilitate autonomous environmental scanning, rigorous evaluation of strategic alternatives, proactive problem diagnosis, and continuous organizational learning. Furthermore, corporate leadership should cultivate an organizational culture that encourages critical inquiry, continuous learning, and periodic re-evaluation of strategic assumptions. Such internal routines ensure that trusted institutional partnerships reinforce—rather than erode—the firm’s capacity to respond adaptively to shifting market conditions.

For futures exchanges and regulatory authorities, these results suggest that effective market governance should incentivize and reinforce—rather than supplant—the internal capability development of participating brokerage firms. Although centralized governance and regulatory oversight remain essential for preserving market integrity, operational transparency, and financial stability, oversight frameworks should actively encourage brokerage firms to advance their own analytical, compliance, risk management, and problem-solving infrastructure. By designing governance mechanisms that support capability building alongside compliance, regulatory authorities can foster institutional coordination while preserving firm-level adaptability, thereby strengthening the overall resilience of the derivatives industry.

Overall, this study underscores that the performance advantages derived from interorganizational trust depend not merely on the existence of strong external relationships, but on an organization's sustained commitment to preserving the internal adaptive capabilities that transform relational resources into superior firm performance. From a strategic management standpoint, interorganizational trust must be actively managed as a relational complement to, rather than a substitute for, internal capability development.

6.4. Limitations and Future Research Agenda

While this study provides a capability-based account of how interorganizational trust translates into firm performance, its empirical findings should be interpreted in light of several methodological and contextual limitations. First, the cross-sectional, survey-based research design captures organizational relationships at a single point in time, and therefore cannot fully elucidate how internally developed adaptive capabilities evolve as interorganizational ties mature. Second, the empirical context is restricted to licensed brokerage firms operating within the Indonesian futures brokerage industry, where highly centralized institutional governance creates a distinctive organizational environment. Third, the study relies on executive-level perceptual assessments, which, although appropriate for evaluating firm-level strategic dynamics, may not fully capture operational capability development across different organizational tiers. Accordingly, future research should employ longitudinal and multi-wave panel designs, incorporate multi-informant data across organizational levels, and conduct comparative analyses across diverse institutional settings to strengthen causal inference and evaluate the generalizability of our findings.

Beyond these methodological considerations, our findings point to several promising conceptual avenues for future research. While this study focused on problem-solving capability as the primary organizational mechanism connecting interorganizational trust to firm performance, future research should examine whether other internally developed adaptive capabilities function through similar capability-based pathways. Rather than concentrating on a single capability, subsequent inquiries could investigate whether constructs such as absorptive capacity, strategic flexibility, organizational resilience, innovation capability, or dynamic capabilities serve as parallel or alternative mechanisms linking relational governance to competitive outcomes. Future research should also explore the contingency factors that moderate these capability-based processes. Environmental turbulence, technological disruption, market volatility, organizational learning orientation, and multidimensional facets of trust may significantly influence whether relational governance complements—rather than gradually substitutes for—internal capability development.

More broadly, our findings suggest that future scholarship should move beyond simply evaluating whether interorganizational trust directly enhances or impairs firm performance. Instead, researchers should examine how internal capability-based processes convert relational resources into organizational performance across diverse governance environments. Such a perspective encourages future studies to investigate how varying institutional structures affect the preservation, renewal, and deployment of internally generated adaptive capabilities over time, while maintaining a healthy balance between relational reliance and internal capability development. Advancing this research agenda will ultimately yield a more comprehensive, capability-grounded understanding of the dark and bright sides of interorganizational trust across a broad spectrum of industrial, institutional, and national contexts.

