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The Epistemology of Organizational Knowledge: A Conceptual Framework for Epistemic Justification in Technology-Driven Knowledge Management

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Abstract

Purpose – This paper examines what philosophically justifies the pervasive but rarely interrogated claim that organizations "know" something, and it proposes an epistemological framework for evaluating knowledge claims generated within technology-driven knowledge management (KM) practice.

Methodology – Following a conceptual-article, theory-synthesis design, the paper systematically synthesizes core positions in analytic epistemology (foundationalism, coherentism, reliabilism, virtue epistemology, and social epistemology) with organizational knowledge-management theory — principally Michael Polanyi's tacit-knowledge thesis and Ikujiro Nonaka's Socialization-Externalization-Combination-Internalization (SECI) model — and triangulates the resulting framework against five recent empirical articles published in the International Journal of Business and Management Technology in Society (IJBMTS).

Findings – The synthesis yields the Epistemic Justification Cycle for Technology-Driven Knowledge Management (EJC-TKM), a four-dimensional framework in which an organizational knowledge claim is justified only insofar as it satisfies conditions of reliability, coherence, epistemic virtue, and social-testimonial corroboration. Applying the framework to the artificial-intelligence-mediated, bibliometric, and trust-based knowledge practices documented in recent IJBMTS scholarship reveals five recurring epistemic risks — algorithmic opacity, automation bias, testimonial injustice toward tacit and frontline knowledge, coherence without correspondence, and scale-induced overconfidence — that knowledge-management models built solely on the tacit-explicit dichotomy do not adequately address.

Originality – The paper offers one of the first attempts to integrate post-Gettier analytic epistemology with organizational knowledge-management theory into a single, practice-usable justification framework, thereby extending Nonaka and Takeuchi's foundational but epistemologically under-specified account of organizational knowledge creation and providing technology-management scholars and practitioners with an auditable procedure for distinguishing justified organizational knowledge from merely asserted data.

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Introduction

Business and technology-management scholarship talks about "knowledge" constantly and defines it rarely. Firms are urged to become "knowledge-based organizations," to build "knowledge-management systems," and, increasingly, to let artificial intelligence (AI) and bibliometric analytics generate "data-driven knowledge" for strategic decisions (Alavi & Leidner, 2001; Davenport & Prusak, 1998). Recent technology-management scholarship illustrates just how central this move has become: bibliometric and analytics-based methods are now routinely used to characterize entire research and practice domains, from supply-chain resilience under geopolitical disruption (Septiani, 2025) to emission-trading policy design (Gunawan, 2025) to innovation performance in banking (Tyas et al., 2025). Yet the word "knowledge" in this literature is used loosely, closer to its everyday sense of "information someone has" than to the technical sense long debated in philosophy, where knowledge is standardly distinguished from mere true belief by a further condition of justification (Gettier, 1963). This looseness is not a merely semantic quibble. If an organization cannot say what would make a given claim — an algorithm's risk forecast, a consultant's report, a frontline employee's tacit judgment — justified rather than simply asserted, it has no principled way to decide when to trust that claim, retire it, or override it.

The knowledge-management (KM) field does have an implicit epistemology, but it is thin and largely unexamined. Its dominant model, Ikujiro Nonaka's Socialization-Externalization-Combination-Internalization (SECI) framework, describes how tacit knowledge is converted into explicit knowledge and back again (Nonaka, 1994; Nonaka & Takeuchi, 1995), drawing loosely on Michael Polanyi's (1966) thesis that "we know more than we can tell." This is a valuable descriptive account of how knowledge moves through an organization, but it is not a normative account of when the resulting claim is justified — that is, when an organization is epistemically entitled to treat something as known rather than merely believed, asserted, or computed. Analytic epistemology, by contrast, has spent more than six decades developing exactly such normative accounts of justification — foundationalism, coherentism, reliabilism, virtue epistemology, and social epistemology — with almost no uptake in management scholarship (BonJour, 1985; Chisholm, 1989; Goldman, 1979, 1999; Zagzebski, 1996).

The stakes of this gap have risen with the technology-management practices documented in the business literature itself. When Gunawan (2025) reports, in a systematic review of emission-trading mechanisms, that "the cost–emission trade-off is not inherent but is shaped by model design, power structures within supply chains, and the alignment of policy frameworks with managerial capabilities" (p. 124), the finding is itself an epistemological one: it shows that a seemingly objective, quantitatively derived organizational "fact" is in reality conditional on unexamined modeling and institutional assumptions. Similarly, when an algorithm clusters a corpus of publications into thematic groups and a firm treats those clusters as knowledge about "what innovation research says" (cf. Tyas et al., 2025), or when AI-based analytics are used to characterize supply-chain risk (Septiani, 2025), managers are relying on knowledge-generating processes whose justificatory credentials — reliability, coherence with what else the organization justifiably believes, the intellectual virtue of the humans supervising them, and corroboration by independent testimony — are rarely made explicit or auditable.

This paper is, in disciplinary terms, a philosophical contribution: it works within epistemology, the branch of philosophy concerned with the nature and conditions of knowledge, and its specific focus is the sub-field of epistemic justification. It is written, however, for a technology- and knowledge-management audience, because the question it asks — what justifies an organizational knowledge claim, especially one mediated by technology? — sits squarely within the knowledge-management, technology-management, and innovation strands of business and management scholarship. No existing framework in the KM literature systematically operationalizes the philosophical concept of epistemic justification for organizational use; conversely, no existing framework in analytic epistemology has been extended to the organizational and technology-mediated level of analysis. The purpose of this

paper is to close that two-sided gap by (a) synthesizing the major justificatory theories of analytic epistemology with the KM literature's tacit–explicit account of organizational knowledge, (b) deriving from that synthesis an integrative framework — the Epistemic Justification Cycle for Technology-Driven Knowledge Management (EJC-TKM) — that specifies four jointly necessary conditions for an organizational knowledge claim to count as justified, and (c) demonstrating the framework's applicability by reading it against five recent empirical articles published in this journal.

