Information Technology Governance in Organizations: A Systematic Literature Review of Practices, Impacts, and Frameworks

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ABSTRACT

Digital transformation has positioned Information Technology (IT) Governance as a strategic element in ensuring alignment between business objectives and technology utilization. This study maps the frameworks, implementation practices, and impacts of IT Governance through a Systematic Literature Review (SLR) of 90 studies published between 2020 and 2025. The review follows the PRISMA guidelines, encompassing the stages of identification, screening, eligibility, and inclusion. The synthesis reveals three main findings. First, the framework landscape is dominated by COBIT, frequently combined with ITIL and ISO/IEC 38500 to form adaptive hybrid models that accommodate organizational context and digital maturity. Second, implementation practices center on strategic alignment, structural and relational mechanisms, risk and performance management, and adaptation to specific sectoral contexts such as government, higher education, and banking. Third, the implementation of IT Governance enhances operational efficiency, business value, and innovation capability, although it may also produce bureaucratic complexity and barriers to business agility, with success depending on top management support and governance maturity levels. The findings synthesize the current IT Governance research landscape and identify directions for future research on its integration with emerging digital technologies and on cross-sector comparative analysis.

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1. INTRODUCTION

Information Technology (IT) has transformed from a supporting function to a strategic enabler that drives innovation and competitive advantage. Massive digital transformation has reshaped the conventional IT governance paradigm and produced deep dependence on technology infrastructure integrated with business strategy (Al-Qatanani, 2025; Chau et al., 2020), a development that has also been rapidly implemented in Indonesia across both government and private institutions (Alfajri et al., 2021). IT governance itself is understood as "a framework that regulates decision-making rights and responsibilities to encourage appropriate behavior in the use of IT" (Weill & Ross, 2004), and it has attracted sustained attention in the information systems (IS) field over the past two decades (Almeida et al., 2013).

This attention is justified by the role of IT in contemporary organizations. IT no longer functions merely as a supporting tool but has become a key driver of organizational efficiency, growth, and sustainability. The increasingly widespread use of technology across organizations of all sizes, sectors, and industries has produced high dependence on IT, which in turn presents new challenges for leaders (Al Omari et al., 2013). For this reason, IT governance is recognized as a determining factor in organizational success (Dawson et al., 2016; Wilkin et al., 2013), providing an effective mechanism for allocating IT decision-making rights, managing risks, and ensuring that IT delivers value to the organization.

Implementation practices reflect a diversity of strategic priorities, ranging from strategic alignment (Chahid, Ahriz, et al., 2025; Singh & Alhulail, 2023) and risk management (Alsaleem & Husin, 2024; Kosasi & Dewa Ayu Eka Yuliani, 2020) to value creation, with successful organizations adopting a holistic approach that balances control, value creation, and risk management at high maturity levels. The resulting impact, however, is paradoxical: IT governance improves operational performance, service quality, cyber risk reduction, and innovation capability, yet may also produce bureaucratic complexity and barriers to business agility. This tension calls for fuller understanding of the full spectrum of IT governance impacts.

Successful implementation depends heavily on the adoption of an appropriate framework. COBIT has emerged as the most dominant reference framework in the reviewed literature (Biagi & Russo, 2022; Chahid, Ahriz, et al., 2025; Tsilionis & Wautelet, 2022), frequently combined with complementary frameworks such as ITIL and ISO/IEC 38500. Organizational context, industry characteristics, and digital maturity level shape the optimal framework combination, while traditional frameworks continue to evolve to accommodate emerging technologies. The proliferation of frameworks, however, has produced a lack of standardization that yields highly varied practices across organizations.

Although IT governance publications grew rapidly between 2020 and 2025, the literature has become compartmentalized: studies tend to focus on a single context without insights into cross-sector transferability, evaluate a single framework without comparative analysis, and address a single dimension of impact rather than a holistic perspective. This fragmentation has produced a gap, with no synthesis that integrates separate findings into a coherent picture.

Similar attempts at synthesis already exist, though none cover quite the same ground. Karataş and Çakır (2024) reviewed 20 studies indexed in Web of Science, IEEE, and Scopus up to April 2023, focusing on the structural, process, and relational mechanisms of IT governance without addressing how these mechanisms translate into organizational outcomes. A broader effort by Vaya-Arboledas et al. (2025) drew on 380 articles spanning 1999 to 2025 and relied on bibliometric mapping through VOSviewer and SciMAT to trace how the field's themes and leading contributors have shifted over time; this produces a useful map of the research landscape but not a detailed account of how frameworks are adopted, implemented, and linked to impact within individual studies. The present review takes a different route. It concentrates on the 2020-2025 publication surge, works through 90 primary studies, and ties the three research questions on frameworks, implementation, and impact into one narrative rather than treating them as separate strands.

A Systematic Literature Review (SLR) is the appropriate methodology for mapping, synthesizing, and evaluating evidence in a transparent and replicable manner, enabling the identification of theoretical and practical gaps. Using the PRISMA framework to search, select, and report on 90 relevant articles published between 2020 and 2025, this study aims to build a synthesis of IT governance that contributes to the development of academic knowledge and professional practice.

