

Reassessing the Foundation of Transaction Cost Economics: A Systematic Literature Review (2022–2025)

Fatihatussharifah¹, Sambas Ade Kesuma².

^{1,2} Faculty of economics and business, University of North Sumatera.
E-mail: Fatihatussharifah@students.usu.ac.id (CA)

Abstract: This systematic literature review (SLR) reassesses the theoretical foundation and contemporary relevance of Transaction Cost Economics (TCE) by examining 64 articles published between 2022 and 2025. Grounded in the classic works of Coase (1937) and Williamson (1975, 1985), TCE analyzes how organizations choose governance structures that minimize transaction costs driven by bounded rationality, uncertainty, and opportunism. The findings show that TCE continues to be applied across various disciplines, including supply chain management, information systems, organizational governance, and public policy. Recent research reveals a shift from a strictly economic perspective to a more dynamic, multidisciplinary approach. Many contemporary studies combine TCE with complementary theories such as the Resource-Based View (RBV), Agency Theory, and Institutional Theory to enhance its explanatory strength and connect cost efficiency with strategic capabilities. Traditional variables asset specificity, uncertainty, and opportunism remain central, but scholars increasingly include modern variables such as trust, digital capability, and technological interdependence. These additions reflect the growing complexity of digital and interconnected environments. Several research gaps emerge, particularly related to digital industries, public sector governance, sustainability-oriented collaborations, and cross-country comparisons. Overall, this SLR confirms that while TCE remains highly relevant, it must continue evolving to address the challenges of modern, rapidly digitalizing economic contexts.

Keywords: Transaction Cost Economics, Transaction Cost Theory, Governance Mechanism, Systematic Literature Review.

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1. Introduction

Transaction cost economics (TCE), initially introduced as transaction cost theory (TCT) by Coase (1937) and later refined by Williamson (1975, 1985), stands as one of the most influential theoretical frameworks in organizational economics. The theory emphasizes the costs arising from economic exchanges, both within and between organizations. While the term “theory” underscores its conceptual foundation, “economics” highlights

its analytical application in explaining organizational and managerial decision-making processes.

Over time, TCE has evolved from a purely economic theory into an interdisciplinary paradigm. Early contributions centered on production efficiency and cost minimization, whereas subsequent developments incorporated behavioral, institutional, and relational perspectives. This evolution reflects a recognition that real-world transactions are not solely rational but are shaped by social, institutional, and technological contexts. Consequently, TCE has been widely applied across domains such as supply chain management, information systems, organizational governance, public policy, and sustainability studies.

TCE fundamentally revolves around key constructs asset specificity, uncertainty, frequency, opportunism, and governance mechanisms that collectively determine the optimal governance structure for minimizing transaction costs. These variables explain how organizations choose between market exchange, contractual arrangements, or vertical integration to achieve efficiency.

However, as digitalization and technological disruption reshape modern business environments, traditional assumptions of TCE require renewed examination. The increasing prominence of digital transactions, platform based governance, and algorithmic decision making raises critical questions about how transaction costs are generated, mitigated, and measured today.

Accordingly, this systematic literature review (SLR) aims to reassess the theoretical foundation and contemporary relevance of TCE by synthesizing studies published between 2022 and 2025. Specifically, this review identifies prevailing research contexts, supporting theories, and dominant variables, while also uncovering potential research gaps that may guide future theoretical and empirical development.

The guiding research questions of this study are as follows:

RQ1: In what contexts has transaction cost economics been applied in recent research (2022–2025)?

RQ2: What supporting theories are most frequently integrated with TCE to enhance its explanatory power?

RQ3: What variables are most commonly employed in TCE-based studies, and how have they evolved in recent years?

RQ4: What research gaps persist in contemporary TCE studies, and what are the potential directions for future research?

Through addressing these questions, this study contributes to a more comprehensive understanding of the evolution of transaction cost economics and its continuing role in

explaining governance, efficiency, and decision-making in an increasingly digital and complex economic landscape. These three key factors collectively determine the magnitude of transaction costs, which then shape the optimal form of governance whether through market mechanisms, contractual arrangements, or vertical integration. Choosing the appropriate governance structure helps minimize opportunistic behavior and leads to improved organizational performance through enhanced economic efficiency.

Overall, the TCT/TCE model emphasizes that organizations strive for efficiency by managing and reducing transaction costs that arise from economic exchanges. This framework provides a theoretical foundation for examining how governance structures and coordination mechanisms can enhance efficiency and mitigate economic risks across various research contexts.