The remainder of the paper proceeds as follows. Section 2 reviews the relevant literatures in analytic epistemology and organizational knowledge management and identifies the specific gap the paper addresses. Section 3 describes the conceptual, theory-synthesis method used to construct the framework. Section 4 presents the resulting framework, an associated epistemic-risk analysis, an operational audit procedure, and a set of theoretical propositions for future empirical research. Section 5 concludes with implications for knowledge-management practice and the paper's limitations.

Literature Review

2.1 From Justified True Belief to Post-Gettier Epistemology

The classical analysis of knowledge holds that a subject S knows a proposition p just in case (i) p is true, (ii) S believes p, and (iii) S is justified in believing p — the "justified true belief" (JTB) account. Gettier's (1963) two-and-a-half-page paper overturned decades of assumed consensus by constructing cases in which a subject holds a justified true belief that nonetheless seems to fail as knowledge, because the justification is only accidentally connected to the truth of the belief. The ensuing literature did not abandon the justification condition; instead, it multiplied and refined competing accounts of what justification itself consists in. Four such accounts are directly relevant to organizational knowledge management.

Foundationalism (Chisholm, 1989) holds that justification has a two-tier structure: some "basic" beliefs are non-inferentially justified (by direct experience or self-evidence), and all other beliefs are justified insofar as they are properly inferred from that foundation. Coherentism (BonJour, 1985) denies any privileged foundation and instead locates justification in a belief's mutual support with, and fit within, an entire system of beliefs — a belief is justified to the extent that it coheres with, and is not contradicted by, the rest of what the epistemic subject (or, by extension, the organization) already justifiably believes. Reliabilism (Goldman, 1979) relocates justification from the internal structure of beliefs to the external process that produced them: a belief is justified if and only if it was produced by a cognitive process that is, as a matter of fact, reliable — that is, one that tends to produce true beliefs. Virtue epistemology (Zagzebski, 1996) relocates justification again, this time to the character of the epistemic agent: a belief is justified when it is the product of intellectual virtues — open-mindedness, intellectual courage, thoroughness, appropriate skepticism — rather than intellectual vices such as credulity or willful ignorance. Finally, social epistemology (Goldman, 1999) generalizes the unit of analysis beyond the individual knower to social practices and institutions — testimony, deliberation, division of epistemic labor — asking which social arrangements are "veritistically" valuable, that is, conducive to the spread of true belief and the suppression of false belief across a community.

These four accounts are frequently presented, within philosophy, as rival analyses competing to be the correct account of justification. For the purposes of organizational epistemology, however, this paper follows a pluralist reading: each account captures a genuine and largely independent dimension along which a knowledge claim can succeed or fail — the reliability of its source process, its coherence with the rest of what is justifiably believed, the epistemic virtue of the agents who produced or vetted it, and its corroboration within a trustworthy social/testimonial network. As Section 4 argues, an organizational knowledge claim mediated by technology is rarely deficient along only one of these dimensions at a time,

which is precisely why a genuinely useful framework must incorporate all four rather than adjudicate among them in the abstract.

2.2 Tacit Knowledge and the SECI Model: An Implicit and Incomplete Epistemology

Organizational knowledge-management theory has its own foundational epistemological commitment, though it is rarely labeled as such. Davenport and Prusak (1998) define organizational knowledge as "a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information" (p. 5) — already a considerably richer notion than simple true belief, but one that specifies no justification condition at all. The field's most influential theoretical model, Nonaka's (1994) dynamic theory of organizational knowledge creation and its elaboration by Nonaka and Takeuchi (1995), builds on Polanyi's (1966) distinction between tacit knowledge (skillful, embodied, and only partly articulable — "we know more than we can tell") and explicit knowledge (propositional, codified, and transferable). The SECI model describes organizational knowledge creation as a spiral of four conversion modes: Socialization (tacit to tacit, through shared experience), Externalization (tacit to explicit, through metaphor and dialogue), Combination (explicit to explicit, through systematizing and combining codified knowledge), and Internalization (explicit to tacit, through learning by doing).

The SECI model has been immensely generative for management practice, but it has also been the target of a sustained philosophical critique that is directly relevant here. Tsoukas (2003) argues that Nonaka's tacit–explicit distinction subtly misreads Polanyi: for Polanyi, tacit and explicit knowledge are not two separate types of knowledge occupying two ends of a continuum, such that a suitably skillful "conversion" process could migrate content from one to the other; they are two inseparable dimensions of all knowing, related as the subsidiary (background, embodied) and focal (explicit, attended-to) poles of a single act of knowing. On this reading, tacit knowledge cannot be "externalized" into explicit knowledge without remainder, because every act of explicit articulation is itself made possible by, and continues to rest on, tacit skills and background awareness that cannot themselves be fully explicated. If Tsoukas is right, the SECI model's conversion metaphor obscures rather than clarifies the justificatory status of the knowledge that results from each conversion: it tells organizations how knowledge is made to move but not what would make the resulting explicit claim epistemically warranted rather than merely a plausible-sounding articulation of something the knower could not fully defend.