2. RESEARCH METHODOLOGY

This The Systematic Literature Review (SLR) in this study followed the 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Page et al., 2021), which consist of four main stages, namely identification, screening, eligibility, and inclusion. In the identification stage, researchers identified the problem, formulated the objectives and research questions (RQ), and searched for primary studies using relevant keywords in several databases. The search results were then selected in the screening stage by reviewing the titles and abstracts and removing duplicates to ensure their relevance to the research focus. Next, the eligibility stage was carried out by assessing the feasibility and quality of each study based on the predetermined inclusion and exclusion criteria. Studies that were deemed feasible then entered the included stage, where data from the primary studies were synthesized and analyzed to answer each formulated RQ. The entire

study selection process is visualized in the PRISMA flow diagram in Figure 1, while a more detailed explanation of each stage is provided in the following discussion.

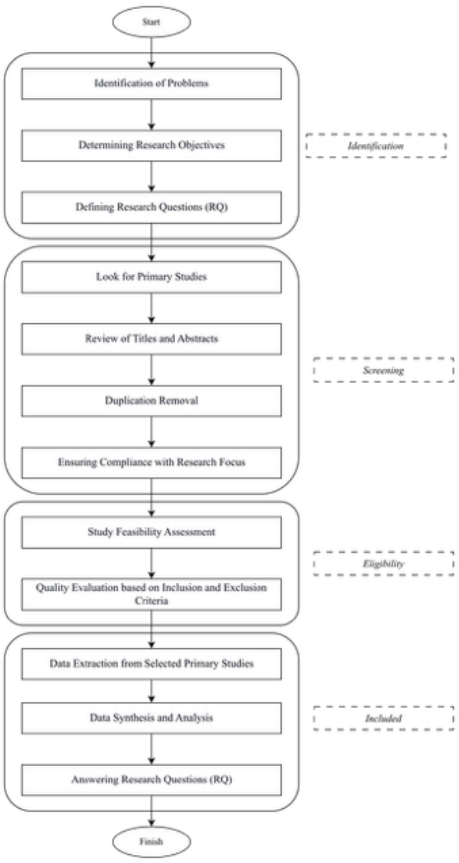

Figure 1. SLR Implementation Stages

2.1 Identification

The identification stage aims to formulate research questions (RQ) that are in line with the study objectives. Determining the RQ is crucial to maintaining the consistency of the focus of the literature review to be conducted. The RQ serves as the foundation for conducting the SLR, guiding the activities of searching and extracting literature. The final result of the SLR, in the form of data analysis and synthesis, is a response to the formulated RQ. An effective RQ is one that is able to guide understanding of the state-of-the-art developments in the topic of IT Governance. Table 1 presents the RQ and the rationale behind each question in this study.

Table 1. SLR Research Questions

No	Research Questions	Motivation
1	What frameworks are commonly used in the implementation and evaluation of IT governance?	Identify the dominant frameworks and their characteristics in IT Governance implementation
2	How is Information Technology (IT) governance implemented in organizational practice?	Identify various approaches and practices of IT Governance implementation in various organizational contexts

3	What are the impacts, benefits, and consequences that arise from the implementation of IT governance?	Identify the impact and consequences of IT Governance implementation on organizational performance

The answers to RQ1 to RQ3 will be described systematically in the results and analysis section. This provides a comprehensive overview of the IT Governance research landscape while opening up space for exploration for future research in the field of information technology governance.

2.2 Screening

The screening stage involves a series of activities visualized in Figure 1. Several academic repositories were selected as sources of publications, with searches conducted using a combination of keywords relevant to the research topic. The publications that were successfully collected then went through a screening stage based on various parameters to obtain the most appropriate studies.

The primary repositories used include Scopus (Elsevier), IEEE Xplore, ACM Digital Library, and Google Scholar, as shown in Figure 1. To broaden coverage and capture studies that may not be indexed in the primary databases, supplementary searches were also conducted on additional academic repositories. The search strategy uses the following string:

TITLE-ABS-KEY (("IT governance" OR "Information Technology governance") AND (COBIT OR ITIL OR "ISO/IEC 38500" OR "Val IT" OR CMMI OR framework* OR model*) AND (implement* OR adopt* OR practice* OR management OR managerial OR leadership OR strategy OR "decision-making") AND (impact* OR performance OR value OR benefit* OR consequence* OR outcome*) AND (organis* OR firm* OR company OR companies OR enterprise* OR institution*))

The search yielded 1,232 publications from all repositories. After eliminating duplicates, 987 unique publications were obtained. Filtering continued by applying restrictions on publication year (2020-2025), document type, language of presentation, and academic quality standards, resulting in 554 publications. Evaluation of titles and abstracts further reduced the number to 90 publications that met the criteria for in-depth analysis.

2.3 Eligibility

The eligibility stage involves an in-depth evaluation of publications through reading the full text and applying selection criteria based on the PICOS framework. Inclusion criteria require publications to discuss organizations that implement IT Governance, review governance frameworks and practices, identify the impact of implementation, have undergone a peer-review process, be published between 2020 and 2025, and be

in English or Indonesian. Conversely, exclusion criteria eliminate publications that focus only on technical aspects without governance dimensions, non-academic literature, publications that are not fully accessible, and studies with less structured or rigorous methodologies.