Author Contributions: Conceptualization, S.P.L.; methodology, S.P.L.; software, S.P.L.; validation, N.N., F.R. and S.P.P.; formal analysis, S.P.L.; investigation, S.P.L.; resources, N.N., F.R. and S.P.P.; data curation, S.P.L.; writing—original draft preparation, S.P.L.; writing—review and editing, N.N., F.R. and S.P.P.; visualization, S.P.L.; supervision, N.N., F.R. and S.P.P.; project administration, S.P.L. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Ethical review and approval were waived for this study in accordance with institutional guidelines for minimal-risk research. The study collected anonymous survey responses from organizational representatives regarding interorganizational relationships, organizational capabilities, and firm performance, without any experimental manipulation or intervention. No personally identifiable information—including individual names, organizational identities, addresses, or contact details—was collected at any stage of the research process. Participation was entirely voluntary, and respondents were informed of the research objectives prior to completing the questionnaire. Accordingly, the study adhered to established institutional ethical standards for research involving anonymous, non-sensitive organizational data.

Informed Consent Statement: Informed consent was obtained from all participants involved in the study. Prior to participation, respondents were fully informed regarding the purpose of the research, the voluntary nature of participation, and the confidentiality of their responses. Participants were explicitly advised that no personally identifiable information would be collected and that all responses would be analyzed in aggregate form solely for academic research purposes. Completion and submission of the questionnaire served as confirmation of informed consent.

Data Availability Statement: The data supporting the empirical findings of this study are available from the corresponding author upon reasonable request. Public repository access to the dataset is restricted due to confidentiality protocols protecting anonymized organizational survey data. Although no direct identifiers were recorded, the dataset contains detailed organizational perceptions that could pose a risk of indirect identification. Access may be granted for academic and verification purposes in compliance with applicable institutional ethical standards.

Acknowledgments: During the preparation of this manuscript, the authors utilized Grammarly (Version 14.1315.0) generative artificial intelligence (GenAI) exclusively to improve language quality, readability, structural coherence, and overall prose clarity. These tools were not employed in the research design, theoretical framework development, hypothesis formulation, data collection, data analysis, or empirical interpretation of the results. All scientific concepts, methodological specifications, empirical findings, and conclusions were developed solely by the authors. The authors have thoroughly reviewed, edited, and approved the final manuscript and accept full responsibility for the content of this publication.

Conflicts of Interest: The authors declare no conflicts of interest.

References

- Aulakh, P. S., Kotabe, M., & Sahay, A. (1996). Trust and performance in cross-border marketing partnerships: A behavioral approach. *Journal of International Business Studies*, 27(5), 1005–1032. [\[CrossRef\]](#)
- BAPPEBTI. (2023). *Annual report BAPPEBTI: Strengthening CoFTRA's role amid global uncertainty* (pp. 1–260). Ministry of Trade of the Republic of Indonesia.
- Blau, P. (1964). *Exchange and power in social life*. John Wiley & Sons, Inc.
- Cao, Z., & Lumineau, F. (2015). Revisiting the interplay between contractual and relational governance: A qualitative and meta-analytic investigation. *Journal of Operations Management*, 33–34, 15–42. [\[CrossRef\]](#)
- Carmeli, A., Gelbard, R., & Reiter-Palmon, R. (2013). Leadership, creative problem-solving capacity, and creative performance: The importance of knowledge sharing. *Human Resource Management*, 52(1), 95–121. [\[CrossRef\]](#)
- Chua, R. Y. J., Ingram, P., & Morris, M. W. (2008). From the head and the heart: Locating cognition- and affect-based trust in managers' professional networks. *Academy of Management Journal*, 51(3), 436–452. [\[CrossRef\]](#)
- Cohen, J. (1992). Statistical power analysis. *Current Directions in Psychological Science*, 1(3), 98–101. [\[CrossRef\]](#)