A parallel gap appears in the organizational-learning literature. Argote and Miron-Spektor's (2011) influential review frames organizational learning as the acquisition of experience that becomes embedded in an organization's "context" — its members, tools, tasks, and networks — and that subsequently affects performance. This is a valuable descriptive account of how experience accumulates into something the organization treats as knowledge, but, like the SECI model, it offers no explicit criterion for when accumulated experience is epistemically reliable knowledge rather than a superstition, a correlation mistaken for a cause, or a lesson over-generalized from an unrepresentative episode. In short, both of the KM field's central theoretical traditions — the SECI model of knowledge conversion and the experience-based account of organizational learning — possess a rich descriptive vocabulary for how organizational knowledge moves and accumulates, but a strikingly thin normative vocabulary for when the resulting claims are justified. This is precisely the gap that the justification theories reviewed in Section 2.1 are equipped to fill, provided they can be extended from the individual to the organizational and technology-mediated level — the task undertaken in Section 4.

2.3 Technology-Mediated Knowledge and the Epistemology of Data

A further complication, largely absent from the original SECI model, is that a growing share of what organizations treat as knowledge is now produced not by individual tacit expertise but by algorithmic and data-analytic processes — AI-based forecasting, bibliometric mapping, large-

scale text mining. Floridi's (2011) philosophy of information offers a useful bridge here: he analyzes semantic information as well-formed, meaningful data, and treats knowledge as information that additionally carries some form of warrant or account — a structure that mirrors the classical JTB analysis (Section 2.1) at the level of information systems rather than individual believers. On this view, a database or an algorithm's output is, at most, well-formed information; whether it rises to the level of organizational knowledge depends on the same kind of justificatory work — reliability of process, coherence with other justified claims, virtuous oversight, social corroboration — that epistemologists have long analyzed for individual believers.

Recent technology-management scholarship illustrates both the promise and the epistemic risk of this shift. Septiani (2025) uses Scopus data and VOSviewer bibliometric analysis to map supply-chain-transformation research from 2021 to 2025, identifying dominant thematic clusters and recommending that firms "integrate digital capabilities, diversify suppliers, and enhance network flexibility" in response. Tyas et al. (2025) apply a similar bibliometric and content-analytic method to 211 Scopus-indexed articles on banking innovation, extracting ten thematic clusters that are then treated as a map of "what the literature knows" about innovation and bank performance. These studies are methodologically rigorous instances of technology-mediated knowledge production, but they also make vivid an underlying epistemological question that they do not themselves pose: what precisely justifies treating an algorithmically derived thematic cluster, or a machine-assisted synthesis of hundreds of documents, as organizational knowledge about a domain, rather than as a suggestive but epistemically unvetted pattern? Gunawan's (2025) systematic review of emission-trading mechanisms supplies part of the answer by making its own limits explicit: the review's central finding — that the emission–cost trade-off is "not inherent but is shaped by model design, power structures within supply chains, and the alignment of policy frameworks with managerial capabilities" (p. 124) — is itself a caution against coherence without correspondence: a data-driven generalization can cohere perfectly with the corpus from which it was drawn while still depending on modeling choices that are not visible in the output alone. Three epistemic risks specific to technology-mediated organizational knowledge follow from this discussion and recur throughout Section 4. Algorithmic opacity (or epistemic "black-boxing") arises when a knowledge-generating process may be reliable in Goldman's (1979) sense — it does, as a matter of fact, tend to produce accurate outputs — without being accessible to virtue-epistemic scrutiny or social corroboration, because the reasoning behind any particular output cannot be inspected or explained. Automation bias arises when knowledge workers extend a reliable process undue, uncritical deference, effectively substituting the process's reliability for their own exercise of the intellectual virtues (Zagzebski, 1996) that responsible knowledge use requires. Scale-induced overconfidence arises when the sheer size of a bibliometric corpus or dataset ("211 articles," "227 articles," five years of Scopus records) is treated as if it were itself a justificatory credential, conflating the reliability of an aggregation method with the truth of the substantive generalization it produces. None of these risks is captured by the SECI model's tacit–explicit vocabulary alone, which is one further reason a more explicitly epistemological framework is needed.

2.4 Trust, Testimony, and Organizational Epistemic Communities

Social epistemology's central insight — that much of what any individual or organization "knows" is in fact accepted on the testimony of others, and that the resulting knowledge is only as good as the trust relations that transmit it (Goldman, 1999) — is well illustrated by two further articles in this journal. Al-Muzaki (2025) models, using cooperative game theory, the interplay of promise, trust, and contract under conditions of moral hazard and information asymmetry, finding that "intrinsic trust mechanisms, such as long-term partnerships, reputation systems, and community accountability, can serve as cost-effective substitutes" for costly

formal contractual enforcement. Read epistemically, this finding is an empirical instantiation of testimonial trust functioning as an organizational justification mechanism: rather than independently verifying every counterparty claim (a reliabilist strategy applied case by case, which is often prohibitively costly), organizations rely on socially warranted trust — reputation, repeated interaction, community accountability — as a legitimate, if fallible, epistemic shortcut, exactly as Goldman's (1999) social epistemology predicts.

Fauzi and Sari's (2025) qualitative study of transformational leadership in a post-merger Indonesian state-owned enterprise supplies a complementary, cautionary case. Employees in the merged organization described "structural ambiguity, cultural clashes between entities, and misalignment between management goals and operational reality" as principal obstacles, coping through "embracing organizational shifts, adapting flexibly to new roles, and fostering inter-departmental cooperation." Read through the lens of Section 2.1–2.2, a merger is, among other things, the forced integration of two distinct organizational epistemic communities — two different coherence sets of justified background belief (BonJour, 1985), two different networks of trusted testifiers (Goldman, 1999), and two different populations of tacit-knowledge holders (Polanyi, 1966) whose expertise was calibrated to the pre-merger context. The "misalignment between management goals and operational reality" that employees report is, on this reading, a symptom of what social epistemologists term testimonial injustice or credibility deficit: legacy tacit knowledge, no longer matching the new organization's coherence set or chain of trusted testimony, is discounted or overridden by incoming management knowledge claims regardless of its actual reliability — a dynamic the SECI model, again, has no vocabulary to flag.

