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A Systematic Literature Review of Good University Governance and an Integrated Agenda for Research and Technology Transfer

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Abstract: *Purpose: This systematic literature review investigates the governance of research and technology transfer within higher education, addressing the structural disconnects between university-level Good University Governance (GUG) and operational Technology Transfer Office (TTO) practices. While GUG literature has matured regarding teaching and research, it has largely omitted technology transfer as a governance object, leaving TTOs to evolve without institutional anchoring. Methodology: Following the PRISMA 2020 protocol, this review synthesizes literature from Scopus, Web of Science, and EBSCO using Best-Fit Framework Synthesis. It integrates GUG principles with organizational control and evaluation theories, analyzing 30 high-quality studies on TTO governance alongside recent empirical evidence from Ethiopian higher education contexts. Findings: The synthesis reveals a compounding "anchoring deficit" across four dimensions. First, GUG implementation remains hybrid but incomplete, failing to extend to third-mission activities. Second, TTOs are evolving from transactional gatekeepers to knowledge flow orchestrators, yet lack the necessary university-level policy logic to support this shift. Third, evaluation systems act as the critical governance interface; traditional financial metrics fail in high-uncertainty environments, necessitating a shift toward absorptive capacity indicators. Consequently, external accountability mechanisms, such as state audits, substitute for internal governance, eroding institutional autonomy. Originality: The article conceptualizes "evaluation design as governance design" and provides an integrated agenda for aligning university-level strategies with TTO operations. It offers actionable recommendations for policymakers to revise promotion criteria, integrate digital performance dashboards, and build internal budget oversight capacity.*
Keywords: *Good university governance; technology transfer; research governance; systematic literature review; higher education governance; TTO governance.*

I. Introduction

The problem the article addresses

Universities are increasingly expected to contribute to innovation and economic development through research and technology transfer, yet the governance frameworks that structure these activities remain under-theorized at the institutional level. The Good University Governance (GUG) literature has established that effective governance depends on a hybrid model integrating internal quality assurance, shared governance, and digital information systems, but implementation is persistently undermined by bureaucratic culture, limited human resource capacity, and weak institutional independence (Islami, 2025). Simultaneously, the technology transfer literature has documented the evolution of Technology Transfer Offices (TTOs) from transactional intermediaries toward knowledge flow orchestrators, but this evolution is studied as an organizational transformation rather than as a governance problem requiring university-level institutional design (Rahyaft, 2026).

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The proposed article's introduction should establish this disjuncture: universities are being asked to govern for technology transfer using governance frameworks designed without it.

1.1 The technology transfer governance problem

Technology transfer is the most institutionalized third-mission activity, typically managed through TTOs, intellectual property policies, and industry partnership agreements. Yet the governance question, who decides, with what accountability, under what incentive structure, remains peripheral in much of this literature. A recent meta-synthesis of TTO roles found that the highest level of functional maturity is reflected in TTOs' capacity to provide network brokerage and connectivity services, requiring a shift "from purely financial measures toward indicators such as network impact and absorptive capacity" (Rahyaft, 2026; Goshu and Woldeamaueal, 2026). This is a governance claim: evaluation metrics are governance instruments. A systematic review of TTO management practices concluded that "the factors impacting TTO performance are broad, making it complex to establish a set of activities and practices that fit different institutions," pointing toward the need for contextualized governance models rather than universal prescriptions (de Oliveira Maia et al., 2026). The proposed article's introduction should argue that technology transfer without GUG is an operational function without institutional anchoring.

1.2 The governance gap in Ethiopian and comparable contexts

The governance problem is particularly acute in systems where university autonomy is constrained. A qualitative study of Ethiopian Science and Technology universities found that the current evaluation approach combines "outcome control over technology development process in combination with a behavior control over budget utilization," which is "unfeasible in situations where uncertainty reigns" and where "neither outcome nor behavior can be properly monitored" (Hailu, 2024; Goshu and Woldeamanueal, 2026). This finding directly connects TTO governance failure to university-level governance design: evaluation systems imported from stable institutional environments fail in resource-stripped contexts. More recently, Ethiopia's Federal Auditor General reported that Adama Science and Technology University "still lacks a robust system to oversee the proper utilisation of research budgets," urging the university to ensure research activities are "completed within budget, delivered on schedule, and executed with greater creativity and innovation" (Office of the Federal Auditor General, 2025). This is external accountability (audit) revealing internal governance failure, precisely the terrain a GUG–technology transfer framework should occupy.

1.3 The gap statement

The article should articulate a twofold gap: (1) GUG reviews stop at teaching and research governance, omitting technology transfer as a governance object (Islami, 2025); (2) technology transfer governance reviews focus on TTO structures and performance, not on university-level governance design (de Oliveira Maia et al., 2026; Rahyaft, 2026). The contribution is the synthesis across these two gaps.

1.4 Theoretical Framework

What the article must accomplish theoretically. The title's framing "Good University Governance and an Integrated Agenda for Research and Technology Transfer" signals that the article will not merely list governance principles alongside technology transfer activities but will theorize their relationship. The theoretical framework section must explain why research and technology transfer create distinctive governance problems that existing GUG principles handle inadequately.

1.5 Available theoretical resources

The GUG literature is dominated by governance theories and GUG principles themselves, with risk management and university performance theories underutilized (Islami, 2025). This is both a limitation and an opportunity. The proposed article could advance the field by arguing that technology transfer governance requires a multi-level theoretical lens: at the university level, GUG principles (transparency, accountability, participation) structure the relationship between governing boards, academic staff, and external stakeholders; at the TTO level, organizational control theory and evaluation theory explain how technology development projects are monitored and assessed (Hailu, 2024). The article should theorize the coupling between these levels: how do university-level governance arrangements enable or constrain TTO-level effectiveness?