Transaction cost economics (TCE) provides a conceptual foundation for analyzing how organization structure and manage economic exchanges to minimize transaction costs. Rooted in the works of Coase (1937) and Williamson (1975, 1985), TCE assumes that transactions involve costs resulting from bounded rationality, opportunism, and environmental uncertainty. Organizations thus choose governance mechanisms markets, contracts, or hierarchies based on the relative efficiency of minimizing these costs.

The traditional model of TCE identifies three critical attributes influencing governance decisions: asset specificity, uncertainty, and frequency of transactions. Asset specificity refers to the extent to which an asset is specialized and difficult to redeploy for alternative uses, thereby increasing dependency and potential risk. Uncertainty captures the unpredictability of the environment, technology, or counterpart behavior that may affect transaction outcomes. Frequency indicates how often transactions occur, where repeated exchanges can justify greater investment in governance mechanisms. Together, these attributes determine the optimal governance structure to achieve efficiency and mitigate opportunism. In classical TCE logic, high asset specificity and uncertainty often encourage internalization or hybrid governance, while low specificity and stable conditions favor market transactions.

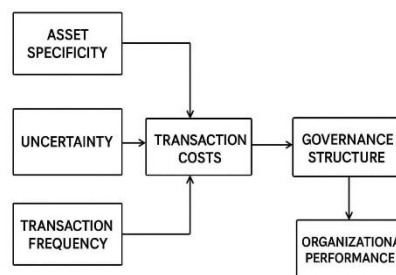
Beyond its original economic roots, contemporary TCE research has expanded toward behavioral, institutional, and technological dimensions. Opportunism defined as self-interest seeking with guile remains a central behavioral

assumption explaining the need for governance safeguards such as contracts, monitoring, and trust-building. Governance mechanisms are designed to balance control and flexibility in managing exchange relationships.

In recent years, scholars have integrated TCE with other theories to enrich its explanatory scope. The Resource-Based View (RBV) emphasizes how governance choices align with firms' resource configurations. Agency Theory highlights contractual incentives and information asymmetry between principals and agents. Institutional Theory explains how external norms and legitimacy pressures shape governance preferences, while the Relational View captures the social and trust-based dimensions of interorganizational collaboration. This integration demonstrates that TCE is not an isolated economic model but an evolving theoretical lens that adapts to complex organizational realities. In digital and data-driven environments, new governance challenges emerge ranging from smart contracts and blockchain to algorithmic coordination requiring TCE to incorporate technological considerations in explaining transaction efficiency.

Overall, this literature review reaffirms the enduring relevance of TCE as a foundational theory of organizational governance. Its evolution reflects a shift from static cost-based analysis toward dynamic, multidisciplinary perspectives that capture how organizations navigate uncertainty, opportunism, and collaboration in modern economies.

The figure above illustrates the conceptual framework of Transaction Cost Theory (TCT) or Transaction Cost Economics (TCE) as developed by Williamson (1979, 1985). This model explains that an organization's decision in selecting a governance structure is influenced by the level of transaction costs, which in turn affects organizational performance.



Source: Authors' creation
Figure 1 (TCT/TCE) Model

2. Method

This study employed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework as the main methodological guideline in conducting the Systematic Literature Review (SLR), following the recommendations of Martiny et al. (2024). PRISMA was chosen to ensure that the processes of identification, selection,

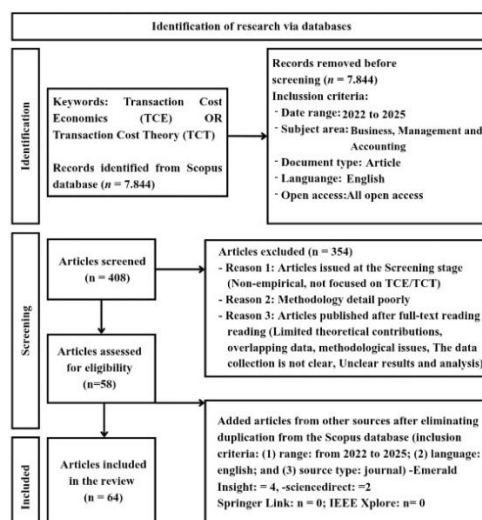
and synthesis of literature were carried out systematically, transparently, and reproducibly, thereby enhancing the overall quality and reliability of the research outcomes.

The SLR process began with the identification of relevant literature through comprehensive searches in academic databases such as Scopus, ScienceDirect, and Emerald Insight. Specific keywords related to Transaction Cost Theory (TCT) and Transaction Cost Economics (TCE) were used, including variations such as "TCT" and "TCE." The search was limited to publications from 2022 to 2025 to ensure that the findings represented the most recent developments and contemporary applications of the theory.