Together, these two studies show that organizational epistemology cannot be reduced to an individual-level or purely process-level matter; it is irreducibly social, which is the central argument for including Goldman's (1999) social-epistemological dimension as a distinct, non-reducible component of any adequate framework rather than folding it into reliabilism or coherentism. The four justificatory dimensions surveyed across Sections 2.1–2.4 — reliability of source process, coherence with justified background belief, the epistemic virtue of the agents involved, and social-testimonial corroboration — are, this paper argues, not competing analyses to be adjudicated in the abstract but complementary and jointly necessary conditions that a technology-mediated organizational knowledge claim must satisfy together. Section 4 develops this claim into an explicit, applicable framework.

Research Methods

This paper is a conceptual (theoretical) article rather than a report of newly collected primary data. Following Jaakkola's (2020) typology of conceptual-article designs, it adopts primarily a *theory-synthesis* approach — combining insight from two theoretical traditions that have not previously been systematically integrated, namely analytic epistemology and organizational knowledge-management theory — supplemented by elements of an *adapted-theory* approach, insofar as justification theories developed by philosophers for individual epistemic subjects are here extended to the organizational and technology-mediated level of analysis. A conceptual-synthesis design is appropriate to this paper's research question because the object of inquiry — the logical and normative structure of epistemic justification itself — is not directly observable through survey or interview instruments; it must instead be reconstructed through the systematic comparison and integration of existing theoretical and empirical literature (Jaakkola, 2020).

Three literature corpora were assembled and are summarized in Table 1. The first, the *core epistemology corpus*, comprises foundational and standard-reference statements of the classical justified-true-belief analysis and its five major post-Gettier successors, identified through PhilPapers, JSTOR, and Google Scholar and selected for their status as originating or canonical statements of each justificatory position. The second, the *knowledge-management and organizational-learning corpus*, comprises foundational and highly cited works on tacit knowledge, the SECI model, and experience-based organizational learning, together with the

principal philosophical critique of the SECI model, identified through Scopus and Google Scholar. The third, the *contemporary application corpus*, comprises five original empirical research articles published in Volume 3 (2025) of this journal, selected purposively — not through an exhaustive systematic-review protocol — for direct thematic relevance to technology-mediated knowledge production, organizational trust and testimony, and knowledge disruption during organizational change, in order to ground the resulting framework in current empirical findings from this journal's own research community and to illustrate the framework's applicability.

The synthesis itself proceeded in five analytical steps. First, each justificatory paradigm's core condition for justified belief was extracted from the core epistemology corpus (Section 2.1). Second, each condition was mapped onto a corresponding mechanism or practice already present, if unlabeled, in the knowledge-management corpus and the contemporary application corpus (Sections 2.2–2.4). Third, points of convergence and tension among the four justificatory dimensions, as applied jointly to technology-mediated organizational knowledge, were identified. Fourth, the convergent structure was integrated into a single multi-dimensional framework — the Epistemic Justification Cycle for Technology-Driven Knowledge Management (EJC-TKM) — and translated into an operational audit procedure suitable for practitioner use (Section 4). Fifth, theoretical propositions were derived from the framework to guide future empirical testing (Section 4.5). Table 1 summarizes the resulting corpus.

Table 1. Literature Corpus Used for the Conceptual Synthesis

Corpus	Sources (n)	Selection Basis	Illustrative Sources
Core epistemology corpus	8	Originating or standard-reference statement of each justificatory paradigm addressing knowledge/justification after Gettier (1963)	Gettier (1963); Chisholm (1989); BonJour (1985); Goldman (1979, 1999); Zagzebski (1996); Floridi (2011)
Knowledge-management / organizational-learning corpus	6	Foundational statements of the tacit-knowledge thesis and the SECI model, plus the principal philosophical critique and an organizational-learning review	Polanyi (1966); Nonaka (1994); Nonaka & Takeuchi (1995); Tsoukas (2003); Davenport & Prusak (1998); Argote & Miron-Spektor (2011)
Contemporary application corpus (IJBMTS, Vol. 3, 2025)	5	Purposive selection for thematic relevance to technology-mediated knowledge, organizational trust/testimony, and post-merger knowledge disruption	Septiani (2025); Gunawan (2025); Tyas et al. (2025); Al-Muzaki (2025); Fauzi & Sari (2025)

Note. Total unique sources synthesized, n = 19 (one source, Goldman, appears in the core epistemology corpus under two separate 1979 and 1999 works). Source: compiled by the author for this study.

As a conceptual paper, this study has method-specific limitations that should be stated at the outset rather than only in the conclusion. No primary data were collected, and the framework's propositions (Section 4.5) are theoretically derived rather than empirically validated. The contemporary application corpus was selected purposively for thematic fit rather than through an exhaustive or systematic bibliometric protocol, a scope-defining choice appropriate to a conceptual paper's illustrative rather than representative use of empirical literature. These limitations, and the future empirical work they motivate, are discussed further in Section 5.

Results and Discussion

4.1 Mapping Epistemological Paradigms onto Knowledge Management Practice

Table 2 maps the five justificatory paradigms reviewed in Section 2.1 onto their corresponding implications for, and illustrative practices within, organizational knowledge management. The mapping makes explicit what the KM literature's tacit–explicit vocabulary leaves implicit: each paradigm licenses a different, non-redundant KM practice, and an organization that relies on only one — for instance, treating "explicit and codified" as automatically synonymous with "justified", a common informal assumption critiqued by Tsoukas (2003) — is exposed to exactly the kind of failure that paradigm cannot detect.