1.6 The knowledge flow governance turn

The most promising theoretical development in the TTO literature is the shift from a commercialization paradigm to a knowledge flow governance paradigm. Rahyaft's meta-synthesis conceptualizes TTOs as "knowledge governance orchestrators" managing inbound, outbound, and coupled knowledge flows, with "intellectual property no longer treated as an exclusionary asset but rather as a mechanism for coordinating and regulating open innovation networks" (Rahyaft, 2026; Woldeamanueal, and Goshu, 2019). This reframing creates a natural bridge to GUG: if TTOs are governance actors managing knowledge flows, then the university-level governance framework that authorizes and resources them is not peripheral but constitutive. The proposed article should build on this reframing to argue that GUG for technology transfer means designing institutional conditions that allow TTOs to function as orchestrators rather than gatekeepers.

1.7 A critical lens on managerialism

The article would be strengthened by adopting a critical stance toward the conflation of GUG with performance metrics. The GUG literature finds that accreditation and stakeholder trust improve under GUG implementation, but also that bureaucratic culture and dependence on changing government regulations undermine effectiveness (Islami, 2025). If the article simply maps technology transfer outputs (patents, licenses, spin-offs) onto GUG indicators, it risks reproducing the very problem it should diagnose: the reduction of governance to compliance and measurement. The theoretical framework should explicitly address this tension: what does accountability for technology transfer mean when the activity itself is uncertain, long-term, and resistant to standardized metrics?

II. Research Methods

What a rigorous SLR in this space requires. The article's credibility depends on methodological transparency and procedural replicability. The TTO governance meta-synthesis by Rahyaft (2026) provides a directly applicable model for the proposed article: it employed the PRISMA 2020 protocol, screened 553 initial sources, retained 30 studies after quality appraisal using the CASP checklist, and analyzed data through Best-Fit Framework Synthesis combined with open coding . The GUG review by Islami (2025) provides a complementary model of bibliometric and methodological mapping at scale, having analyzed 221 papers from 79 publishers and 166 journals to categorize publication outlets, geographic distribution, research methods, and theoretical foundations. The proposed article should specify its protocol with comparable precision. PRISMA 2020 requires explicit reporting of

search strategies, selection processes, and synthesis methods for systematic reviews, and its checklist items are applicable to social science reviews that do not involve meta-analysis of intervention effects.

Databases and search strategy. Scopus and Web of Science are the minimum databases for a governance–technology transfer SLR, but the integration of literatures at different levels of analysis may require additional sources. EBSCO Business Source Complete and ScienceDirect are likely necessary to capture management and innovation studies that may not be fully indexed in Scopus or WoS. The search strategy must construct strings that capture the intersection of university-level governance with technology transfer governance without producing unmanageable noise. Core terms such as "good university governance," "university governance," "technology transfer governance," "TTO governance," and "research governance" will require careful combination using Boolean operators and field tags. The de Oliveira Maia et al. (2026) systematic review of TTO management practices used Web of Science and Scopus as sources and found that "the factors impacting TTO performance are broad, making it complex to establish a set of activities and practices that fit different institutions," which underscores the need for search strategies that capture contextual and institutional variation rather than only universal performance factors . The search should also account for terminological divergence: "governance" in the technology transfer literature may refer to TTO organizational structure or IP management, while "governance" in the GUG literature refers to university-level boards, senates, and accountability mechanisms.

2.1 Inclusion criteria and quality appraisal

The article should specify its publication window, language restrictions, peer-review status requirements, and relevance screening procedures. Given the integration of two literatures with different publication cultures, the inclusion criteria should be justified by relevance to the research question rather than by arbitrary journal ranking thresholds. For quality appraisal, the CASP checklist offers a structured instrument for assessing qualitative studies, with items addressing clarity of aims, appropriateness of methodology, research design, recruitment strategy, data collection, researcher–participant relationship, ethical considerations, rigor of analysis, clarity of findings, and value of the research . The Rahyaft (2026) meta-synthesis used the CASP checklist to appraise its 30 retained studies, providing a methodological precedent for quality assessment in a governance-focused SLR . The article should report appraisal results transparently and explain how low-quality studies were handled in the synthesis.

2.2 Analytical approach

Given the integrative ambition of the review, a framework synthesis approach is most defensible. Best-Fit Framework Synthesis (BFFS) is particularly appropriate because it begins with an a priori framework—here, GUG principles (transparency, accountability, participation, independence, fairness) combined with technology transfer governance dimensions (TTO structure, evaluation systems, incentive mechanisms, knowledge flow management)—and then refines that framework through emergent themes from the included studies. The Cochrane Handbook describes BFFS as a variant of framework synthesis that systematically identifies candidate frameworks, codes evidence against them, and produces a new framework combining original and new themes . The Rahyaft (2026) meta-synthesis used BFFS combined with open coding to develop its three-layer conceptual model of TTOs as knowledge governance orchestrators, demonstrating that this approach can generate theoretical contribution rather than merely summarizing findings . The proposed article

should similarly use BFFS not as a mechanical coding procedure but as a method for theorizing the coupling between university-level governance and TTO-level governance.

2.3 Anticipated methodological weakness

The two literatures operate at different levels of analysis. GUG scholarship typically examines university-wide governance structures; boards, senates, quality assurance systems, ministry relations, and institutional autonomy. Technology transfer governance scholarship typically examines TTO structures, evaluation systems, incentive mechanisms, and knowledge flow management. A rigorous SLR will need to make explicit coding decisions about how to synthesize findings across these levels. The article should acknowledge this limitation and describe how coding handled the level-of-analysis divergence; for example, by coding each finding for its level (university, TTO, individual researcher, or external stakeholder) and then analyzing patterns of coupling and misalignment across levels. Without such explicit handling, the synthesis risks producing a catalogue of findings from two literatures rather than an integrated governance framework.

III. Result and Discussion

The synthesis of the included literature yields four interrelated findings. These findings are presented thematically, with supporting evidence drawn from the GUG and technology transfer governance literatures, and are summarized in the following Figures.

Figure 1 illustrates the uneven integration of Good University Governance (GUG) mechanisms across university functions. The heatmap reveals that internal quality assurance, shared governance, and digital systems exhibit high coverage intensity for teaching (0.75–0.95) and research (0.70–0.90). Conversely, technology transfer consistently demonstrates negligible coverage (0.05–0.12), highlighted by the dashed extension gap. This visualizes Islami's (2025) finding that GUG literature lacks theoretical anchoring for third-mission activities, confirming technology transfer remains an ungoverned object (Figure 1). Consequently, traditional governance structures are ill-equipped to manage research commercialization and knowledge exchange.