Quality evaluation used a checklist adopted from systematic review guidelines, covering aspects of research objective clarity, methodological approach suitability, analysis validity, results articulation, and theoretical contribution. Of the 90 publications that entered the eligibility stage, all were declared to meet the standards for further analysis with the following composition: Scopus (Elsevier) 58 publications (64.4%), IEEE Xplore 15 publications (16.7%), ACM Digital Library 8 publications (8.9%), Google Scholar 6 publications (6.7%), and other sources 3 publications (3.3%).

2.4 Inclusion

The inclusion stage is the final phase in which information from 90 primary studies is extracted and analyzed to respond to each RQ. Data extraction includes bibliographic information, organizational context, implementation approach, adopted framework, methodological design, identified impacts, obstacles encountered, and factors supporting success. Synthesis and analysis were conducted using a mixed-method approach that integrated quantitative analysis to calculate the frequency of framework adoption, sector distribution, and impact categories, as well as thematic qualitative analysis to identify implementation patterns, obstacle themes, and determinants of success. The findings were then mapped to respond to RQ1 through an analysis of framework characteristics, RQ2 through an analysis of implementation practices, and RQ3 through a synthesis of impacts, benefits, and consequences.

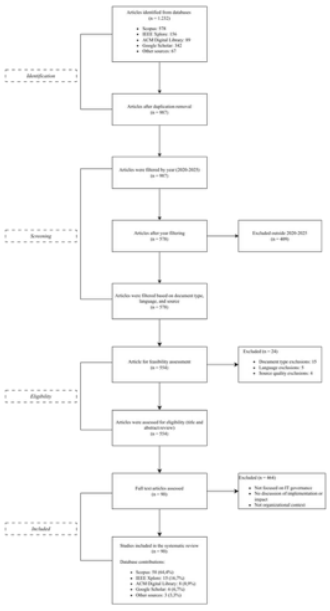

Figure 2. PRISMA Flow Chart (Systematic Study Selection Process)

3. RESULT AND DISCUSSION

This section outlines the findings from an analysis of 90 primary studies discussing information technology governance, covering aspects of implementation practices, frameworks used, and the impact on organizational performance. Before systematically answering each research question (RQ1-RQ3), an overview of the characteristics of these studies is presented.

3.1 Study Overview

A total of 90 primary studies published between 2020 and 2025 were reviewed. Table 2 presents the thematic distribution of these studies, indicating that research on the impacts and consequences of IT Governance dominates the literature, with implementation practices and framework adoption representing the second and third most frequent foci, respectively. Cross-thematic studies account for the cumulative total exceeding 90.

Name	Journal
IT Governance Implementation Practices	
Business-IT alignment	(Abdollahbeigi & Salehi, 2020; Biagi et al., 2022; Chahid, Ahriz, et al., 2025; Edirisinghe Vincent & Pinsker, 2020; Ghallab et al., 2024; Indriasari et al., 2020; Jaime & Barata, 2023; Joshi et al., 2022; Naim et al., 2021; Singh & Alhulail, 2023; Wulyatiningsih & Mambu, 2025)
Risk management and performance	(Alsaleem & Husin, 2024; Ilmudeen, 2024; Jatmiko et al., 2022; Kalkhoran et al., 2025; Khalil & Belitski, 2020; Kosasi & Dewa Ayu Eka Yuliani, 2020; Roustom et al., 2025; Zhao et al., 2021)
Structural and Relational Mechanisms	(Abdelilah, Ahriz, et al., 2024; Erasmus & Marnewick, 2021; Fajar & Amri, 2022; Plant et al., 2022; Yudistiro et al., 2020)
Sectoral Context	(Afiani et al., 2023; Arghand et al., 2022; Bianchi et al., 2021; Borja, Kim, et al., 2022; Chahid, El Marzak, et al., 2025; Fattah & Setyadi, 2021; Fauzi et al., 2023; Martin, 2023; Mikalef et al., 2021; P & V, 2021; Utomo et al., 2024; Yang et al., 2022; Zhen et al., 2021)
Impact, Benefits, and Consequences of IT Governance	
Improving Company Performance	(Abdelilah, Souad, et al., 2024; Abdollahbeig & Salehi, 2020; Abdurachman et al., 2023; Almaqtari et al., 2025; Asmah & Kyobe, 2025; Castellanos, 2021; Hiererra et al., 2022; Ilmudeen & Qaffas, 2025; Inayatulloh, 2020; Jafarijoo & Joshi, 2020; Kettinger et al., 2021; Kosasi et al., 2023; Lacombe & Jarboui, 2023; Levstek et al., 2022; M. Lubis et al., 2023; Meçe et al., 2020; Palvia et al., 2022; Pratama & Umaroh, 2024; Safitri et al., 2021; Soegoto et al., 2023; Wang et al., 2022; Widharto et al., 2022)
Value Creation and Capabilities	(Al-Qatanani, 2025; Chau et al., 2020; Cheng et al., 2023; Delport & Von Solms, 2023; Maciá Pérez et al., 2021; Misriati et al., 2020; Utomo et al., 2022)
Critical Success Factors (CSF)	(Abdelilah, Ahriz, et al., 2024; Al-Taee & Flayyih, 2023; Chergui & Chakir, 2020; Erasmus & Marnewick, 2021; Fajar & Amri, 2022; F. S. Lubis et al., 2023; Plant et al., 2022; Vejseli et al., 2020; Zuo et al., 2020)
Maturity Model	(Al-Husseini et al., 2022; Ishlahuddin et al., 2020; Solana-González et al., 2021; Zahiruddin & Akbar, 2023)
IT Governance Framework	
The Use of the COBIT Framework	(Afiani et al., 2023; Al Hilali & Vijaya, 2021; Anjelina, 2023; Arghand et al., 2022; Biagi & Russo, 2022; Borja, Moon, et al., 2022; Chahid, Ahriz, et al., 2025; Chahid, El Marzak, et al., 2025; Frogeri et al., 2020; Julianti et al., 2021; Martin, 2023; Menshawy et al., 2022; Pratiwi & Sukmandhani, 2020; Ranesh et al., 2022; Shariffuddin & Mohamed, 2020; Tsilionis & Wautelet, 2022; Utomo et al., 2024)
The use of the other framework (ITIL, ISO, etc.)	(Castellanos, 2021; Hossain et al., 2025; Trujillo-Lambert et al., 2023)
Hybrid Models and Adaptation	(Joshi et al., 2022; Viecco & Arevalo, 2020; Wulyatiningsih & Mambu, 2025)