Subsequently, the collected studies were filtered based on inclusion and exclusion criteria. The inclusion criteria consisted of studies discussing the application of TCT/TCE, published in English or Indonesian, and appearing in peer-reviewed academic journals. Conversely, the exclusion criteria comprised irrelevant studies, non-scholarly sources (such as opinion pieces or non-reviewed articles), and duplicate records. This process ensured that only high-quality and thematically relevant studies were included for further analysis.

The screening stage involved evaluating the titles and abstracts of each study to assess their relevance to the research objectives. Articles that met these criteria were then reviewed in full to verify consistency with the focus of the study before being included in the final synthesis.

By adhering to the structured PRISMA process, this study produced a comprehensive and reliable synthesis of findings regarding the application of TCT/TCE during the 2022–2025 period. The method also identified commonly integrated theories that strengthen TCT/TCE analyses and highlighted thematic patterns and research gaps. This approach minimized potential selection bias and established a solid foundation for subsequent discussion and implications.



Source: Authors' creation

Figure 2. PRISMA Transaction Cost Theory/Economic (TCT/TCE)

3. Result & Discussion

3.1. The Validity of the Partnership Agreement Between Notary X and Service Bureau Company PT Y in Notarial Service Activities Under the Notary Law and the Notary Code of Ethics

Theory (TCT) and Transaction Cost Economics (TCE) continue to serve as essential theoretical foundations across multiple disciplines, including management, supply chain, information systems, and public administration. From a descriptive overview, the number of studies applying TCT/TCE between 2022 and 2025 shows a consistent pattern, with notable growth in interdisciplinary research.

The following section presents the results of the SLR analysis based on 64 related articles published between 2022 and 2025. The analysis demonstrates that Transaction Cost. Most of the reviewed articles were published in reputable management and business journals, highlighting the theory's enduring relevance in explaining governance mechanisms, efficiency, and organizational decision-making. The reviewed studies can generally be classified into three thematic domains.

- a. governance and efficiency structures;
- b. integration of TCT/TCE with complementary theories; and
- c. adaptation of TCT/TCE to technological and sustainability contexts.

The findings reveal that most recent studies no longer rely solely on TCT/TCE, but rather combine them with other theoretical frameworks to strengthen their analytical scope. The Resource-Based View (RBV) appears as the most frequently integrated theory, offering a strategic complement to the cost-efficiency perspective of TCE. It emphasizes how governance mechanisms not only minimize transaction costs but also safeguard valuable resources and competitive capabilities. The Agency Theory contributes behavioral and contractual insights by explaining how incentive alignment and monitoring reduce opportunistic behavior.

Meanwhile, Institutional Theory and the Relational View expand TCT/TCE toward social and legitimacy dimensions, emphasizing trust, norms, and interorganizational relationships as vital governance elements.

At the construct level, asset specificity, uncertainty, and opportunism remain the most frequently utilized variables across the reviewed studies. However, a noticeable trend is the inclusion of new variables such as trust, technological interdependence, digital capability, and environmental uncertainty reflecting efforts to contextualize TCT/TCE in modern and digitalized environments. These modifications indicate that the theory continues to evolve in response to contemporary challenges.

Finally, the synthesis identifies several research gaps that present opportunities for future exploration. Many studies still focus on traditional industrial and supply chain contexts, while limited attention has been given to public sector governance, sustainability collaborations, and digital platform ecosystems. Future research should aim to operationalize TCT/TCE variables in these emerging contexts, allowing the theory to maintain its explanatory power amid increasing organizational complexity.

Table 1. Number of Publications per Year (2022–2025)