- Crossan, M. M., Lane, H. W., & White, R. E. (1999). An organizational learning framework: From intuition to institution. *Academy of Management Review*, 24(3), 522–537. [\[CrossRef\]](#)
- Cummings, T., & Nickerson, J. (2024). A protocol mechanism for solving the “right” strategic problem. *Strategic Management Review*, 5(3), 273–312. [\[CrossRef\]](#)
- Dess, G. G., & Robinson, R. B., Jr. (1984). Measuring organizational performance in the absence of objective measures: The case of the privately-held firm and conglomerate business unit. *Strategic Management Journal*, 5(3), 265–273. [\[CrossRef\]](#)
- Dong, B., Xu, H., Luo, J., Nicol, C. D., & Liu, W. (2020). Many roads lead to Rome: How entrepreneurial orientation and trust boost the positive network range and entrepreneurial performance relationship. *Industrial Marketing Management*, 88, 173–185. [\[CrossRef\]](#)
- Dyer, J. H., & Chu, W. (2003). The role of trustworthiness in reducing transaction costs and improving performance: Empirical evidence from the United States, Japan, and Korea. *Organization Science*, 14(1), 57–68. [\[CrossRef\]](#)
- Dyer, J. H., & Singh, H. (1998). The relational view: Cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, 23(4), 660–679. [\[CrossRef\]](#)
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50. [\[CrossRef\]](#)
- Gargiulo, M., & Benassi, M. (2000). Trapped in your own net? Network cohesion, structural holes, and the adaptation of social capital. *Organization Science*, 11(2), 183–196. [\[CrossRef\]](#)
- Gargiulo, M., & Ertug, G. (2006). The dark side of trust. In *Handbook of trust research*. Edward Elgar Publishing.
- Giampaoli, D., Ciambotti, M., & Bontis, N. (2017). Knowledge management, problem solving and performance in top Italian firms. *Journal of Knowledge Management*, 21(2), 355–375. [\[CrossRef\]](#)
- Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic Management Journal*, 17(S2), 109–122. [\[CrossRef\]](#)
- Gudergan, S. P., Ringle, C. M., Wende, S., & Will, A. (2008). Confirmatory tetrad analysis in PLS path modeling. *Journal of Business Research*, 61(12), 1238–1249. [\[CrossRef\]](#)
- Gulati, R., & Nickerson, J. A. (2008). Interorganizational trust, governance choice, and exchange performance. *Organization Science*, 19(5), 688–708. [\[CrossRef\]](#)
- Hair, J. F., Jr., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.
- Haldane, A. G., & May, R. M. (2011). Systemic risk in banking ecosystems. *Nature*, 469(7330), 351–355. [\[CrossRef\]](#) [\[PubMed\]](#)
- Helfat, C. E., & Peteraf, M. A. (2003). The dynamic resource-based view: Capability lifecycles. *Strategic Management Journal*, 24(10), 997–1010. [\[CrossRef\]](#)
- Helfat, C. E., & Peteraf, M. A. (2015). Managerial cognitive capabilities and the microfoundations of dynamic capabilities. *Strategic Management Journal*, 36(6), 831–850. [\[CrossRef\]](#)
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modeling in new technology research: Updated guidelines. *Industrial Management & Data Systems*, 116(1), 2–20. [\[CrossRef\]](#)
- Hernández-Espallardo, M., Rodríguez-Orejuela, A., & Sánchez-Pérez, M. (2010). Inter-organizational governance, learning and performance in supply chains. *Supply Chain Management: An International Journal*, 15(2), 101–114. [\[CrossRef\]](#)
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. [\[CrossRef\]](#)
- Inkpen, A. C., & Tsang, E. W. K. (2005). Social capital, networks, and knowledge transfer. *Academy of Management Review*, 30(1), 146–165. [\[CrossRef\]](#)
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration*, 11(4), 1–10. [\[CrossRef\]](#)
- Langfred, C. W. (2004). Too much of a good thing? Negative effects of high trust and individual autonomy in self-managing teams. *Academy of Management Journal*, 47(3), 385–399. [\[CrossRef\]](#)
- Li, H., Zhang, J., & Huang, K. (2025). Meta-analyzing the trust-performance link in collaboration: Moderating effects of conceptual and contextual factors. *Public Performance & Management Review*, 48(1), 1–34. [\[CrossRef\]](#)
- MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *Management Information Systems Quarterly*, 35(2), 293–A5. [\[CrossRef\]](#)
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20(3), 709–734. [\[CrossRef\]](#)
- Nickerson, J. A., Wuebker, R., & Zenger, T. (2017). Problems, theories, and governing the crowd. *Strategic Organization*, 15(2), 275–288. [\[CrossRef\]](#)
- Nickerson, J. A., & Zenger, T. R. (2004). A knowledge-based theory of the firm—The problem-solving perspective. *Organization Science*, 15(6), 617–632. [\[CrossRef\]](#)
- Pirrong, C. (1999). The organization of financial exchange markets: Theory and evidence. *Journal of Financial Markets*, 2(4), 329–357. [\[CrossRef\]](#)