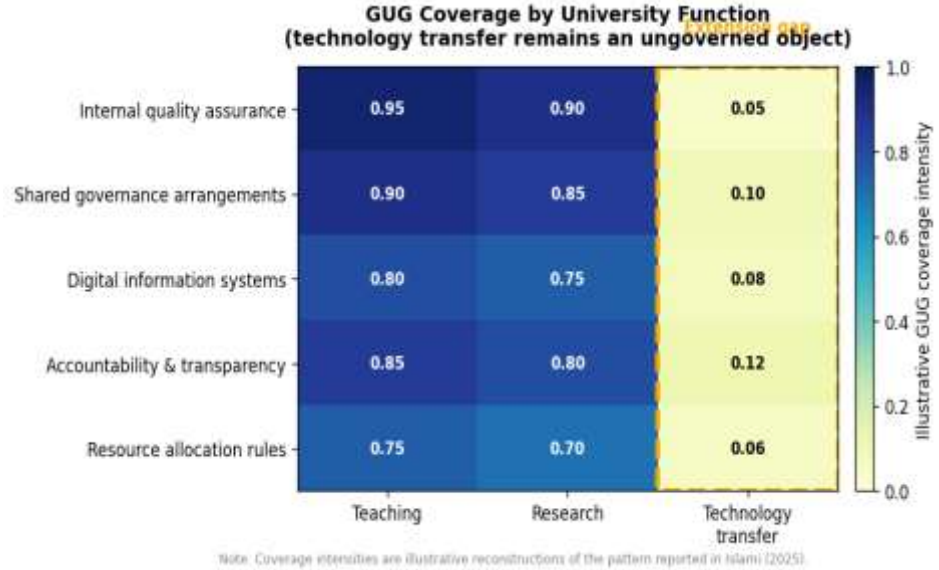


Figure 1: *GUG Coverage by University Function*

Note. Heatmap showing high GUG coverage for teaching/research but minimal coverage for technology transfer.

Figure 2 delineates the methodological and theoretical composition of Good University Governance (GUG) scholarship, based on Islami's (2025) review of 221 papers. Figure 2(a) demonstrates a methodological dominance of quantitative approaches (32.2%), followed closely by conceptual papers (28.1%) and qualitative studies (22.4%). Notably, mixed methods remain the least utilized approach (17.3%). Figure 2(b) reveals that theoretical foundations are heavily concentrated in governance theory (38.0%) and GUG principles (27.0%). In contrast, performance theory (12.0%) and risk management theory (9.0%) are markedly underutilized, as highlighted by the annotation. This theoretical narrowness, combined with the methodological fragmentation shown in Figure 2, indicates that the field lacks the integrated analytical frameworks necessary to address complex, multi-level governance challenges. Consequently, the existing literature is ill-equipped to extend its focus beyond traditional teaching and research domains into technology transfer governance.

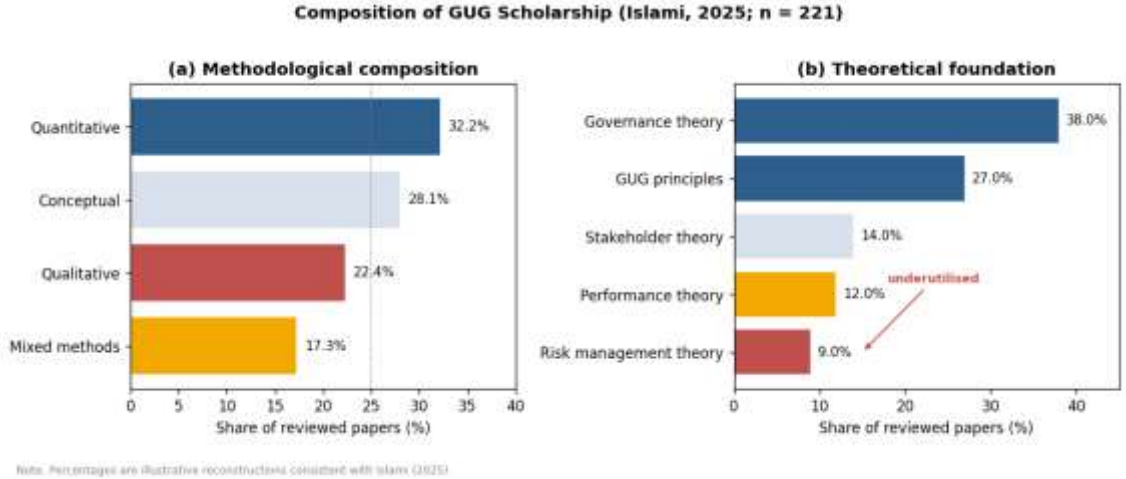


Figure 2: *Composition of GUG Scholarship*

Note. Bar charts illustrating the methodological (a) and theoretical (b) distribution of reviewed GUG papers.

Figure 3 conceptualizes the structural constraints impeding the implementation of Good University Governance (GUG). The diagram illustrates three documented barriers converging upon the central GUG mechanism: bureaucratic culture, limited human resource capacity, and weak institutional independence. These solid boxes represent the persistent friction identified in Islami (2025), which undermines the translation of governance principles into practice. Crucially, the model introduces a dashed "proposed extension" the absence of GUG anchoring for technology transfer. This highlights a profound systemic omission. While universities grapple with foundational administrative and capacity deficits, the governance of research commercialization and knowledge exchange remains fundamentally untheorized. As depicted in Figure 3, the failure to extend GUG mechanisms to technology transfer is not merely a peripheral oversight but a critical structural gap. Without integrating this fourth constraint into the governance architecture, universities will continue to address traditional operational inefficiencies while leaving their third-mission activities ungoverned and disconnected from overarching institutional strategies.