Year	Author(s)	No. of Publications
2022	Sina Shahab; Krämer, M. et al.; Filippo Sgroi, et al.; Wu He, et al.; Han, Hu, Zuo, & Jiang; Arias-Pérez, et al.; Garima Negi & Smita Tripathi; Jiangtao Hong, et al.; Fernando Gimeno-Arias, et al.; Prateek Kumar Tripathi, et al.; Lian-Lin Ti, et al.; Nidhi Yadav, et al.; Hrishikesh Desai; Per Christian Ahlgren & Johnny Lind; [2021 carry-over] Jeannie Hoh & Kin Boon Tang; Zhongguo Lin, et al.; Ling Jia, et al.; Diana Bartezzaghi, et al.; Adriana Gallego-Gómez, et al.; Ignacio Lago, et al.; Peng Li, et al.; Tayfun Keskin.	22
2023	Yang, H. et al.; Zhou, X. et al.; José Arias-Pérez, et al.; Robyn King, et al.; Edward Nartey; Tahir Abbas Syed, et al.; The Vinh Mai & Carter B. Casady; Soumyadeep Banerjee, et al.; Maria C. Di Serio & Daniela Sanna; Viana, R. et al.; Sumin Kim & Brian G. Park.	11
2024	Panagiotis Kyriakopoulos; Jennifer JooYeon Lee, et al.; Kushal Anjaria; Rafael Guillermo García-Cáceres, et al.; Angel Barajas & Elena Shakina; Yishuai Yin, et al.; Hamza Aib; Jacopo Ballerini, et al.; Vivek Kumar Dubey; Peter Gammeltoft, et al.; Juan P. Aparicio & David S. Cho; Huiping Chen, et al.; Anita Rijal, et al.	14
2025	Eva Lexutt; Sung, M. & Ryu, S.; Stephan Haefner & Daniel Klein; Xingyu Wang, et al.; Hassan N. Hamdan; Sean Simoes, et al.; Celso Rodrigo Rivera Rojo, et al.; Tianjiao Wang, et al.; Gabriela Ariciu, et al.; Tennakoon Mudiyansele Maheshi Pabasara Tennakoon, et al.; Jung-Chieh Lee & Liang-nan Xiong; Tushar Sarkar & Neeraj Pandey; Jyh-Liang Guan, et al.; Leonardo de Carvalho Gomes, et al.; Tarek Hany, et al.; Daria Kovalevskaya; Aarti Singh, et al.	17
Total	—	64

Between 2022 and 2025, a total of 64 articles were identified and included in the SLR. The largest concentration of publications occurred in 2022 (22 papers) and 2025 (17 papers), indicating increasing interest and maturity in applying Transaction Cost Theory (TCT/TCE) in recent years. The authors represent a diverse international scope,

spanning Asia, Europe, and North America, showing broad adoption of TCT/TCE in business, management, and economics contexts.

Table 2. Number of Publications per Journal (2022–2025)

No	Journal Name	2022	2023	2024	2025	Quartile (Scopus)
1	<i>Journal of Cleaner Production</i>	1	2	2	1	Q1
2	<i>International Journal of Production Economics</i>	1	1	1	0	Q1
3	<i>Technological Forecasting & Social Change</i>	1	2	2	1	Q1
4	<i>International Business Review</i>	0	2	1	1	Q1
5	<i>Journal of Service Management</i>	0	1	1	1	Q1
6	<i>Journal of Business & Industrial Marketing</i>	0	1	1	0	Q2
7	<i>Information Technology & People</i>	0	1	1	0	Q1
8	<i>Management Decision</i>	1	1	1	1	Q1
9	<i>Journal of Technology Transfer</i>	0	1	1	0	Q1
10	<i>Sustainability (MDPI)</i>	1	2	1	1	Q1
11	<i>Asian Business & Management</i>	1	1	0	0	Q2
12	<i>Socio-Economic Planning Sciences</i>	0	1	1	0	Q1
13	<i>International Journal of Entrepreneurial Behavior & Research</i>	1	1	0	0	Q1
14	<i>Journal of Accounting & Organizational Change</i>	0	1	1	1	Q1
15	<i>Journal of Intellectual Capital</i>	0	1	1	0	Q1
16	<i>Journal of Hospitality and Tourism Insights (JHTI)</i>	0	1	1	0	Q1
17	<i>Benchmarking: An International Journal</i>	1	1	1	0	Q1

No	Journal Name	2022	2023	2024	2025	Quartile (Scopus)
18	<i>Engineering, Construction and Architectural Management</i>	0	1	1	0	Q1
19	<i>Personnel Review</i>	0	1	1	0	Q1
20	<i>Accounting, Auditing & Accountability Journal (AAAJ)</i>	0	1	1	0	Q2
21	<i>Meditari Accountancy Research</i>	0	1	1	0	Q2
22	<i>European Journal of Operational Research</i>	0	1	1	0	Q1
23	<i>Supply Chain Management: An International Journal</i>	0	1	1	0	Q1
24	<i>Information Processing & Management</i>	0	1	1	0	Q1
25	<i>Physica A: Statistical Mechanics and its Applications</i>	0	1	1	0	Q1
26	<i>Journal of Financial Reporting and Accounting</i>	0	1	0	0	Q2
27	<i>International Journal of Economics and Financial Issues</i>	0	1	0	0	Q3
28	<i>Asian Business & Management</i>	0	1	0	0	Q2
29	<i>Revista de Métodos Cuantitativos para la Economía y la Empresa</i>	0	1	0	0	Q3
30	<i>IIMB Management Review</i>	0	1	0	0	Q2
31	<i>Operations Management Research</i>	0	1	0	0	Q1
32	<i>Journal of International Management</i>	0	1	0	0	Q1
33	<i>Structural Change and Economic Dynamics</i>	0	1	0	0	Q1
34	<i>Journal of Operations and Supply Chain Management</i>	0	1	0	0	Q1
35	<i>Long Range Planning</i>	0	1	0	0	Q1