Table 2. Comparative Mapping of Epistemological Paradigms and Their Implications for Organizational Knowledge Management

Epistemological Paradigm	Core Justificatory Thesis	Key Source(s)	Implication for KM Practice	Illustrative Organizational Safeguard
Foundationalism	Justification terminates in non-inferentially warranted "basic" beliefs (direct experience/self-evidence)	Chisholm (1989)	Some organizational knowledge must be traceable to direct, first-hand observation or measurement rather than inference alone	Primary data capture / direct field observation as an evidentiary base
Coherentism	Justification consists in a belief's mutual support with, and fit within, the whole system of justified belief	BonJour (1985)	New knowledge claims should be checked for consistency with, and integration into, existing justified organizational knowledge	Cross-checking new findings against the organization's existing knowledge base before adoption
Reliabilism	A belief is justified iff produced by a process that reliably tends to produce true beliefs	Goldman (1979)	The knowledge-generating process itself (instrument, method, algorithm) must be independently validated for accuracy	Method/algorithm validation, calibration, and error-rate reporting
Virtue epistemology	A belief is justified when produced through the exercise of intellectual virtues rather than intellectual vices	Zagzebski (1996)	The competence and intellectual character of the humans producing or vetting a knowledge claim materially affects its justificatory status	Analyst/reviewer training in critical appraisal and structured skepticism
Social epistemology	Justification is partly a property of social practices — testimony, trust networks, division of epistemic labor	Goldman (1999)	A claim's justification is strengthened by independent corroboration across trustworthy organizational sources/networks	Multi-source corroboration and reputation-based testimonial trust (cf. Al-Muzaki, 2025)

Source: author's synthesis, based on Chisholm (1989), BonJour (1985), Goldman (1979, 1999), and Zagzebski (1996), read against Nonaka and Takeuchi (1995) and Tsoukas (2003).

Two features of Table 2 deserve comment. First, foundationalism and coherentism, often treated as rivals within philosophy, turn out to describe two organizational practices that are not just compatible but jointly necessary: an organization needs some experientially grounded "basic" observations (foundationalist) and needs to check new claims against its existing justified belief system (coherentist), since relying on either alone invites either naive empiricism (trusting any raw observation) or a closed, self-confirming belief system immune to correction. Second, reliabilism, virtue epistemology, and social epistemology map onto three genuinely distinct organizational safeguards — process validation, human oversight quality, and cross-source corroboration — that are frequently conflated in practice under the single heading of "quality assurance," obscuring the fact that a knowledge-generating process can pass one safeguard while failing another, as Section 4.3 details.

4.2 The Epistemic Justification Cycle for Technology-Driven Knowledge Management (EJC-TKM)

Integrating the five rows of Table 2 (with foundationalism and coherentism combined, for organizational purposes, into a single coherence-and-evidence check, since both concern a claim's fit with an existing evidential/belief base) yields the four-dimensional framework shown in Figure 1: the Epistemic Justification Cycle for Technology-Driven Knowledge Management (EJC-TKM). The framework holds that a knowledge claim entering an organization — whether generated through tacit expertise (Socialization/Externalization, in Nonaka and Takeuchi's, 1995, terms) or through technology-mediated analytics (AI, algorithmic, or bibliometric outputs) — becomes justified organizational knowledge only to the extent that it satisfies all four checks jointly: a reliability check on the process that produced it (Goldman, 1979); a coherence check against the organization's existing justified belief system (BonJour, 1985); an epistemic-virtue check on the intellectual character of the agents who produced or vetted it (Zagzebski, 1996); and a social-testimonial check corroborating it across independent, trustworthy organizational sources (Goldman, 1999).

The EJC-TKM is deliberately positioned as a complement to, rather than a replacement for, the SECI model. Where SECI (Nonaka & Takeuchi, 1995) describes the process by which organizational knowledge is created and moved — how tacit expertise becomes shared, articulated, combined, and re-internalized — the EJC-TKM specifies the justificatory criteria that any output of that process, at any stage, must meet before it is treated as knowledge rather than as an unverified claim. On this reading, Tsoukas's (2003) critique of SECI — that tacit and explicit knowledge are inseparable dimensions of knowing rather than convertible types — is fully compatible with the EJC-TKM: because externalization can never make tacit knowledge fully explicit without epistemic remainder, the reliability, coherence, virtue, and testimonial checks in the EJC-TKM function precisely as compensating mechanisms for that irreducible residue, cross-checking an articulated claim against multiple independent grounds rather than relying on the act of articulation alone to certify it as known.

The framework is agnostic about which dimension a given piece of organizational knowledge is checked against first, and in practice most knowledge claims will need all four checks concurrently. Section 4.4 nonetheless operationalizes the framework as a sequential audit procedure for practical, decision-relevant use, since organizational decision-makers require a workable order of operations even where the underlying justificatory structure is not strictly sequential.