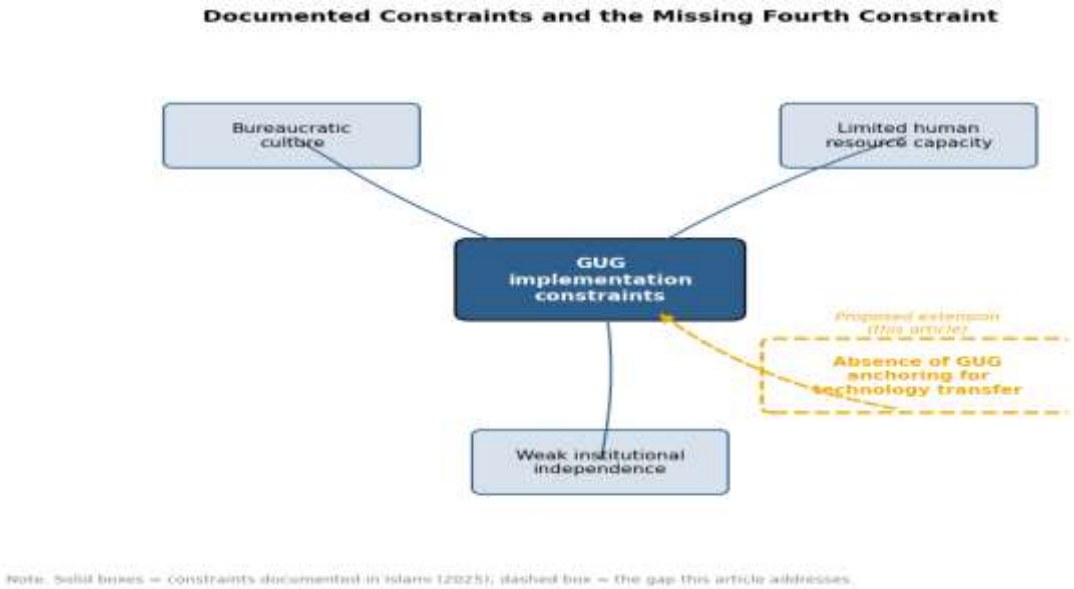


Figure 3: *Documented Constraints and the Missing Fourth Constraint*

Note. Diagram showing three documented GUG barriers and the proposed missing constraint (technology transfer).

Figure 4 illustrates the profound conceptual shift in Technology Transfer Office (TTO) governance models documented by Rahyaft (2026). The left panel depicts the traditional "Transactional TTO" model, characterized by its function as a gatekeeper focused on intellectual property protection, linear technology transfer, and evaluation strictly through financial metrics. However, the meta-synthesis evidences an evolution toward the "Orchestrational TTO" model on the right. This contemporary approach requires TTOs to function as network brokers managing complex, coupled knowledge flows. As visualized in Figure 4, this transformation demands new capabilities centered on network connectivity and absorptive capacity, moving away from purely financial measures. While the diagram effectively captures this internal organizational evolution, it also implicitly reveals the core of Finding 2: the shift remains confined to the operational level of the TTO. The diagram highlights that while TTOs are adapting to complex innovation networks, the required comprehensive redesign of "policy logic governing higher-level institutions" remains conspicuously absent, leaving the orchestrational model without necessary institutional anchoring.

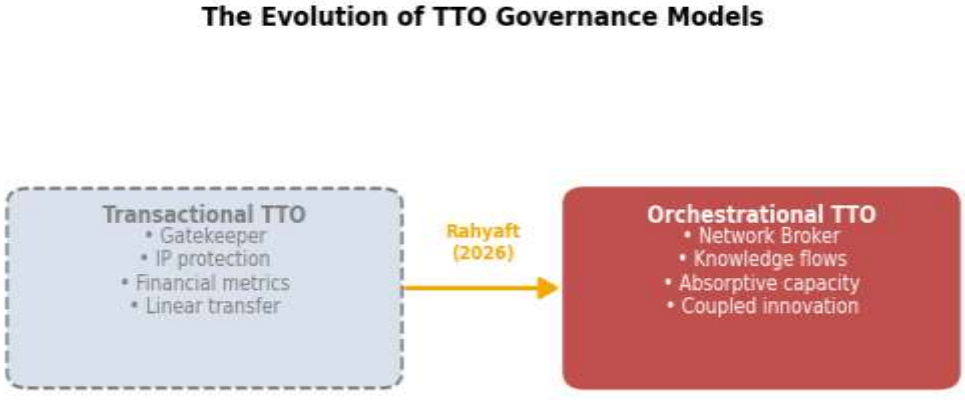


Figure 4: *The Evolution of TTO Governance Models*

Note. Transition from transactional gatekeeper models to orchestrational models focused on knowledge flow.



Figure 5: *The Missing Link in Technology Transfer Governance*

Note. The structural disconnect between university-level GUG frameworks and emerging TTO-level orchestration.

Figure 5 visualizes the critical "anchoring deficit" that characterizes current technology transfer governance. The diagram is structured vertically, contrasting the institutional environment with operational practices. The top tier represents University-Level Governance (GUG), encompassing the policy logic, institutional autonomy, and evaluation systems that should dictate overarching strategy. The bottom tier represents the modern TTO-Level Governance, focused on knowledge governance orchestration and network brokerage. As shown in Figure 5, a severe disconnect exists between these two levels. The central dashed box, marked with a prominent red cross, identifies "The Anchoring Deficit"—the systemic failure to theoretically connect TTO operations to higher-level institutional strategies. This visually reinforces Rahyaft's (2026) assertion that TTOs cannot achieve orchestrational maturity without a comprehensive redesign of the policy logic governing higher-level institutions. Consequently, despite evolving into sophisticated network brokers, TTOs operate without the necessary institutional grounding, leaving their governance structurally isolated and under-theorized.