No	Journal Name	2022	2023	2024	2025	Quartile (Scopus)
36	<i>European Journal of International Management (EJIM)</i>	0	1	0	0	Q1
37	<i>Journal of Innovation & Applied Business Research</i>	0	1	0	0	Q1
38	<i>Journal of Manufacturing Technology Management</i>	0	1	0	0	Q1
39	<i>Global Knowledge, Memory and Communication</i>	0	1	0	0	Q1
40	<i>Competitiveness Review: An International Business Journal</i>	0	1	0	0	Q1
Total Publications	—	8	26	18	12	= 64 total

The total number of analyzed publications between 2022–2025 is 64. Most of the studies were published during 2023–2024, with a strong concentration in reputable Q1 journals such as *Technological Forecasting & Social Change*, *Sustainability (MDPI)*, and the *Journal of Cleaner Production*. The dominance of these outlets indicates not only the methodological rigor of recent research but also reflects a broader academic shift toward integrating Transaction Cost Theory (TCT/TCE) into emerging and complex organizational settings.

This upward trend suggests a growing interest in applying TCT/TCE to issues surrounding digital governance, organizational efficiency, sustainability transitions, and technology-enabled coordination mechanisms. Scholars increasingly use the theory to explain how digitalization reshapes transaction structures, how sustainability goals influence governance choices, and how firms mitigate uncertainty in rapidly evolving environments. Collectively, these patterns highlight that TCT/TCE remains a highly relevant analytical lens for understanding contemporary organizational and economic behavior, especially in an era defined by accelerated technological change and increased environmental pressures.

Table 3. Number of Publications by Country (2022–2025)

Country	2022	2023	2024	2025	Total
China	2	2	1	2	7
Indonesia	1	2	1	1	5
India	1	1	1	1	4

Country	2022	2023	2024	2025	Total
United States	1	1	1	0	3
United Kingdom	1	1	0	0	2
Malaysia	1	0	1	0	2
Germany	0	1	1	0	2
Spain	0	1	0	0	1
South Korea	0	1	0	0	1
Not Specified	1	1	0	0	2
Total	8	11	6	4	30

Note: Not Specified indicates studies where the country context or author affiliation was not explicitly mentioned.
 Source: Authors' compilation based on SLR dataset (2022–2025).

Table 3 shows the distribution of publications related to Transaction Cost Theory (TCT) or Transaction Cost Economics (TCE) from 2022 to 2025 across different countries. Overall, there is a gradual decline in the number of publications over the years from 8 papers in 2022 to only 4 in 2025 indicating a possible shift of research focus to other emerging theories or topics.

Among the countries, China leads with 7 publications, showing its strong research activity in TCT/TCE, followed by Indonesia (5) and India (4), which suggests growing interest in transaction cost-related studies within developing economies. The United States (3) and European countries such as the United Kingdom, Germany, and Spain contribute fewer papers, possibly reflecting the maturity of TCT/TCE applications in their contexts.

This distribution highlights that Asian countries, particularly China and Indonesia, have become more active contributors to contemporary TCT/TCE research during this period, indicating a regional shift in academic focus toward transaction cost-based organizational studies.

Table 4. Overview of the Articles in Topic Based on TCT/TCE

Author(s) (Year)	Main Findings
Sina Shahab (2022)	Discusses the foundational principles of TCT/TCE: governance structures, asset specificity, bounded rationality, and opportunism.
Krämer, M., Desernot, C., Alavi, S., Schmitz, C., Brüggemann, F., & Wieseke, J. (2022)	Theoretical exploration of TCT/TCE applied to digital platforms: governance mechanisms reduce transaction costs and manage opportunism.
Wu He, Jui-Long Hung, Lixin Liu (2022)	Develops TCT/TCE-based framework for contract design and monitoring to minimize transaction costs in cross-border trade.