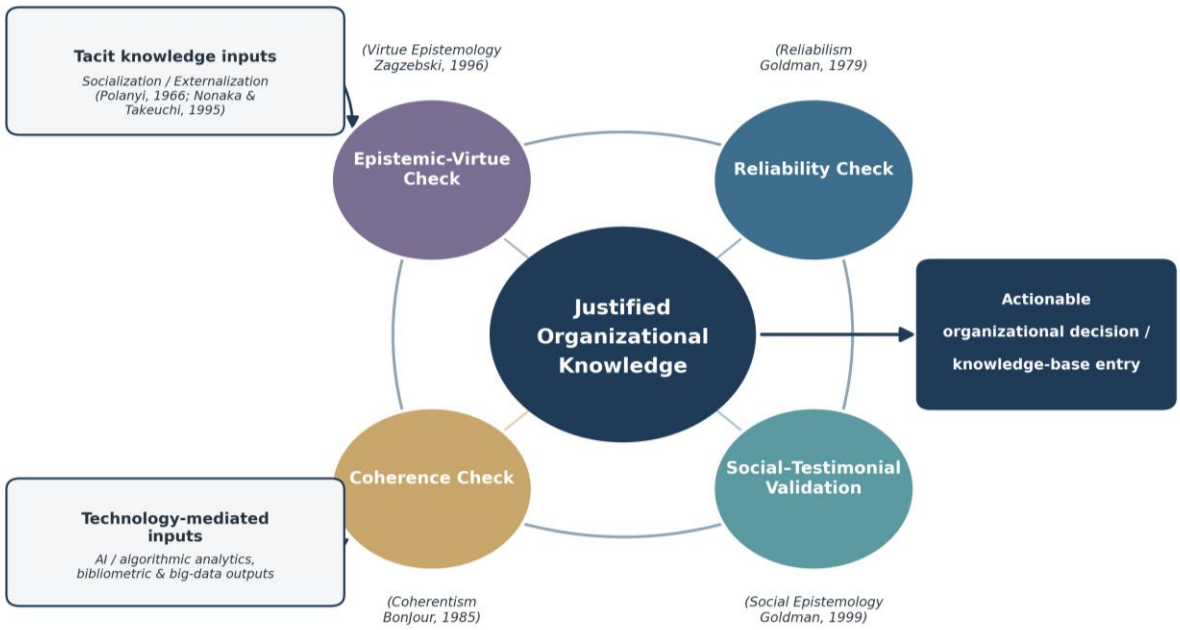


Figure 1. The Epistemic Justification Cycle for Technology-Driven Knowledge Management (EJC-TKM)

Note. Source: developed by the author, synthesizing Goldman (1979, 1999), BonJour (1985), Zagzebski (1996), Polanyi (1966), and Nonaka and Takeuchi (1995).

4.3 Epistemic Risks of Technology-Mediated Knowledge Systems

Applying the EJC-TKM to the technology-mediated knowledge practices discussed in Section 2.3 exposes five recurring epistemic risks, summarized in Table 3 together with their epistemological root and the corresponding EJC-TKM safeguard.

Table 3. Comparative Mapping of Epistemological Paradigms and Their Implications for Organizational Knowledge Management

Epistemic Risk	Description	Epistemological Root	EJC-TKM Safeguard (Dimension)	Illustrative Evidence
Algorithmic opacity	A knowledge-generating process may be statistically reliable without its internal reasoning being inspectable, explainable, or checkable	Tension between reliabilism and the social/virtue conditions on justification (Goldman, 1979, 1999)	Epistemic-virtue check + Social-testimonial check	Bibliometric clustering methods used to characterize research/practice domains (Septiani, 2025; Tyas et al., 2025)
Automation bias	Knowledge workers extend uncritical deference to an algorithmic or analytic output, substituting the process's reliability for their own exercise of intellectual virtue	Failure of intellectual autonomy and appropriate skepticism (Zagzebski, 1996)	Epistemic-virtue check	Illustrated conceptually in Section 4.4's audit vignette
Testimonial injustice	Legacy or frontline tacit expertise is	Breakdown of trustworthy	Social-testimonial check	Post-merger “misalignment

Epistemic Risk	Description	Epistemological Root	EJC-TKM Safeguard (Dimension)	Illustrative Evidence
toward tacit / frontline knowledge	discounted relative to incoming or higher-status claims, independent of its actual reliability	testimonial networks and shared coherence sets (Goldman, 1999; Polanyi, 1966)		between management goals and operational reality" (Fauzi & Sari, 2025)
Coherence without correspondence	A data-driven generalization coheres with the corpus it was drawn from while depending on modeling or institutional assumptions invisible in the output	Coherentist justification decoupled from external verification (BonJour, 1985)	Coherence-and-evidence check	Emission–cost trade-off "shaped by model design, power structures…and managerial capabilities" rather than inherent (Gunawan, 2025, p. 124)
Scale-induced overconfidence	The sheer size of a bibliometric corpus or dataset is treated as itself a justificatory credential	Conflation of aggregation-method reliability with truth of the resulting generalization (Goldman, 1979)	Reliability check	Large-N Scopus/VOSviewer syntheses (Septiani, 2025; Gunawan, 2025; Tyas et al., 2025)

Source: author's synthesis, based on Floridi (2011), Tsoukas (2003), Goldman (1979, 1999), and the IJBMTS articles cited in the rightmost column.

Two patterns in Table 3 merit emphasis. First, several of the risks (algorithmic opacity, coherence without correspondence, scale-induced overconfidence) can co-occur with an outwardly *strong* performance on the reliability dimension — an algorithm or bibliometric method can be highly reliable in Goldman's (1979) technical sense (it reproduces similar outputs from similar inputs and tends toward accuracy on average) while still failing the virtue, coherence, or testimonial checks. This is the central limitation of relying on reliabilism alone to certify technology-mediated knowledge, and the central argument, restated at the level of risk analysis, for the EJC-TKM's multi-dimensional structure. Second, testimonial injustice toward tacit and frontline knowledge (illustrated by Fauzi & Sari, 2025) is the one risk in Table 3 that arises even in the complete absence of any algorithmic mediation, showing that the EJC-TKM's social-testimonial dimension addresses a distinct organizational-epistemic pathology from the ones introduced specifically by AI and analytics, and should not be collapsed into a general "AI ethics" discussion.