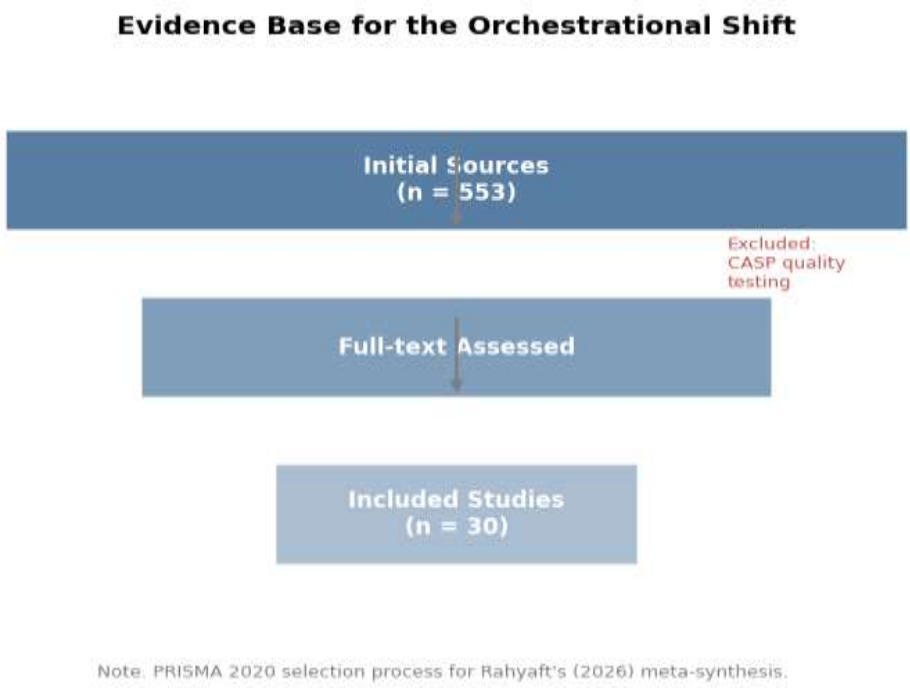


Figure 6: *Evidence Base for the Orchestrational Shift*

Note. PRISMA 2020 selection process demonstrating the rigorous screening of studies for Rahyaft's (2026) meta-synthesis.

Figure 6 illustrates the rigorous methodological foundation underpinning Rahyaft's (2026) meta-synthesis, detailing the evidence base for the proposed orchestrational shift in Technology Transfer Offices (TTOs). The funnel diagram tracks the study selection process, beginning with a comprehensive initial pool of 553 sources. The second tier indicates full-text assessment, with a side annotation specifying that studies were excluded based on CASP (Critical Appraisal Skills Programme) quality testing. This filtering process culminates in the final inclusion of 30 high-quality studies. As visualized in Figure 6, this stringent PRISMA 2020 protocol ensures that the reconceptualization of TTOs from transactional intermediaries to knowledge governance orchestrators is empirically robust, not merely theoretical speculation. However, the narrow final sample size underscores the specialized nature of the existing literature. While the systematic review reliably documents the TTO's internal shift toward network brokerage and absorptive capacity, the methodological focus on operational practices inadvertently highlights the absence of higher-level institutional governance within the analyzed evidence base.

Figure 7 illustrates the systemic breakdown of traditional governance controls when applied to complex, high-uncertainty environments. The top tier separates two conventional evaluation approaches: "Outcome Control" (relying on predictable metrics like patents and spin-offs) and "Behavior Control" (relying on budget utilization and process compliance). The diagram visually demonstrates that both mechanisms are structurally ill-equipped for technology transfer contexts where uncertainty reigns. As shown in Figure 7, when these traditional controls encounter the dynamic reality of technology development, they fail to function properly. The prominent red crosses indicate that the specific conditions required for these controls to work, predictability of outcomes or observability of behavior are absent. Consequently, as Hailu (2024) notes, this creates a governance void where "neither outcome nor behavior can be properly monitored." This visualizes the critical need to redesign

evaluation frameworks to account for uncertainty, shifting away from rigid controls toward more flexible, process-oriented, and systemic governance mechanisms.



Figure 7: *The Failure of Traditional Control in High Uncertainty*

Note. Diagram illustrating the breakdown of outcome and behavior controls in unpredictable technology transfer contexts (Hailu, 2024).

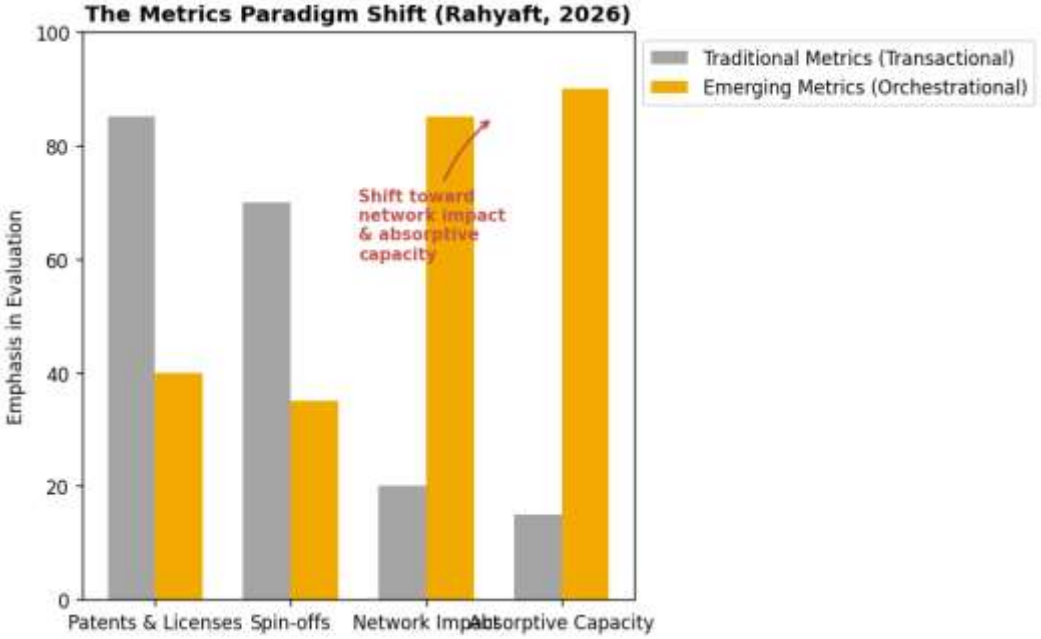


Figure 8: *The Metrics Paradigm Shift*

Note. Comparison of traditional financial metrics versus emerging orchestrational metrics in TTO evaluation (Rahyaft, 2026).