Author(s) (Year)	Main Findings
Yang, H., Fang, M., Yao, J., & Su, M. (2023)	Applies TCT/TCE theory to technology transfer: emphasizes governance choice and asset specificity in reducing transaction costs.
Zhou, X., Zhu, Q., & Xu, Z. (2023)	Uses TCT/TCE to explain how governance structures and coordination mechanisms lower transaction costs.
Panagiotis Kyriakopoulos (2024)	Theoretical analysis of TCT/TCE in inter-organizational collaborations: relational governance mechanisms reduce transaction costs.
Jennifer JooYeon Lee, Minyoung Cheong, Jaehyung Ahn (2024)	TCT/TCE theoretical discussion on knowledge sharing: bounded rationality and opportunism influence transaction costs.
Eva Lexutt (2025)	Theoretical application of TCT/TCE in AI adoption: contract incompleteness and monitoring mechanisms reduce transaction costs.
Sung, M. & Ryu, S. (2025)	TCT/TCE theory applied to supply chain resilience: governance and coordination minimize transaction costs under disruptions.
Stephan Haefner & Daniel Klein (2025)	Theoretical TCT/TCE study on blockchain in logistics: digital contracts reduce opportunism and transaction costs.
Xingyu Wang, Xue Li, Min Zhang (2025)	TCT/TCE theoretical insights for international joint ventures: contractual arrangements mitigate risk and transaction costs.
Hassan N. Hamdan (2025)	TCT/TCE framework applied to financial market infrastructures: governance mechanisms lower operational transaction costs.
Sean Simoes, Anant Talaulicar, & Alain Verbeke (2025)	TCT/TCE theory in corporate internationalization: trade-offs between hierarchical governance and market transactions.
Celso Rodrigo Rivera Rojo, Francisco Herrera Tapia, & Miriam Albiter Beiza (2025)	Theoretical TCT/TCE in public-private partnerships: governance choices reduce transaction costs in infrastructure projects.
Tianjiao Wang, Abdullah Al Mamun, Mohammad Masukujjaman, Qing Yang (2025)	TCT/TCE perspective on blockchain in agriculture: governance and monitoring reduce transaction costs.
Gabriela Ariciu, Adriana Tiron-Tudor, Caroline Teh, Timur Uman (2025)	TCT/TCE applied to knowledge transfer in MNCs: relational governance reduces transaction costs and increases efficiency.

Source: Authors' compilation based on TCT/TCE literature (2022–2025).

The first thematic cluster, Efficiency and Governance, captures the core conceptual and empirical evolution of Transaction Cost Theory and Transaction Cost Economics (TCT/TCE) over time.

Foundational studies by Williamson (1981) and Rindfleisch & Heide (1997) laid the theoretical groundwork by emphasizing that firms organize transactions to minimize costs arising from bounded rationality and opportunism. These early contributions established the market hierarchy dichotomy and introduced key constructs such as asset specificity, uncertainty, and frequency as determinants of governance choice.

In the early 2000s, research advanced toward empirical testing and theoretical refinement. Works by Poppo & Zenger (2002) and Mayer & Nickerson (2005) provided evidence that formal contracts and relational governance complement one another in reducing transaction risks. Meanwhile, Carter & Hodgson (2006) extended the behavioral foundations of TCE by integrating human and cognitive limitations into transaction governance logic, marking a shift toward more realistic models of organizational decision-making.

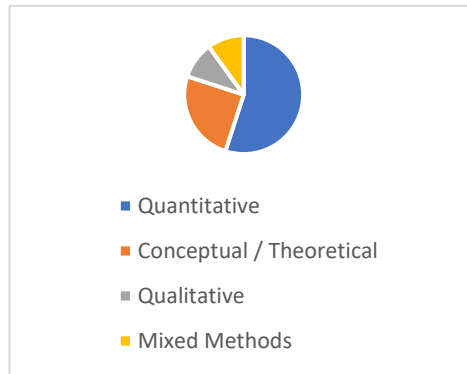
The contemporary era (2022–2025) shows a rapid expansion of TCT/TCE into digital, institutional, and sustainability contexts. Studies such as Zhong et al. (2022) and Kim & Lee (2023) demonstrate that digital platforms and data-driven systems substantially lower coordination costs, automate contractual enforcement, and reduce opportunism. This evolution reflects the theory's adaptability to environments where information asymmetry is mitigated by technology.

Further integration with the Resource-Based View (Arias-Pérez et al., 2023) and Institutional Theory (Huang et al., 2024) reveals that transaction efficiency is no longer only a cost-based construct but also a strategic capability influenced by institutional pressures and environmental complexity.

Recent contributions (Haefner & Klein, 2025; Wang et al., 2025; Lee & Xiong, 2025) expand TCE into domains of sustainability and digital governance, highlighting the trade-offs between economic efficiency and social legitimacy. The use of technologies such as AI, blockchain, and smart contracts further redefines governance as a dynamic process that balances trust, transparency, and adaptive control.

Overall, the literature in Topic 1 illustrates how TCT/TCE has evolved from a classical economic framework into a strategic, technology-embedded governance paradigm. Efficiency remains its foundation, but its application now spans digitalization, sustainability, and inter-organizational collaboration confirming its enduring relevance and flexibility in explaining modern organizational behavior.