Table 1. Mapping of Primary Studies to Research Questions

The data in Table 2 is visualized in graph form as shown in Figure 3 to clarify the visualization of the distribution of publications by year. The graph shows that the number of publications fluctuated during the 2020-2025 period. The highest number of publications occurred in 2020 and 2022 with 20 studies each, followed by 17 studies in 2023, 16 studies in 2021, 10 studies in 2025, and 7 studies in 2024.

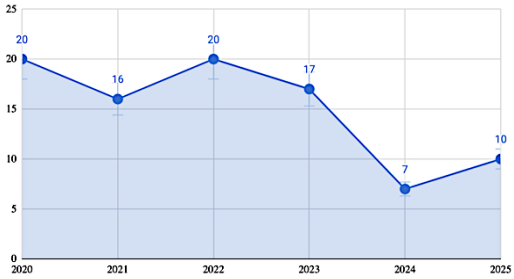

Figure 1. Graph of Publication Distribution for Studies in 2020-2025

The 90 primary studies originate from a wide range of countries. Figure 4 presents the distribution of the seven most represented countries, which collectively account for 50% of the corpus (n = 90 studies). Indonesia ranks highest with 39 studies (21.7% of the total contribution count), followed by Malaysia and the United States with 11 studies each (6.1%), China with 9 studies (5.0%), Morocco and South Africa with 7 studies each (3.9%), and Saudi Arabia with 6 studies (3.3%). The remaining 50% comprises studies from other countries with smaller individual contributions, grouped under the 'Other countries' category.

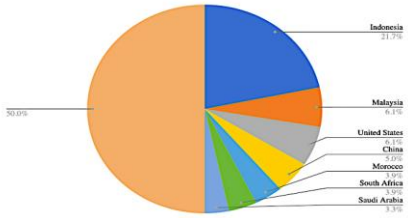

Figure 2. Geographic Distribution of Studies by Country/Region

Most of the publications were journal articles, totaling 56 studies, while the other 34 were conference papers. The same pattern was seen in the publication outlets, where 56 studies were published in scientific journals and 34 studies in conference proceedings. A visualization of this classification can be seen in Figure 5.

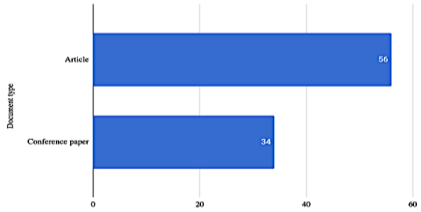

Figure 3. Classification of Studies Based on Document Type and Publication Outlet

1.1 Results and Analysis of Each Research Question

This section presents the synthesized results of 90 articles that have been systematically reviewed. From all of the studies analyzed, three main interrelated findings were obtained, namely (1) the framework and evolution of IT Governance, (2) implementation practices, and (3) the impact and consequences of implementing IT Governance. These three findings collectively describe the development of information technology governance, from conceptual approaches to practical applications that provide added value to organizations. To provide a more focused overview, the synthesis results are presented based on three research questions (RQ) that were the focus of the study, namely:

3.2.1. What frameworks are commonly used in the implementation and evaluation of IT governance? (RQ1)

The framework analysis reveals that organizations are highly dependent on standard guidelines for initiating IT Governance structures. This landscape shows the clear dominance of COBIT, which consistently serves as the primary reference framework for audits, maturity assessments, and comprehensive implementation guidelines (Afiani et al., 2023; Al Hilali & Vijaya, 2021; Anjelina, 2023; Arghand et al., 2022; Biagi & Russo, 2022; Borja, Moon, et al., 2022; Chahid, Ahriz, et al., 2025; Chahid, El Marzak, et al., 2025; Frogeri et al., 2020; Julianti et al., 2021; Martin, 2023; Menshawy et al., 2022; Pratiwi & Sukmandhani, 2020; Ranesh et al., 2022; Shariffuddin & Mohamed, 2020; Tsilionis & Wautelet, 2022; Utomo et al., 2024). However, findings also show that COBIT does not stand alone. There is a strong trend where organizations adopt complementary frameworks for more specific needs. ITIL is often used to strengthen the area of operational IT service management (Castellanos, 2021; Trujillo-Lambert et al., 2023), while ISO/IEC 38500 is adopted as a guiding principle at the board level (Hossain et al., 2025). This practice has led to the emergence of hybrid and adaptive models, where organizations pragmatically combine elements from various frameworks to create governance solutions that fit their unique contexts (Joshi et al., 2022; Viecco & Arevalo, 2020; Wulyatiningsih & Mambu, 2025).