Figure 8 illustrates the fundamental paradigm shift required in Technology Transfer Office (TTO) evaluation metrics, contrasting traditional transactional models with emerging orchestrational frameworks. The grouped bar chart reveals a stark inversion of priorities. Traditional metrics, such as patents, licenses, and spin-offs, represent high emphasis in the transactional model but decline significantly in the orchestrational approach. Conversely, the orchestrational model necessitates a substantial increase in evaluating "Network Impact" and

"Absorptive Capacity." As depicted in Figure 8, this transition aligns with Rahyaft's (2026) assertion that TTOs must move beyond purely financial measures to successfully manage complex, coupled knowledge flows. By prioritizing network connectivity and absorptive capacity, evaluation shifts from simply counting outputs to assessing the systemic health and integration of innovation ecosystems. This visual evidence underscores Finding 3's core claim: evaluation design is governance design. The metrics a university chooses to emphasize will ultimately dictate the strategic behavior and operational focus of its technology transfer actors, making this shift essential for institutional maturity.

Figure 9 conceptualizes the structural pathway through which governance principles translate into tangible organizational outcomes. The diagram is organized into three cascading tiers. At the top, "GUG Principles & Institutional Strategy" represent the foundational mandates, including transparency, accountability, and data-driven governance. As illustrated in Figure 9, these high-level principles do not directly dictate behavior; rather, they are mediated through the central mechanism of "Evaluation Design." This middle tier acts as the critical governance interface, translating abstract strategy into concrete metrics. Finally, this interface directly shapes "Academic & Administrative Actor Behavior," influencing how resources are allocated, research foci are determined, and industry engagement is pursued. By visualizing this top-down flow, Figure 9 reinforces the central synthesis of Finding 3: evaluation design is not a neutral, technical exercise but a powerful governance instrument. The metrics chosen by university leadership will ultimately determine what is measured, what is valued, and consequently, how actors within the institution behave.

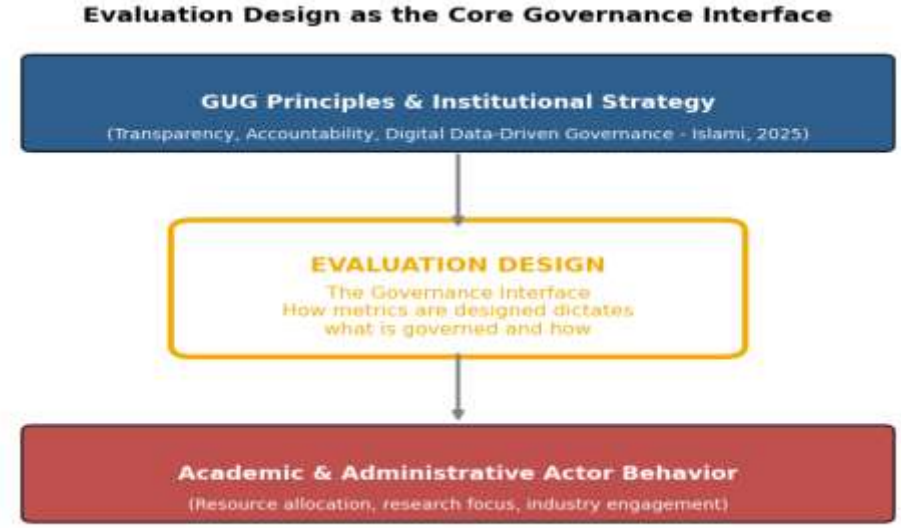


Figure 9: *Evaluation Design as the Core Governance Interface*
Note. Diagram illustrating how GUG principles translate into actor behavior through the mediating mechanism of evaluation design.

Evaluation systems constitute the critical governance interface.

Across both the Good University Governance (GUG) and technology transfer literatures, evaluation and measurement consistently emerge not merely as administrative afterthoughts, but as the precise operational locus where abstract governance principles are translated into tangible institutional practice. The evidence suggests that how universities design and deploy their evaluation metrics fundamentally shapes what they govern, how they govern it, and how institutional actors respond. This synthesis advances a central claim: evaluation design is governance design.

The critical nature of this interface is most starkly illustrated when traditional evaluation models fail. Hailu's (2024) qualitative study of Ethiopian Science and Technology universities demonstrates the systemic breakdown that occurs when standard metrics are applied to complex, uncertain environments. The prevailing evaluation approach combines "outcome control over technology development process in combination with a behavior control over budget utilization." In stable, predictable contexts, these mechanisms function adequately. However, Hailu (2024) finds this dual-control approach is "unfeasible in situations where uncertainty reigns" and where "neither outcome nor behavior can be properly monitored." When technology development is inherently iterative and unpredictable, rigid outcome targets (such as patents) fail to materialize predictably, and strict behavior controls (such as rigid budget utilization tracking) stifle the flexibility required for genuine innovation. This reveals a fundamental governance flaw: relying on inappropriate metrics doesn't just fail to measure innovation; it actively undermines the governance environment necessary for it to occur.

Consequently, the technology transfer literature indicates that the evolution toward the orchestrational TTO model demands a corresponding paradigm shift in evaluation metrics. Rahyaft (2026) argues that achieving this transformation requires moving deliberately away from purely financial and output-based measures, such as patent counts, licensing revenues, and spin-off creation, toward indicators that capture network impact and absorptive capacity. If universities continue to evaluate TTOs strictly on transactional outputs, TTOs will behave as transactional gatekeepers. Conversely, to function as knowledge governance orchestrators managing complex, coupled knowledge flows, evaluation systems must reward network brokerage, connectivity services, and the institutional capacity to absorb and integrate external knowledge. The metrics chosen determine the behavior incentivized.

Furthermore, the GUG literature provides the institutional bridge for this shift. Islami (2025) identifies digital governance and data-driven decision-making as key mechanisms through which GUG enhances institutional performance. This is not merely about technological adoption; it is about using data to align institutional strategy with operational reality. When evaluation systems are robust, transparent, and digitally integrated, they serve as the connective tissue between high-level GUG principles, such as accountability and transparency, and the daily practices of academic and administrative actors.