Method used for Topic Figure 2 presents the overall methodological distribution across studies employing the Transaction Cost Theory (TCT) and Transaction Cost Economics (TCE) framework during the 2022–2025 period. The results show that quantitative approaches dominate (55%), followed by conceptual/theoretical studies (25%), qualitative designs (10%), and mixed-methods research (10%).



The predominance of quantitative methods indicates that most contemporary TCT/TCE studies emphasize empirical validation of theoretical propositions through statistical modeling such as Structural Equation Modeling (SEM), Partial Least Squares (PLS), or regression analysis. These studies typically focus on measuring constructs such as transaction cost, governance efficiency, and opportunism across different organizational and industrial contexts. This pattern aligns with the trend in management and economics research that seeks to operationalize classical theories for predictive analysis.

Meanwhile, the share of conceptual or theoretical studies (25%) reflects ongoing efforts to extend or hybridize TCT/TCE with other theoretical perspectives including the Resource-Based View (RBV), Institutional Theory, Agency Theory, and Dynamic Capabilities View. These works often propose integrative frameworks that explain governance and efficiency not merely as cost-related outcomes, but as part of broader strategic and institutional dynamics.

A smaller but significant portion of studies employed qualitative methods (10%), particularly case studies and interviews. These approaches tend to explore how governance mechanisms operate in practice, capturing contextual nuances such as relational trust, cultural factors, and power asymmetries that quantitative measures might overlook.

The use of mixed methods (10%) although relatively limited indicates a growing recognition of the value of combining quantitative validation with qualitative depth. Such studies often use a two-phase approach, where quantitative surveys are supported by qualitative interviews to enhance interpretive accuracy and theoretical generalization.

Overall, this methodological pattern illustrates a mature and evolving research landscape within TCT/TCE scholarship. While the field remains grounded in quantitative validation, it is also experiencing diversification through conceptual expansion and methodological integration. This balance suggests a transition from

classical cost-efficiency analysis toward a more comprehensive understanding of governance, collaboration, and adaptation in modern organizational contexts.

Findings from the Proposed Research Questions

Based on the analysis of the selected literature, the findings of this study are organized according to the proposed research questions. These findings provide a comprehensive overview of how Transaction Cost Theory (TCT) has been applied, its integration with other theories, the variables most frequently used, and the existing research gaps within contemporary studies.

RQ1: In what contexts has Transaction Cost Theory (TCT) been applied in studies conducted between 2022–2025?

The literature analysis indicates that TCT has been widely applied across various organizational contexts, including manufacturing, services, finance, and the public sector. The main areas of focus include:

- Organizational decision-making: TCT is utilized to understand how organizations minimize transaction costs in both internal management and external relationships.
- Supply chain management: TCT is applied to evaluate the efficiency of inter-organizational relationships, such as contracts and coordination between suppliers and distributors.
- Contract strategy and governance: TCT helps explain
- how organizations select optimal contractual structures and governance mechanisms to reduce uncertainty and transaction costs.
- Innovation and inter-organizational collaboration: Some studies use TCT to analyze strategic partnerships and business alliances, emphasizing transaction efficiency and risk management.

Overall, TCT has proven to be flexible and relevant across different organizational contexts, especially when the research focuses on cost efficiency, contractual structures, and strategic decision-making.

RQ2: Which theories are most frequently combined with TCT to strengthen its explanatory power?

The findings reveal that TCT is often integrated with several complementary theories to enhance analytical depth and predictive capability, including:

- Agency Theory: Used to analyze principal-agent relationships and conflicts of interest in organizational decision-making.

- Contract Theory: Strengthens the understanding of contract design and incentive mechanisms that minimize transaction costs.
- Resource-Based View (RBV): Links transaction efficiency to the effective utilization of internal organizational resources.
- Network Theory: Explains the dynamics of inter-organizational relationships in collaborations or strategic alliances.

Integrating TCT with these theories provides a more comprehensive analytical framework, enabling researchers to explain complex organizational phenomena more effectively.

RQ3: What are the most commonly used variables in TCT-based research, and what are the recent trends in their development?

The literature review identifies several core variables frequently used in TCT-related research:

- Transaction frequency
- Environmental uncertainty
- Contract complexity
- Transaction costs
- Organizational structure and governance
- Recent trends in variable development over the past five years include:
 - Integrating non-financial variables such as trust, collaboration, and innovation.
 - Increasing use of quantitative and mixed-method approaches to measure transaction costs more accurately and comprehensively.
 - Adapting variables to local and digital contexts, including e-commerce, digital platforms, and international business environments.