3.2.2. How is Information Technology (IT) governance implemented in organizational practice? (RQ2)

The frameworks described above are operationalized through a series of implementation practices. The most fundamental and recurring theme throughout the literature is the effort to achieve strategic alignment between business and IT. This practice is the main objective, where organizations consciously implement mechanisms to ensure that every IT initiative and resource directly supports the achievement of business objectives (Abdollahbeigi & Salehi, 2020; Biagi et al., 2022; Chahid, Ahriz, et al., 2025; Edirisinghe Vincent & Pinsker, 2020; Ghallab et al., 2024; Indriasari et al., 2020; Jaime & Barata, 2023; Joshi et al., 2022; Naim et al., 2021; Singh & Alhulail, 2023; Wulyatiningsih & Mambu, 2025). This practice is realized through formal structural and relational mechanisms, such as the establishment of an IT steering committee and the definition of clear roles to ensure accountability (Abdelilah, Ahriz, et al., 2024; Erasmus & Marnewick, 2021; Fajar & Amri, 2022; Plant et al., 2022; Yudistiro et al., 2020). At the operational level, this implementation is supported by disciplined risk and performance management practices, which involve information system audits and IT process performance measurements (Alsaleem & Husin, 2024; Ilmudeen, 2024; Jatmiko et al., 2022; Kalkhoran et al., 2025; Khalil & Belitski, 2020;

Kosasi & Dewa Ayu Eka Yuliani, 2020; Roustom et al., 2025; Zhao et al., 2021). In addition, the literature also clearly shows that these practices are strongly influenced by specific sectoral contexts, such as in the government, higher education, and banking sectors (Afiani et al., 2023; Arghand et al., 2022; Bianchi et al., 2021; Borja, Kim, et al., 2022; Chahid, El Marzak, et al., 2025; Fattah & Setyadi, 2021; Fauzi et al., 2023; Martin, 2023; Mikalef et al., 2021; P & V, 2021; Utomo et al., 2024; Yang et al., 2022; Zhen et al., 2021).

3.2.3. What are the impacts, benefits, and consequences that arise from the implementation of IT governance? (RQ3)

The implementation of the above practices has resulted in a series of significant impacts and consequences for organizations. The most dominant and consistent finding across the literature is that effective IT governance directly contributes to improved company performance. These impacts are multi-dimensional, encompassing improvements in financial performance, operational efficiency, and service quality (Abdelilah, Souad, et al., 2024; Abdollahbeig & Salehi, 2020; Abdurachman et al., 2023; Almaqtari et al., 2025; Asmah & Kyobe, 2025; Castellanos, 2021; Hiererra et al., 2022; Ilmudeen & Qaffas, 2025; Inayatulloh, 2020; Jafarijoo & Joshi, 2020; Kettinger et al., 2021; Kosasi et al., 2023; Lacombe & Jarboui, 2023; Levstek et al., 2022; M. Lubis et al., 2023; Meçe et al., 2020; Palvia et al., 2022; Pratama & Umaroh, 2024; Safitri et al., 2021; Wang et al., 2022; Widharto et al., 2022). This holds up across very different sectors and regions, which suggests something structural is driving it. Clearer decision rights and accountability appear to cut down the ambiguity that otherwise turns into cost overruns and service failures. Kettinger et al. (2021), surveying CIOs internationally, get more specific about the mechanism. Governance did not raise information management capability on its own. The effect ran through IT project alignment and joint competence-building between IT and business staff, and it was that capability, not governance directly, that ultimately lifted business performance. Almaqtari et al. (2025) complicate this picture a little. Surveying companies and banks in Oman, they find that IT governance on its own has no significant direct effect on sustainability performance. The effect only shows up once governance dimensions such as strategic alignment and the steering committee work together, and even then IT governance boosted fintech adoption but not blockchain adoption. So the broad claim that governance improves performance seems to hold mainly when its components act together, not when any single mechanism is examined on its own.

Country-level replications of the broader claim, drawn from very different economies, mostly confirm the direction of the effect while disagreeing about its size. Abdollahbeigi and Salehi (2020), working with 357 manufacturing firms across seven Malaysian states, found that senior management involvement shaped IT governance effectiveness far more strongly than the formal communication systems firms had in place, and it was that governance effectiveness which then carried through to organizational performance. Wang et al. (2022) reach a comparable conclusion from 317 respondents across 59 Chinese state-owned enterprise groups, where IT governance not only affected performance on its own but also amplified the payoff from a well-formulated information strategy, an interaction effect that grew stronger as the strategy's formulation quality improved. Castellanos (2021) shifts the outcome variable to business-IT alignment rather than performance itself, and across 672 Colombian firms

of varying size and sector this relationship held with much the same strength regardless of industry, suggesting the mechanism is not particularly sector-bound.