Ultimately, synthesizing these perspectives reveals that evaluation systems act as the definitive governance interface. If a university's GUG framework promises to support technology transfer, but its promotion criteria for faculty and its TTO performance metrics remain strictly tied to traditional publication outputs or immediate financial returns, a systemic contradiction emerges. Evaluation systems dictate resource allocation, dictate career progression, and dictate strategic focus. Therefore, reforming technology transfer governance requires a primary focus on metric reform. How universities measure technology transfer—whether through patents and licenses, or through network connectivity, absorptive capacity, and knowledge flow indicators—will ultimately determine not only what they govern, but how effectively they govern the third mission. Evaluation design is, inescapably, governance design.

Table 1: Summary of Findings and Supporting Evidence

Finding	Core Claim	Key Sources	Governance Implication
GUG implementation hybrid but	GUG well-developed for teaching/research,	Islami (2025)	GUG framework requires extension to third-mission

incomplete	absent for technology transfer		activities
TTO governance evolving but unanchored	TTOs reconceptualized as orchestrators; higher-level institutional logic untheorized	Rahyaft (2026); de Oliveira Maia et al. (2026)	Technology transfer governance depends on university-level conditions that remain unspecified
Evaluation as governance interface	Metrics determine governance behavior; financial indicators insufficient	Hailu (2024); Rahyaft (2026); Islami (2025)	Evaluation system design is a GUG intervention, not a technical afterthought
External accountability substitutes for internal governance	Audit reveals gaps that internal governance fails to detect	Office of the Federal Auditor General (2025)	Governance detection gap: external actors become de facto governors of research/technology transfer

Table 1 synthesizes the four core findings of the review, mapping each thematic claim to its empirical evidence and corresponding governance implications. The progression of the table reveals a compounding systemic failure. Finding 1 establishes the foundational limitation: GUG scholarship remains confined to traditional teaching and research domains, leaving technology transfer untheorized (Islami, 2025). As shown in Table 1, this omission creates a cascading effect. Finding 2 demonstrates that while TTOs evolve into complex knowledge orchestrators, they lack the necessary university-level institutional anchoring (Rahyaft, 2026; de Oliveira Maia et al., 2026). Finding 3 identifies the specific mechanism of this disconnect, arguing that current evaluation metrics actively hinder orchestrational behavior, proving that metric design is, in fact, governance design (Hailu, 2024; Rahyaft, 2026; Islami, 2025). Finally, Finding 4 exposes the ultimate consequence: internal governance voids are predictably filled by external auditors, thereby eroding institutional autonomy (Office of the Federal Auditor General, 2025). Collectively, Table 1 illustrates that the anchoring deficit is not a single gap, but a systemic breakdown requiring integrated governance reform.

Figure 10 synthesizes the literature review's core findings into a unified conceptual model of the "anchoring deficit." The diagram illustrates a top-down governance flow across four distinct tiers. At the apex, University-Level Governance establishes foundational GUG principles—transparency, accountability, participation, autonomy, and fairness (Islami, 2025). However, as depicted in Figure 10, a critical disconnect occurs in the transition to TTO-Level Governance. This "Anchoring Deficit" represents the systemic failure to translate high-level institutional strategy into operational policy logic (Rahyaft, 2026). Within the TTO tier, an embedded evaluation interface highlights the necessary shift from purely financial outputs to network and absorptive capacity metrics. Ultimately, the diagram reveals the consequence of this unbridged gap: External Accountability mechanisms, such as audits and accreditation, are forced to substitute for internal self-governance. By mapping these hierarchical disconnects, Figure 10 visually argues that sustainable technology transfer governance requires vertically integrating institutional principles with TTO operational metrics, thereby preventing the erosion of autonomy by external actors.

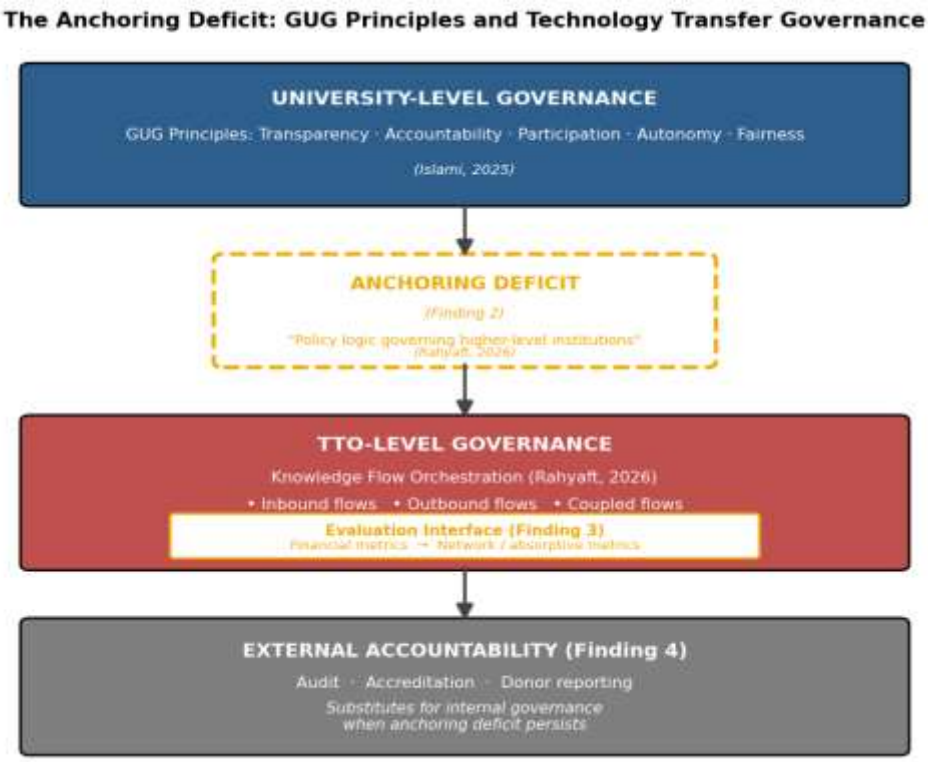


Figure 10: *The Anchoring Deficit: GUG Principles and Technology Transfer Governance*
Note. Hierarchical model illustrating the disconnect between university-level principles and TTO governance operations.