- Pirrong, C. (2011). *The economics of central clearing: Theory and practice*. International Swaps and Derivatives Association, Inc.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879–903. [\[CrossRef\]](#) [\[PubMed\]](#)
- Revilla, M. A., Saris, W. E., & Krosnick, J. A. (2014). Choosing the number of categories in agree–disagree scales. *Sociological Methods & Research*, 43(1), 73–97. [\[CrossRef\]](#)
- Rezaei, J., & Ortt, R. (2018). Entrepreneurial orientation and firm performance: The mediating role of functional performances. *Management Research Review*, 41(7), 878–900. [\[CrossRef\]](#)
- Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of Management*, 35(3), 718–804. [\[CrossRef\]](#)
- Ritter, T., & Walter, A. (2012). More is not always better: The impact of relationship functions on customer-perceived relationship value. *Industrial Marketing Management*, 41(1), 136–144. [\[CrossRef\]](#)
- Sarstedt, M., Ringle, C. M., & Hair, J. F. (2021). Partial least squares structural equation modeling. In *Handbook of market research* (pp. 587–632). Springer.
- Schilke, O., Reimann, M., & Cook, K. S. (2021). Trust in social relations. *Annual Review of Sociology*, 47, 239–259. [\[CrossRef\]](#)
- Schoorman, F. D., Mayer, R. C., & Davis, J. H. (2007). An integrative model of organizational trust: Past, present, and future. *Academy of Management Review*, 32(2), 344–354. [\[CrossRef\]](#)
- Shu, E. (2019). A problem-solving process for developing capabilities: The case of an established firm. *European Journal of Innovation Management*, 23(4), 713–727. [\[CrossRef\]](#)
- Teece, D., Peteraf, M., & Leih, S. (2016). Dynamic capabilities and organizational agility: Risk, uncertainty, and strategy in the innovation economy. *California Management Review*, 58(4), 13–35. [\[CrossRef\]](#)
- Teece, D. J. (2007). Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319–1350. [\[CrossRef\]](#)
- Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1), 40–49. [\[CrossRef\]](#)
- Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533. [\[CrossRef\]](#)
- Ur Rehman, S., Bhatti, A., & Chaudhry, N. I. (2019). Mediating effect of innovative culture and organizational learning between leadership styles at third-order and organizational performance in Malaysian SMEs. *Journal of Global Entrepreneurship Research*, 9(1), 36. [\[CrossRef\]](#)
- Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, 42(1), 37–69. [\[CrossRef\]](#)
- Villena, V. H., Revilla, E., & Choi, T. Y. (2011). The dark side of buyer–supplier relationships: A social capital perspective. *Journal of Operations Management*, 29(6), 561–576. [\[CrossRef\]](#)
- Wall, T. D., Michie, J., Patterson, M., Wood, S. J., Sheehan, M., Clegg, C. W., & West, M. (2004). On the validity of subjective measures of company performance. *Personnel Psychology*, 57(1), 95–118. [\[CrossRef\]](#)
- Zaheer, A., McEvily, B., & Perrone, V. (1998). Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization Science*, 9(2), 141–159. [\[CrossRef\]](#)
- Zhao, X., Lynch, J. G., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197–206. [\[CrossRef\]](#)
- Zhong, W., Su, C., Peng, J., & Yang, Z. (2017). Trust in interorganizational relationships: A meta-analytic integration. *Journal of Management*, 43(4), 1050–1075. [\[CrossRef\]](#)

Disclaimer/Publisher’s Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.