Several later studies complicate this picture by asking what actually carries the effect from governance through to results. Kosasi et al. (2023) tested the question directly among 258 online businesses in West Kalimantan and found IT governance mechanisms exerted the single strongest influence in their model, flowing mainly into IT strategic alignment and, more moderately, into organizational agility, while the dynamic capabilities that governance was supposed to enable turned out not to move agility on their own, an outcome the authors attribute to online firms leaning on governance for risk control and compliance rather than for building new capabilities. Ilmudeen and Qaffas (2025) find a more cooperative version of the same story using data from 254 Chinese firms; IT governance mechanisms raised IT-enabled dynamic capability, which in turn lifted firm performance, and a turbulent environment made the first link stronger even as it weakened the second, while decentralizing governance authority helped only marginally. Jafarijoo and Joshi (2020) locate the mediator in a specific investment decision rather than a general capability, showing that governance mechanisms mattered mainly because they shaped how much value firms extracted from their cloud computing spending, with that extracted value then feeding into overall performance. Palvia et al. (2022) arrive at a compatible answer from the opposite direction, synthesizing prior studies through meta-analytic structural equation modeling and proposing IT strategic alignment and IT-enabled dynamic capability as the two channels through which governance ultimately reaches the bottom line.

A separate cluster of studies measures governance maturity directly instead of inferring performance effects, and the picture that emerges there is considerably less settled. Safitri et al. (2021) assessed the SIPERUMKIM system at a housing agency in Salatiga against COBIT 2019 and flagged five processes, spanning service-agreement management through problem management, as the ones most in need of reaching capability level four, citing thin IT staffing and heavy reliance on outside vendors as the main obstacles. Widharto et al. (2022) reached a parallel conclusion at an Indonesian rural bank, where COBIT 2019 scoring exposed a persistent gap between what management expected of its IT function and what the function could actually deliver. Abdelilah, Souad, et al. (2024) took the same style of assessment to a Moroccan university's delivery and support processes and found average maturity clustered between levels two and three out of a possible five, well short of the predictable, well-defined operation that level four is meant to represent, with only the business-process-control process coming close to level three. Pratama and Umaroh (2024) found much the same shortfall in a university IT asset function in Bandung, where a maturity score of 2.41 against COBIT 2019's asset management domain left a gap of more than half a level to the target of level three. Abdurachman et al. (2023) go further and question whether governance maturity matters at all in some settings; surveying 85 private Indonesian computing colleges, they found IT innovation drove competitive advantage on its own,

while IT governance and IT maturity contributed no measurable effect once innovation was accounted for.

IT governance also surfaces well beyond the large-firm and public-sector settings the literature has traditionally favored. Levstek et al. (2022) argue that frameworks built for large enterprises, COBIT and ITIL among them, are often too heavy for small and medium enterprises to sustain, and their interviews with five executives at a mid-sized insurer found that only about half of the governance mechanisms identified in the literature were actually necessary, the rest being useful only in particular circumstances. Inayatulloh (2020) takes the small-enterprise argument a step further by building a training model rather than testing one, developing a staged curriculum called ITGTSme that walks Indonesian SME owners from basic online presence through to full e-commerce and payment-security capability, on the premise that weak governance knowledge, not weak technology, is what keeps many SMEs from using IT productively. M. Lubis et al. (2023) return to a large-firm setting with a telecommunications company, where a COBIT 2019 governance design centered on service-request handling, problem management, and staff training was proposed as a direct response to IT investment that had outpaced governance capacity. Meçe et al. (2020), reviewing forty papers on IT governance in higher education, note that adoption is heaviest among Asian universities and that COBIT, the ISO standards, and locally built frameworks dominate the choices institutions make, though the review stops short of judging which of these choices performs best. Hiererra et al. (2022) extend the same COBIT 2019 logic to an entirely different domain, synthesizing 24 studies on smart tourism destinations into a governance model meant to guide destination management organizations, tourism enterprises, and policymakers as they align technology investment with tourism strategy.

Asmah and Kyobe (2025) close this cluster with evidence on what actually improves maturity over time; tracking seven Ghanaian financial institutions before and after seven months of COBIT-based auditing, they found several governance mechanisms climbed a full maturity level, particularly around IT roles, budgetary control, and relational practices such as cross-training, indicating that regular auditing itself functions as a governance-improvement mechanism rather than merely a compliance exercise. Lacombe and Jarboui (2023) supply a complementary qualitative account of what separates governance practice that pays off from governance practice that does not. Using the Gioia method to code face-to-face interviews conducted at seven French banking and insurance companies, they distinguish four situations of digital governance maturity that hinge less on how much a company spends than on how digital projects are organized across departments. The most favorable situation belonged to the two companies where the IT department was folded into a participatory, group-wide steering structure alongside strategy, business, and customer-facing units, allowing them to run their digital programs with an agile, test-and-learn posture; the least favorable belonged to a public-sector insurer where digital transformation had simply not been made a priority against competing regulatory demands. Between these two poles sat companies

that had tipped too far in one direction, either letting a marketing or customer department steer digital initiatives while treating IT as a mere technical contributor, or leaving digital governance so IT-centric that customer needs went unaddressed. Notably, the study found that how well an IT department managed its own budgeting and financial reporting bore little relation to how mature its digital governance actually was, which the authors read as evidence that cross-departmental balance, not financial discipline alone, is what separates governance that supports digital transformation from governance that merely accompanies it.