4.4 Operationalizing the Framework: An Epistemic Audit Flow

For day-to-day organizational use, the four EJC-TKM dimensions can be operationalized as a sequential audit procedure, shown in Figure 2. A knowledge claim — whether an AI/analytics output, an expert report, or a bibliometric finding — is passed through four gates in turn (reliability, coherence, epistemic virtue, social-testimonial corroboration); depending on the outcome, it is then treated as justified organizational knowledge and acted upon, flagged as

merely provisional pending further verification, or rejected with the specific epistemic risk (opacity, bias, or injustice) recorded for organizational learning.

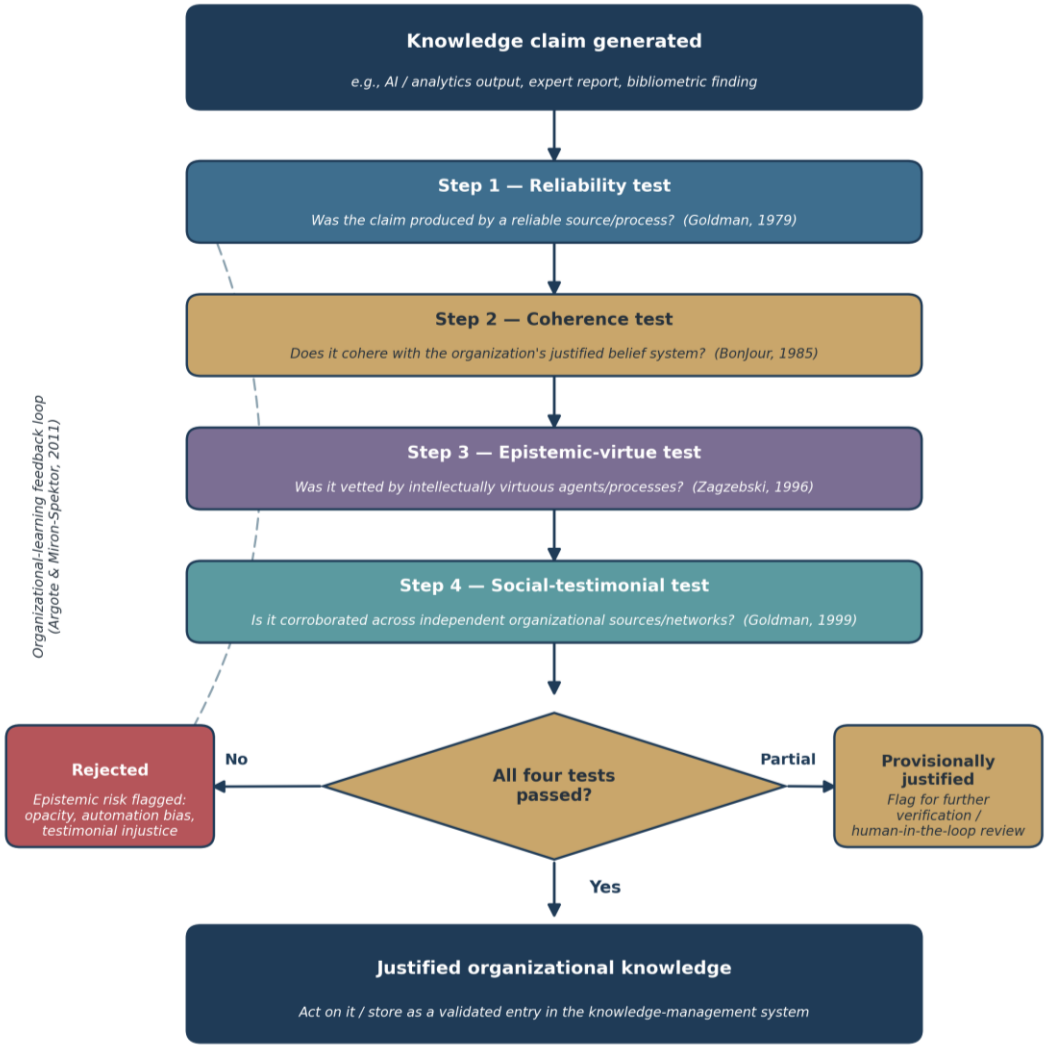


Figure 2. Epistemic Justification Audit Flow for Technology-Mediated Knowledge Claims in Organizations

Note. Source: developed by the author. Illustrative vignette in Section 4.4 is a hypothetical application and is not attributed as an empirical finding of any cited source.

A brief illustrative vignette clarifies the procedure without attributing it to any cited author's own findings. Suppose a supply-chain analytics system of the kind discussed by Septiani (2025) flags a supplier as "high risk." Under the audit in Figure 2, Step 1 asks whether the underlying forecasting process has a documented, independently validated accuracy record (reliability). Step 2 asks whether the flag is consistent with other information the firm already justifiably believes about that supplier — for example, recent delivery performance (coherence). Step 3 asks whether a suitably trained analyst, exercising appropriate skepticism rather than automation bias, has reviewed the flag rather than merely forwarding it (epistemic virtue). Step 4 asks whether the flag is corroborated by an independent source — a second supplier-risk feed, or direct testimony from procurement staff (social-testimonial corroboration). A flag that passes all four gates is treated as justified knowledge and acted upon; a flag passing only some gates is marked provisional and routed for human-in-the-loop review rather than either automatically actioned or discarded; a flag that clearly fails — for instance, one traceable to a known data error — is rejected and the specific epistemic risk is logged, feeding the organizational-learning loop shown at the left of Figure 2 (Argote & Miron-Spektor, 2011).

This audit procedure does not require organizations to adopt new technical infrastructure; it requires making explicit, and routinely documenting, justificatory judgments that competent

managers often already make informally. Its principal contribution is to prevent the reliability dimension — the one most visibly satisfied by sophisticated AI and analytics systems — from being mistaken for the whole of justification, a conflation Table 3 shows to be a recurring source of epistemic risk in technology-mediated knowledge management.