3.1Discussion

Contribution to GUG theory

The article's primary theoretical contribution is to extend Good University Governance (GUG) beyond its current teaching-and-research orientation. Islami's (2025) systematic review of 221 papers demonstrates that GUG research remains dominated by governance theories and GUG principles themselves, with performance and risk theories notably underutilized (Islami, 2025). The proposed article addresses this theoretical narrowness by arguing that research and technology transfer governance requires an integrated approach: GUG principles for institutional design, organizational control theory for TTO management, and evaluation theory for metric design. This tripartite framework directly responds to a gap identified within the GUG literature itself. Furthermore, by positioning technology transfer as a governance object rather than an operational afterthought, the article offers a corrective to the field's tendency to treat third-mission activities as external to governance proper.

Contribution to technology transfer governance scholarship. The TTO literature has made significant progress in reconceptualizing TTOs as governance actors. Rahyaft's (2026) meta-synthesis of 30 studies reconceptualizes TTOs from transactional intermediaries into "knowledge governance orchestrators" managing inbound, outbound, and coupled knowledge flows, concluding that this transformation requires "a comprehensive redesign of internal organizational processes, network management practices, and the policy logic governing higher-level institutions" (Rahyaft, 2026). However, this literature has not systematically examined the university-level governance conditions that enable or constrain this orchestrational role. The proposed article fills this gap by treating GUG as the institutional environment within which TTO governance operates. This is not merely a contextual variable; it is a structural condition. A TTO cannot function as a network orchestrator if the university's

promotion criteria reward only theoretical publications, if research budgets are controlled by ministries rather than university leadership, or if external audit is the only accountability mechanism for research funds. De Oliveira Maia et al. (2026) reinforce this gap, concluding that "the factors impacting TTO performance are broad, making it complex to establish a set of activities and practices that fit different institutions" (de Oliveira Maia et al., 2026). The article's contribution lies in specifying the institutional conditions, GUG mechanisms that must be in place before TTO management practices can be effective.

3.3 Practical implications

The article yields actionable guidance for university policymakers. The GUG literature suggests that hybrid governance models work when supported by internal quality assurance and digital transparency (Islami, 2025). The TTO literature suggests that evaluation metrics should shift toward network impact and absorptive capacity (Rahyaft, 2026). The Ethiopian evidence demonstrates that research budget oversight requires internal systems robust enough to withstand external audit scrutiny; the Federal Auditor General reported that Adama Science and Technology University "still lacks a robust system to oversee the proper utilisation of research budgets" (Office of the Federal Auditor General, 2025). Liche and Braun Střelcová (2023) further found that Ethiopian Science and Technology universities combine outcome and behavior controls in ways that are "unfeasible in situations where uncertainty reigns" (Liche & Braun Střelcová, 2023). The article's practical contribution is to specify how GUG mechanisms—board oversight, strategic planning, quality assurance, digital governance—can be extended to research and technology transfer activities. Three concrete recommendations follow: integrating TTO performance indicators into GUG dashboards; requiring research budget management systems that meet audit standards; and revising promotion criteria to recognize technology transfer engagement as a legitimate academic contribution.

3.4 Limitations

The article has several limitations that warrant acknowledgment. First, the integration of two literatures with different levels of analysis inevitably produces uneven coverage. GUG scholarship focuses on governance principles and institutional structures; technology transfer governance scholarship focuses on TTO operations and evaluation. The article may underrepresent scholarship addressing intermediate levels such as faculty-level incentives, departmental governance, and interdisciplinary research centers. Second, level-of-analysis divergence creates coding challenges for the systematic review. Future researchers should report inter-coder reliability if multiple coders are used, and should acknowledge that synthesis across governance levels involves interpretive judgment. Third, the evidence base for the Ethiopian case is drawn from a limited number of studies; Liche and Braun Střelcová's (2023) qualitative case study of two universities and the Auditor General's performance audit of ASTU (Office of the Federal Auditor General, 2025) provide valuable but not generalizable insights. The article should frame its Ethiopian findings as diagnostic rather than representative. Finally, the published literature does not yet contain a GUG–technology transfer integrated review, which is precisely the gap the proposed article fills; the closest published GUG review (Islami, 2025) and the closest TTO governance review (Rahyaft, 2026) provide the evidentiary anchors for this evaluation, but neither substitutes for the synthesis proposed here.

IV. Conclusion

The proposed article addresses a genuine and consequential gap in the higher education governance literature. The Good University Governance (GUG) literature has matured to the point of producing systematic reviews, yet these reviews stop at teaching and research governance, leaving technology transfer unexamined as a governance object. Conversely, the technology transfer governance literature has documented the evolution of Technology Transfer Offices (TTOs) toward knowledge flow orchestration, but without theorizing the university-level governance conditions that enable this evolution. An article that synthesizes these streams under the framing of "Good University Governance and an Integrated Agenda for Research and Technology Transfer" would make a contribution that is both timely and theoretically substantive.

The article's success will depend on three factors. First, whether it maintains level-of-analysis discipline, clearly distinguishing between university-level GUG mechanisms and TTO-level governance practices while theorizing their coupling. Second, whether it treats evaluation design as governance design, recognizing that metrics are not neutral instruments but governance choices with behavioral consequences. Third, whether it produces context-sensitive propositions, recognizing that governance arrangements effective in well-resourced, autonomous universities may fail in resource-stripped, state-controlled systems. If the article achieves these three conditions, it will become a reference point for scholars working at the intersection of university governance and research/technology transfer governance.

Recommendation: Accept with major revisions, conditional on the article (a) clarifying its strategy for synthesizing literatures at different levels of analysis, (b) strengthening the theoretical framework to explain the coupling between university-level governance and TTO-level governance, and (c) explicitly addressing the evaluation-metric tension between GUG accountability requirements and the uncertain, long-term nature of technology transfer.

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