Furthermore, mature IT Governance has also been proven to be a key driver of value creation and strategic capability development, such as organizational agility and innovation capacity, which enable companies to be more responsive to market changes (Al-Qatanani, 2025; Chau et al., 2020; Cheng et al., 2023; Delport & Von Solms, 2023; Maciá Pérez et al., 2021; Misriati et al., 2020; Utomo et al., 2022). So the value of IT governance is not just about controlling risk and cost. It also feeds an organization's ability to notice and respond to external change, which makes it more of a strategic function than a purely administrative one. Chau et al. (2020) supply some of the broadest evidence for this claim, surveying 87 firms and modelling the relationship with polynomial regression rather than a simple correlation. Governance turned out to matter most as a buffer. Firms with stronger IT governance tolerated mild business-IT misalignment without much performance cost, while firms with weaker governance saw performance drop sharply once misalignment grew severe. Cheng et al. (2023) narrow the focus to one specific governance mechanism, IT chargeback, the practice of billing business units for the IT services they consume. Surveying 103 firms and testing the model with partial least squares, they found chargeback only translated into strategic alignment and, eventually, performance when the CIO was business-competent. A business executive who understood IT well did not produce the same effect, which reframes the CIO’s role as a strategic driver of alignment rather than a technical gatekeeper. In a survey of 148 professionals across Jordanian commercial banks, Al-Qatanani (2025) found that the COBIT 2019 dimension most strongly tied to institutional performance was not planning or implementation, as might be expected, but Monitor and Evaluate, the ongoing oversight of IT service delivery.

A case study by Utomo et al. (2022) shows what this capability-building looks like on the ground. Applying COBIT 2019's design toolkit at a mid-sized Indonesian higher education institution, the study prioritized 21 of 40 possible governance objectives and started from a capability level of just 1.05, essentially ad hoc, aiming for 2.33. Getting there meant fixing basic gaps first, such as having no dedicated IT staff and depending on a single outsourcing vendor, before agility or innovation capacity could realistically follow. Delport and Von Solms (2023) approach the value question from the board’s side rather than the CIO’s. Rather than testing an effect empirically, they work out what a board actually needs in order to trust that its ICT governance is sound, drawing on COBIT and international assurance standards to propose a set of principles boards can use to gain that confidence. Maciá Pérez et al. (2021) put a version of this into practice across

fourteen Spanish public universities, using paired interviews at nine of them alongside nearly a decade of implementation data from the University of Alicante. Once senior leadership held formal authority over the IT project portfolio rather than delegating it, governance maturity rose, and the gap between the number of projects requested and the number actually completed closed considerably. Not every setting gets that far, though. Misriati et al. (2020) studied COBIT 5 implementation at a single Islamic elementary school and found its IT function still operating reactively, addressing problems as they came up rather than following a strategic plan, with a wide gap between current capability and the target level. The case underscores that the value-creating role described throughout this section assumes a level of governance maturity that smaller or resource-constrained organizations have not necessarily reached.

However, the realization of these benefits does not happen automatically. Its success is highly dependent on critical success factors (CSFs), with top management support and organizational culture being the most frequently cited (Abdelilah, Ahriz, et al., 2024; Al-Taee & Flayyih, 2023; Chergui & Chakir, 2020; Erasmus & Marnewick, 2021; Fajar & Amri, 2022; F. S. Lubis et al., 2023; Plant et al., 2022; Vejseli et al., 2020; Zuo et al., 2020). Top management support tends to matter because governance usually means moving authority away from individual business units into shared structures, and that kind of shift rarely survives without visible backing from the top. Culture plays a similar role for a simpler reason. Governance mechanisms are carried out by people, and a culture that pushes back against formal accountability will blunt even a well-designed framework. Abdelilah, Ahriz, et al. (2024) push this even further. Reviewing 72 studies and comparing practice across five Moroccan universities, they argue that no single governance framework travels well from one institution to another, and their resulting model, built on contingency theory, treats fitting the framework to each university's own context as a success factor in its own right rather than a detail of implementation. Chergui and Chakir (2020) point to a different kind of gap. Surveying the 2016 to 2020 literature on IT governance knowledge management, they find that organizations adopting established frameworks such as COBIT, ITIL, or ISO 27001 still tend to lack a working system for capturing and reusing the governance knowledge those frameworks generate, which is part of why the ambition set out on paper often stalls once it reaches daily practice. Al-Taee and Flayyih (2023) test this same idea inside a single organization, surveying 120 financial managers, internal auditors, and IT security staff at Iraq's state-owned General Company for Electricity Distribution. Electronic auditing built around COBIT explained just over half the variance in the audit-risk outcome overall, but its three dimensions did not carry equal weight. Control assurance and risk assessment each had a significant, positive relationship with the outcome, while compliance assessment showed no reliable effect and even ran in the opposite direction. The pattern echoes a point raised earlier in this section, that treating governance as a single bundle can hide which specific mechanism is actually carrying the result.