4.4 Theoretical Propositions and Positioning within Business, Management, and Technology in Society

The EJC-TKM and its associated risk analysis generate four theoretical propositions for future empirical testing.

P1: Organizational knowledge claims that satisfy all four EJC-TKM dimensions will be associated with higher managerial confidence and lower downstream reversal or error rates than claims satisfying the reliability dimension alone.

P2: Technology-mediated knowledge claims are disproportionately vulnerable to failing the epistemic-virtue and social-testimonial dimensions even when they satisfy the reliability and coherence dimensions — that is, strong process-level justification can mask deficits on the human and social dimensions of justification.

P3: Organizational restructuring events such as mergers predictably produce testimonial-injustice failures against legacy tacit-knowledge holders, independent of the technical merit of the knowledge those holders possess.

P4: The risk of coherence-without-correspondence in bibliometric or systematic-review-style organizational knowledge claims increases with corpus size unless an explicit reliability check is performed on the underlying database and clustering method, rather than corpus size being treated as a proxy for justificatory strength.

These propositions, and the EJC-TKM framework from which they derive, are offered as a contribution squarely within this journal's knowledge-management and technology-management scope. They extend Nonaka and Takeuchi's (1995) foundational but epistemologically under-specified account of organizational knowledge creation with an explicit normative standard for when the knowledge that account describes is justified; they give technology-management scholars and practitioners a vocabulary, grounded in a philosophical literature largely unfamiliar to the field, for diagnosing why an outwardly rigorous AI or bibliometric knowledge system can still mislead an organization; and, in keeping with this journal's stated aim of connecting business and technology-management scholarship to societal benefit, they make the practical case that better-justified organizational knowledge — knowledge that has passed reliability, coherence, virtue, and testimonial checks jointly — is a precondition for reducing the costly errors, misinformation, and algorithmic harms that poorly justified organizational “knowledge” can otherwise cause.

Conclusion and Suggestion

This paper set out to answer a question that business and technology-management scholarship raises constantly but rarely poses explicitly: what justifies the claim that an organization knows something, particularly when that claim is generated or mediated by technology? Synthesizing analytic epistemology's post-Gettier justification theories — foundationalism, coherentism, reliabilism, virtue epistemology, and social epistemology — with the knowledge-management literature's tacit–explicit account of organizational knowledge creation, the paper developed the Epistemic Justification Cycle for Technology-Driven Knowledge Management (EJC-TKM), a four-dimensional framework holding that an organizational knowledge claim is justified only when it satisfies reliability, coherence, epistemic-virtue, and social-testimonial conditions jointly. Applied to recent technology-management scholarship, the framework surfaced five

recurring epistemic risks — algorithmic opacity, automation bias, testimonial injustice toward tacit and frontline knowledge, coherence without correspondence, and scale-induced overconfidence — that a KM model built on the tacit–explicit dichotomy alone does not systematically address, and it was operationalized as a practical, sequential audit procedure for organizational use.

For knowledge-management practice, the analysis suggests three concrete implications. First, KM systems should capture not only what is known but why it is justified — lightweight justification metadata (source reliability, coherence checks performed, reviewer sign-off, corroborating sources) attached to knowledge-base entries, rather than treating "explicit and stored" as self-certifying. Second, organizations that increasingly depend on AI-mediated and bibliometric knowledge production should invest in the intellectual virtues — critical appraisal, structured skepticism, resistance to automation bias — of the staff who supervise those systems, since Table 3 shows the epistemic-virtue dimension to be the safeguard most frequently absent precisely where the reliability dimension looks strongest. Third, organizations undergoing structural change, such as mergers, should anticipate and actively counteract testimonial-injustice failures against legacy tacit-knowledge holders, since Section 2.4 and Table 3 show this risk to be a predictable, not merely incidental, feature of restructuring.

The paper's limitations follow directly from its conceptual method (Section 3). No primary data were collected, and the four theoretical propositions in Section 4.5 await empirical testing — through, for example, a survey instrument operationalizing the EJC-TKM's four dimensions, or comparative case studies of organizations that have and have not adopted an explicit justification audit of the kind shown in Figure 2. The contemporary application corpus was purposively rather than systematically selected, appropriate to a conceptual paper's illustrative use of empirical literature but limiting the generalizability of the specific risk instances discussed in Section 4.3. The EJC-TKM's four dimensions, while derived from long-standing and largely independent traditions in analytic epistemology, may not be fully exhaustive or fully independent of one another, and future theoretical work should examine their interaction more formally. Future research might also usefully extend the framework cross-culturally and to specific technology-management sectors — banking, supply chain, and public-sector organizations among them — in which the empirical literature synthesized here (Al-Muzaki, 2025; Fauzi & Sari, 2025; Gunawan, 2025; Septiani, 2025; Tyas et al., 2025) situates its own findings. If organizations are to keep treating AI-, analytics-, and bibliometric-derived outputs as knowledge rather than as mere data, they will need exactly this kind of explicit, philosophically grounded account of what justifies that treatment — which is the contribution this paper has sought to make.

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Artificial Intelligence (AI) Use Declaration

In accordance with this journal's author guidelines, the author discloses that an AI-based writing and research assistant (Claude, Anthropic) was used to assist with literature retrieval, drafting, figure production, and formatting of this manuscript. The author directed the conceptual synthesis, verified all cited sources and quotations against their original publications, is responsible for the accuracy and integrity of the arguments and citations herein, and approved the final manuscript for submission.

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The author declares no conflict of interest.

Data Availability Statement

This is a conceptual/theoretical paper that synthesizes previously published literature; no new empirical data were generated or analyzed in support of this article. All sources synthesized are cited in the reference list and are publicly available through their respective publishers.

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