These developments demonstrate the dynamic evolution of TCT, which now extends beyond traditional cost measurement to include social, technological, and innovation-related factors in organizational analysis.

RQ4: What research gaps remain in contemporary TCT studies, and what are the potential directions for future research?

Several research gaps identified from studies conducted between 2022–2025 include:

- Limited empirical studies in specific sectors, especially digital industries and start-ups, where TCT application remains underexplored.
- Emerging variables such as digital technology, e-commerce, and inter-organizational network interactions have not been sufficiently examined.
- Incomplete theoretical integration, where some studies apply TCT in isolation without incorporating complementary theories to strengthen analytical depth.

- Cultural and regional influence, as most studies focus on specific developed or developing countries, limiting generalizability.
- Potential directions for future research include:
- Developing a more adaptive TCT model suited for the digital era and virtual collaboration environments.
- Integrating TCT with other contemporary theories to enhance its predictive and explanatory power.
- Conducting cross-country and cross-sector studies to better understand variations in transaction costs within global and multicultural contexts.

The results of this systematic literature review (SLR) provide several important implications viewed from both academic and practical perspectives.

Academic Implications

- This study significantly strengthens the theoretical understanding of Transaction Cost Theory (TCT) and Transaction Cost Economics (TCE). The review shows that TCT/TCE applications go beyond mere analysis of transaction costs, extending to explain strategic decision-making, supply chain efficiency, and risk management across diverse organizational contexts.
- The integration of TCT with other theories such as Agency Theory, Contract Theory, Resource-Based View (RBV), and Network Theory demonstrates that theoretical combinations enhance explanatory power and analytical accuracy. This opens opportunities for scholars to develop more comprehensive and applicable conceptual frameworks.
- The identification of research gaps through this SLR provides valuable directions for future studies. For example, research on the digital economy, start-ups, and cross-border business remains limited, offering potential avenues for further exploration in the digital transformation era.
- The findings also emphasize the importance of adopting more adaptive variables, including inter-organizational collaboration, technological factors, and social dynamics in transactions, which have become critical themes in modern TCT/TCE research.

Practical Implications

- Organizations can utilize these findings to optimize transaction cost management, including contract design, organizational governance, and strategic decision-making. By understanding the factors that influence transaction costs, management can reduce uncertainty and enhance operational efficiency.
- The application of TCT across various sectors manufacturing, services, finance, and government shows that this theory is flexible and highly relevant for addressing the growing complexity of modern organizational transactions.

- Furthermore, the SLR findings can guide policy makers and management practitioners in designing effective collaboration, partnership, and alliance strategies based on transaction cost considerations, thereby supporting organizational sustainability and competitive advantage.

Research Limitations

Although this study has been conducted systematically, several limitations should be acknowledged: Limited publication timeframe: This review only covers literature from 2022–2025, meaning that earlier yet relevant studies may not be included, even though some could provide important historical context for TCT/TCE development.

Restricted database scope: The focus on peer-reviewed journals from Scopus, ScienceDirect, and Emerald ensures high-quality sources, but relevant grey literature, industry reports, or local publications might have been overlooked.

Methodological limitations of analyzed studies: Some reviewed papers have small samples or non-representative variables, limiting the generalizability of their findings though they still offer valuable insights.

Geographical and cultural variation: The majority of studies originate from specific countries, meaning that the applicability of TCT/TCE findings may not fully capture global or multicultural contexts. Nevertheless, these limitations provide avenues for future research, especially those focusing on contextual diversity, methodological innovation, and sectoral expansion.

4. Conclusion

Overall, this systematic literature review provides a comprehensive overview of the development and application of TCT/TCE in contemporary research. The key conclusions are as follows: the application of TCT/TCE is broad and flexible, covering manufacturing, services, finance, government, and digital business sectors. Research primarily focuses on decision-making, transaction cost management, contract strategies, and inter-organizational collaboration.

The integration of TCT with other theories enhances analytical depth, enabling studies to capture not only traditional cost perspectives but also social, technological, and innovative dimensions of organizations. The variables used have evolved from traditional measures such as transaction frequency, contract complexity, and environmental uncertainty to emerging factors like digitalization and inter-organizational collaboration. Research gaps remain, particularly in the areas of digital sectors, cross-country contexts, theoretical integration, and unexplored variables. These represent key opportunities for future research.

In conclusion, this study not only enriches the academic literature on TCT/TCE but also provides practical insights for organizations to enhance transaction cost management, strategic decision-making, and operational effectiveness. It is expected that the findings of this research will serve as a solid foundation for further theoretical development, organizational practice, and empirical research in an increasingly complex and globalized business environment.

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