F. S. Lubis et al. (2023) take this need for clear authority and turn it into a concrete artifact for Indonesian state-owned enterprises. Mapping the Ministry of State-Owned

Enterprises' 2018 regulation onto 22 relevant COBIT 2019 processes and then onto a RACI matrix, they assign a single accountable party, typically the board of directors for strategic decisions and the CIO for operational ones, alongside several responsible, consulted, and informed roles for each governance activity. The exercise is less about testing whether accountability matters than about showing what assigning it actually looks like in a specific regulatory setting, filling in a level of operational detail that the broader claim about top management support usually leaves out. Erasmus and Marnewick (2021) show why top management support alone might not translate into implemented practice. Using Q-methodology with thirteen chief information officers, portfolio managers, and programme managers in South Africa, they had participants sort thirty-five COBIT-based governance practices twice, once by perceived importance and once by how extensively each is actually implemented. The two sorts rarely lined up. Practitioners split into distinct viewpoints. One favoured resource management and stakeholder engagement, another prioritised staff skills, and a third centred on strategic alignment, each treating a different cluster of practices as most important. What actually got implemented followed a similarly uneven pattern, rarely tracking whichever practices a given viewpoint rated as important. The one point of consensus across nearly every viewpoint was that data management practices ranked lowest on both sorts, suggesting some governance activities lose priority no matter which perspective an organisation happens to adopt.

None of this is purely an internal matter, though. Looking at 329 town-level governments in Beijing formulating IT governance for senior care services, Zuo et al. (2020) found that external market demand and institutional pressure jointly shaped which mechanisms got adopted, with institutional pressure working mainly by channeling market forces into government action. Critical success factors, in other words, sit partly outside the organization as well. Fajar and Amri (2022) show what happens when top-level backing exists but is not enough on its own. Studying Garuda Indonesia, the national airline, they find that IT governance mechanisms affect firm performance mainly through the mediation of IT outsourcing strategy. Governance structures created the conditions for improvement, but the performance gains only materialized once the airline's outsourcing decisions were aligned with them. Plant et al. (2022) locate a related tension in DevOps environments specifically. Drawing on interviews with seventeen employees across nine Dutch companies, they find organizations rarely settle on manual or automated controls outright, choosing hybrid arrangements instead depending on how much risk they can tolerate and how mature their DevOps practice already is, with soft governance mechanisms and team culture again turning out to be a precondition rather than a footnote. Vejseli et al. (2020) reach a compatible conclusion from survey data on roughly 400 senior executives, finding that carrying agile principles and practices into IT governance itself, not only into software delivery, improved business and IT alignment as well as firm performance.

To evaluate this impact, many studies use maturity models, in which higher levels of maturity consistently correlate with better performance (Al-Husseini et al., 2022;

Ishlahuddin et al., 2020; Solana-González et al., 2021; Zahiruddin & Akbar, 2023). That this correlation holds across different maturity instruments points to a gradual process. Governance benefits seem to build up as practices become embedded rather than showing up as soon as a framework is adopted, which has real implications for how organizations pace their governance initiatives. Solana-González et al. (2021) drill into which parts of that maturity picture matter most, using data mining across 285 Brazilian companies and 37 COBIT-based IT processes. The strongest predictors of organizational transparency turned out to be the maturity of IT performance monitoring and internal control, well above investment management or quality management practices, suggesting that a handful of monitoring-related processes carry more weight than the aggregate maturity score would imply. Ishlahuddin et al. (2020) show just how early-stage that embedding process can still be. Assessing a small higher education institution in Depok against COBIT 2019, they find most of the prioritized processes sitting at capability level 0, essentially incomplete, with only one process reaching level 1 and a target of level 2 still two steps away. Cases like this are a reminder that the maturity-performance correlation describes an endpoint many organizations have not yet reached.

Al-Husseini et al. (2022) approach the topic from outside the maturity-model tradition altogether, asking whether external market conditions change how governance translates into outcomes for stakeholders. Surveying managers running international IT projects across Iraqi multinational firms and analyzing the responses with PLS-SEM, they found that market turbulence did not dilute the effect of governance on stakeholder management but amplified it, so the more volatile the environment, the more disciplined governance practice mattered for keeping stakeholders aligned. Zahiruddin and Akbar (2023) work from a different starting point than these institutional maturity assessments, measuring performance through the everyday IT user's experience rather than a process-maturity score. Surveying 106 academic staff and students across Malaysian public universities with the updated Information System Success model, they found system, information, and service quality correlated only moderately with perceived ease of use and fairly weakly with satisfaction, while by far the strongest relationship in the model ran from ease of use to perceived usefulness. The contrast is telling. It suggests that how governance performance looks depends heavily on whether it is read off a maturity framework or off how users actually experience the system day to day.

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4. CONCLUSION

This study conducted a Systematic Literature Review (SLR) of 90 publications on IT Governance published between 2020 and 2025, following the PRISMA approach. The synthesis reveals three main developments. First, the framework landscape is dominated by COBIT, followed by ITIL and ISO/IEC 38500, with a strong tendency toward inter-framework integration to accommodate organizational needs and contexts. Second, implementation practices play an important role in improving operational efficiency,

supporting strategic decision-making, and creating added value for organizations, although they still face challenges related to structural complexity and resource limitations. Third, the impact of IT Governance extends beyond its function as a technology control mechanism, since it operates as a strategic instrument that contributes to business objectives and organizational digital transformation. Across all three findings, effectiveness depends on the alignment between business strategy, top management support, and the readiness of human resources and technological infrastructure. Future research is encouraged to examine the integration of IT Governance with emerging digital technologies such as artificial intelligence, cloud computing, and data analytics, as well as cross-sector comparative studies to strengthen the generalizability of the findings.

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